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Stereotypes of Maori:  
Influence of Speaker Accent and Appearance

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Abstract
Research has consistently shown that there are a number of negative stereotypes held by Pakeha towards Maori. However, some of these studies have been flawed by low participant identification rates of Maori. Furthermore, none of these studies have examined the role of accent and appearance on evaluations when both pieces of information are presented together. The present study sought to address these limitations and to verify the current stereotypes associated with Maori. A videotape of eight speakers reading an identical short story was shown to one hundred and sixty-four high school students. Participants were assigned to one of two conditions. In the auditory presentation participants heard but did not see the speakers. In the visual presentation participants heard and saw the speakers. Of the eight speakers, half looked Pakeha and half looked Maori. Furthermore half spoke with a Maori English accent and half spoke with a Pakeha English accent. Results showed that use of Maori English speakers led to higher Maori identification rates by participants in the auditory presentation. Furthermore, for status variables and Maori in particular, accent appeared to amplify the evaluative effects of appearance. It was also found that the longstanding negative stereotypes of Maori still exist. Finally, though not the focus of the present study, it was found that overall younger and older high school students had similar evaluations of Maori and Pakeha. The implications of these results, particularly to the educational, employment and law enforcement sectors of society are discussed.
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Introduction

This thesis is concerned with the stereotypes held towards one of New Zealand's ethnic groups, Maori. The thesis focuses on how these stereotypes influence people's perceptions of Maori. It is pertinent that a working definition of stereotype be established and that the reader receives a very brief description of Maori and Pakeha relations in New Zealand. It is beyond the scope of this essay to discuss the complex details of the establishment, process, maintenance, and purpose of stereotypes. Instead this thesis seeks to describe the stereotypes associated with Maori, and the potential implications of these on New Zealand society. For the purpose of this thesis, Mackie, Hamilton, Susskind and Rosselli's (1996) broad definition of stereotype as "a cognitive structure containing the perceiver's knowledge, beliefs and expectancies about some human social group" (p. 42), will be used.

Maori are the indigenous people of New Zealand. They make up the largest ethnic minority group, accounting for approximately 14.5% of the population (Zwartz, 1998). Pakeha are New Zealanders of European descent (Gordon & Deverson, 1989). They are the overwhelming ethnic majority in New Zealand, making up 68% of the population (Zwartz, 1998). Maori and Pakeha interact freely with each other in nearly all domains of society (Holmes, 1997). However, Maori are over represented in the lower socio-economic classes, mental health, unemployment, low educational achievement
and crime (Zwartz, 1998), and under represented in the upper classes and professional occupations (Holmes, 1997).

English is the dominant language in New Zealand, with it being used in almost all areas of society. Since the arrival of Pakeha the number of native Maori speakers has dramatically decreased, with recent estimates putting the figure as fewer than 26,000 (Karetu, 1990, cited in Bayard, 1995). However, the last two decades have seen an attempt to revive Maori language and culture through the establishment of Kohanga Reo (Maori pre-school language nests) and Kura Kaupapa (Maori-language schools), though the long term effect of these schools in preserving Maori language is yet to be determined (Bayard, 1995).

Bearing the brief description of Pakeha and Maori relationships in mind, the remainder of this introduction will firstly describe previous findings concerning attitudes towards Maori. Secondly, the establishment of Maori English and Pakeha English as varieties of New Zealand English and the stereotypes associated with them will be discussed. Finally, the two sections will be brought together by a series of hypotheses predicting what might happen when New Zealanders are given the opportunity to judge Maori and Pakeha and the way they speak.
Maori Stereotypes

International research has clearly illustrated that many ethnic groups hold unfavourable attitudes towards other ethnic groups (Hopkins, Reagan & Abell, 1997; Lee, 1994; Stangor & Lange, 1994). This has been especially true of ethnic majority attitudes towards ethnic minorities (Bodenhausen, 1988; Phalet & Poppe, 1997; Wilson, 1996). The stereotypes that white Americans (an ethnic majority) hold towards black Americans (an ethnic minority) are the most extensively researched of all ethnic relationships (Brigham, 1971). Past literature shows that black Americans are often seen by white Americans as superstitious, lazy, dirty, unintelligent and musical (Archer & Archer, 1970; Brigham, 1971; Wilson, 1996). In contrast, whites see themselves as rich, hard working, intelligent, and successful (Archer & Archer, 1970; Brigham, 1971).

In the 1970's measurement of racial prejudice via traditional means, such as surveys and questionnaires, suggested a decrease in negative attitudes towards black Americans by white Americans (Carver, Glass & Katz, 1978; Karlins, Coffman & Walters, 1969). However, unobtrusive studies using helping behaviour and priming showed that negative attitudes towards black Americans still exist; they just were not so overtly expressed (Crosby, Bromley & Saxe, 1980; Dovidio, Evans & Tyler, 1986; Dovidio & Gaertner, 1981). Many authors argued that this has occurred due to the social undesirability associated with discriminating against others (Crosby et al., 1980; Dovidio & Gaertner, 1981; Karlins et al., 1969). Whatever the reason, it is clear from the literature that stereotyping still does occur on the basis of ethnicity, especially
towards ethnic minorities. However, very little research has been conducted on stereotypes of ethnic minorities outside of America (Wilson, 1996). The present study attempts to rectify this by exploring the stereotypes associated with the Maori of New Zealand.

The 1950's and 1960's saw the emergence of empirical research concerning Maori stereotypes. Fitt (1955) claimed that there were favourable and unfavourable attitudes toward Maori though he did not elaborate on what these were. After a comprehensive review of newspaper reporting of Maori news items, Thompson (1954) concluded that Maori were negatively depicted as lazy, irresponsible, unhygienic, ignorant, superstitious, dumb, and abusers of the welfare system. He also identified a number of favourable attitudes towards Maori, which included their generosity, hospitality, and musical, soldiering and sporting prowess. The negative image associated with Maori was further substantiated by social distance studies. These showed that Pakeha preferred to be socially closer to British, Canadians, Americans and Australians than to Maori (McCreary, 1952; Vaughan, 1962), and that nearly half of Pakeha would try and dissuade their children from marrying a Maori (Ritchie, 1964).

Studies using visual stimuli (i.e., photographs or pictures of Maori and Pakeha) further highlighted the negative attitudes held towards Maori (Thompson, 1959; Vaughan, 1964; Vaughan & Quartermain, 1961; Vaughan & Thompson, 1961). Of these studies, Vaughan (1964) provides the most detailed
account. He showed 180 Maori and 180 Pakeha children, aged 4 to 12, six pairs of pictures. Each of the picture pairs varied only the ethnicity of the characters. The children had to choose which member of a pair best represented a statement such as “which boy is clever” or “which girl is more kind”. Vaughan found that Pakeha and Maori children, up to the age of six years, believed Pakeha to be more clean than Maori. Pakeha characters were also more likely to be judged as ‘mean’, especially by older children. Lastly, Pakeha children (especially the older ones) assigned the trait ‘clever’ more frequently to Pakeha characters than Maori characters. There was no difference between participants’ ratings of Maori and Pakeha characters on the traits of honesty, kindness and laziness.

In a similar experiment, Archer and Archer (1970) had 490 (118 Maori, 372 Pakeha) 13- to 15-year-old adolescents match descriptive statements to photographs of Pakeha or Maori of similar age, gender, dress, and socio-economic status. In addition, participants completed a five-point likert scale concerning their beliefs of Maori and Pakeha attributes in the areas of strength, sporting ability, work ethic, sense of humour, musical prowess, success, physical attractiveness, and generosity. Pakeha and Maori participants responded similarly, with Pakeha being rated more successful, more likely to have a high power job or to be a university student, more attractive, and having better sporting ability. Maori were seen as happy-go-lucky, musical, generous, physically stronger, less successful, and lazier. In addition, Pakeha participant responses indicated that they were less willing to invite a Maori
into their home and that they believed that Maori were more likely to steal. The only other difference between Maori and Pakeha participant responses was that Maori participants rated Maori as being more hospitable than Pakeha, though Pakeha participants did not. The similarity between Maori and Pakeha participant responses led the authors to conclude that Maori and Pakeha share the same racial stereotypes, including negative stereotypes, of Maori (Archer & Archer, 1970).

Research in the 1970s showed that although Pakeha were willing to be friends with Maori, they were still significantly less likely to want to have an intimate relationship (e.g., marriage, fall in love or to go on a date) with them than a person of Pakeha (in this case Canadian) ethnicity (Rump, 1972; Thomas, 1970). Moreover, Maori children continued to be perceived as having less academic ability (Nicholls, 1978). Graves and Graves (1974) used questionnaires and interviews to gain descriptive statements of ethnic groups in New Zealand. They found that Pakeha tended to perceive Polynesians (including Maori) as happy, quick-tempered, musical, dirty, easy-going, friendly, generous, quiet, uneducated, and family centred. In contrast, Pakeha were viewed as self-reliant, materialistic, arrogant, ambitious, serious, loud, progressive, and intelligent.

Empirical research through the 1980's and 1990's has illustrated that attitudes towards Maori and Pakeha have not changed. Maori are still generally viewed as trouble makers, lazy, dirty, aggressive, and friendly,
while Pakeha are viewed as clever, hardworking, rich, confident and self-centred (Huang & Singer, 1984; Lynskey, Ward & Fletcher, 1991; Oliver & Vaughan, 1991).

As seen from the empirical research outlined above, the phenomenon of ethnic majorities holding unfavourable attitudes towards ethnic minorities is particularly robust in New Zealand. Maori, in the past and today, are generally viewed as lazy, unintelligent, dirty, friendly, easy-going, and aggressive, whereas Pakeha are generally regarded as successful, hard working, intelligent and self-centred. Furthermore, there is some evidence that Pakeha are less willing to have personal relationships with Maori than Pakeha (Rump, 1972; Thomas, 1970). Given this evidence, it is safe to conclude that there are specific stereotypes associated with Maori and Pakeha in New Zealand.

Maori and Pakeha English Speech Styles

There is a widely held belief in New Zealand that Maori speak a distinctive style of English (Bauer, 1994; Bayard, 1995). This next section addresses whether Maori English exists, and if so what are its main characteristics, and what are people's attitudes towards it. New Zealand English is a broad term that encompasses both Pakeha English and Maori English (Holmes, 1997; King, 1993). Pakeha English (PE) in New Zealand has been classified into three varieties, these being Cultivated, General, and Broad (Gordon & Deverson, 1985). The literature shows that the relationship
between the PE varieties is best described as a broad to cultivated continuum (Bayard, 1990; Gordon & Deverson, 1998; King, 1993). Recent research has suggested that Pakeha English is condensing to the general form (King, 1993). Consequently, for this study PE refers to General Pakeha English unless stipulated otherwise.

Richards (1970) first proposed that there were two varieties of Maori English (ME). The first is the language used by some educated middle-class Maori, while the second is the language associated with Maori from lower socio-economic backgrounds (Bauer, 1994, Holmes, 1997). Similarly to PE, the relationship between the two varieties of ME is best described as on a continuum (Holmes, 1997). Most people who speak ME use the second variety (Holmes, 1997), therefore, for this study ME refers to this variety unless stipulated otherwise.

Over the last decade research has concentrated on identifying the differences between PE and ME (see Holmes, 1997, for a full review). Recent research has found that ME speakers use a high rising terminal (HRT) intonation pattern more frequently than PE speakers (Allan 1990; Britain, 1992), and that they use the pragmatic tag “eh” significantly more often than Pakeha (Meyerhoff, 1994). McCallum (1978) found that past tense verb forms occurred more often in the English speech of Maori children than Pakeha children. Similarly, Jacob (1991), using a small sample of 10 women, identified differences in the use of verb forms and double negatives between Maori and
Pakeha womens' speech, despite them being matched on age, socio-economic background, and regional origin.

Holmes (1997) conducted a thorough examination of the usage of the unaspirated initial [t], devoiced final [z], and syllable-timed pronunciation, in the English speech of 45 middle class Maori and 35 middle class Pakeha participants selected from the Wellington Corpus of Spoken New Zealand English. Her study showed that Maori (in particular middle-aged Maori) used the unaspirated initial [t] significantly more so than Pakeha (21.8% verse 2.6%, respectively). Furthermore, she found that Maori devoice final [z] twice as often as Pakeha (29% verse 15%, respectively), and that when devoicing [z] Maori did so more strongly than Pakeha. Lastly, Maori were found to use significantly more full vowels than Pakeha speakers (31.6% verse 18.6%, respectively), resulting in the occurrence of greater syllable timing (i.e. syllables are voiced in similar time intervals) amongst Maori (Holmes, 1997).

Given the above findings, the following conclusions can be drawn regarding ME and PE. Maori English, like Pakeha English, is a form of New Zealand English (Holmes, 1997; King, 1993). Maori English does not contain features specific to it, but it does contain features used more frequently than in Pakeha English (Holmes, 1997). Therefore, ME varies from PE in degree rather than kind. Consequently, the relationship between ME and PE is best viewed as on a continuum, rather than each being viewed as distinct varieties (Bayard, 1995; Holmes, 1997).
Evaluations of people classified as Maori or Pakeha based on accent.

Research has clearly illustrated that New Zealanders attempt to classify Maori and Pakeha ethnicity based on a speaker's accent, though their classification is often inaccurate (Bayard, 1991a; Bayard, 1995; Huygens & Vaughan, 1983). This inaccuracy is not surprising for two reasons. Firstly, Maori English and Pakeha English are not exclusively restricted to Maori or Pakeha. There are Maori who speak PE and Pakeha who speak ME (Bauer, 1994; Bayard, 1995; King, 1993; Robertson, 1994). Secondly, social context is an important factor in the use of ME, as ME is used as a tool to signal one's Maori identity (Bauer, 1994; Holmes, 1997; King, 1993, Robertson, 1994). Consequently the use (or non-use) of ME can vary, independently of ethnicity, depending on the social situation that the speaker is in. These findings have established that people categorise, though often incorrectly, Maori and Pakeha ethnicity based on a person's speech.

Worldwide research on attitudes towards the English language has shown that the variety or accent of English a person speaks influences the evaluations that others have of them (Edwards, 1982; Giles & Powesland, 1975). In particular, people who speak the standard English variety of their country (which is usually associated with the variety spoken by the dominant ethnic or social group) are rated more favourably than those who use the non-standard English varieties (Bradac, 1990; Giles & Coupland, 1991). This is evident in studies which have shown that people who speak the English varieties associated with an ethnic minority are more negatively evaluated.
(especially in regards to status variables) than people who speak the English variety associated with the ethnic majority (Giles, Williams, Mackie & Rosselli, 1995; Nesdale & Rooney, 1996; Ryan & Sebastian, 1980).

Likewise in New Zealand, speakers who are judged as Maori are generally rated more negatively than speakers who are judged to be Pakeha. Huygens and Vaughan (1983) had students rate audiotaped voices of people belonging to English, Dutch, and Maori ethnicity. Speakers that were perceived as being Maori were rated as less hardworking, less intelligent, and warmer than speakers perceived to be English or Dutch. Perceived English speakers were rated as more self-confident. In addition, perceived Maori speakers received the lowest mean across the four social variables of social class, income, education and job status. However, these findings must be interpreted with caution, as participants more often incorrectly classified Maori speakers as Pakeha (32%) than correctly classified them as Maori (25%). Consequently, it is possible that participant evaluations of Maori speakers were based on non-ethnic cues such as socio-economic class (Huygens & Vaughan, 1983).

Bayard and Leek (1992) found that speakers of perceived Maori/Polynesian English accents were rated significantly lower on the variables of education, income (earnings per year), social class, intelligence, and self-confidence, than speakers who were perceived to be Pakeha. There was no difference in ratings of reliability, friendliness, and attractiveness of
accent between perceived Maori/Polynesian speakers and Pakeha speakers (Bayard & Leek, 1992). Robertson's (1994) results are consistent with the above research. She played audiotapes of three Maori and three Pakeha speakers (taken from the Wellington Social Dialect Survey) matched on age, gender, and class, to 30 Wellington bus drivers. Voices that were perceived to be Maori were rated lower on the variables of education, occupation, acceptability (i.e., closeness of relationship), and likeability of accent than those voices perceived to be Pakeha. Her results also indicated that perceived Maori speakers were rated slightly higher on the sense of humour variable than perceived Pakeha speakers.

From the findings above one can conclude that New Zealanders do attempt to classify Pakeha and Maori ethnicity based on a speakers perceived accent, though their classifications are often incorrect (Bayard, 1991a; Bayard, 1995; Huygens & Vaughan, 1983). Furthermore, once a speaker is classified as Maori they are rated as less educated, earning a lower income, belonging to a lower social class, less intelligent, less self-confident, and lazier than speakers classified as Pakeha (Bayard & Leek, 1992; Huygens & Vaughan, 1983; Robertson, 1994). Moreover, despite the tendency to evaluate perceived Maori speakers as more warm (Vaughan & Huygens, 1983) and as possessing a greater sense of humour than perceived Pakeha speakers, participants were still less willing to have a close relationship with a Maori than a Pakeha (Robertson, 1994). Bayard (1995) comprehensively sums up the above conclusions when he writes:
In many cases New Zealanders can not accurately distinguish Pakeha from Maori and Polynesian New Zealanders on the basis of accent ... however they think they can, and once they have decided that a voice is Maori or Polynesian, the ratings on power variables and even some solidarity variables decline significantly (p. 151).

Present Study

The literature reviewed in the preceding sections of this introduction highlighted three important areas that require further research. Firstly, more studies that have higher participant identification of Maori speakers are needed. Secondly, research is required to address the relationship between accent and physical appearance on people's evaluations. Thirdly, empirical research would be useful in establishing the current stereotypes associated with Maori. Providing research on these three areas is the motivation behind this thesis. Each of these areas will be discussed below, and hypotheses concerning them will be generated.

Brewer (1996) argued that two criteria must be present before stereotyping will occur. Firstly, there must be “the existence of a set of beliefs or mental representation of a social category” (p. 254). The literature reviewed above clearly illustrates the existence of beliefs towards Maori and Pakeha ethnic groups. Secondly, there needs to be “the classification or categorization ... of an individual as a member of that category” (p. 254). As previously discussed, New Zealanders find it difficult to correctly classify Maori ethnicity using auditory information (i.e., speech accent). For example, only 25% of Vaughan and Huygens (1983) participants correctly classified Maori speakers
as Maori. Robertson (1994) improved on this with an average of 55% of her participants identifying Maori sounding speakers as Maori. Though this is a majority, more research with higher Maori identification rates is desirable, as it enables one to more safely conclude that evaluations of a Maori sounding speaker are a consequence of that speaker being categorised as Maori. One way to do this is to select speakers who are clear users of ME. Therefore, the first hypothesis is that the use of Maori English speakers will lead to higher Maori identification rates by participants in the auditory presentation.

Research examining the relationship between accent and appearance on people's evaluations of others has been surprisingly understudied (Giles & Coupland, 1991), and to my knowledge no studies have examined it with Maori and Pakeha. The present study addresses this by focusing on people's attitudes towards ME and PE, and Maori and Pakeha facial appearance. One group of high school students was asked to view and to listen to Maori and Pakeha speakers on a video (visual presentation). Another group of high school students listened to the same speakers without seeing them (auditory presentation).

The relationship between accent and appearance is an important area to investigate, because in many situations (such as social gatherings, job interviews, etc.) an individual has access to both visual and auditory information on which to form an impression of another (Hamilton & Trolier, 1986; Zebrowitz, 1996). In situations where both visual and auditory cues are
present, it appears that physical appearance is more likely than accent to activate stereotypes, though accent is still influential (Bayard, 1995; Fiske & Neuberg, 1990; Gordon & DeVerson, 1989). Given this, it is expected that speaker accent will amplify the evaluative effects of appearance, when both pieces of information are available. Therefore, it is predicted that speakers who look and sound Maori will be rated least favourably, while speakers who look and sound Pakeha will be rated most favourably. It is further predicted that speakers who look Pakeha and sound Maori, and speakers who look Maori and sound Pakeha will be rated somewhere between the two speaker combinations above.

This study also seeks to verify the current stereotypes associated with Maori. The preceding literature review consistently showed that when a person is perceived to be Maori they are rated less favourably than Pakeha on a number of traits, and that this phenomenon has been longstanding. Consequently, it is predicted that in both visual and auditory presentations, speakers who are perceived to be Maori will be rated less favourably than speakers who are perceived to be Pakeha. It is predicted that this will most likely occur on the status (i.e., power) variables of social class, educational achievement and annual income, and also on some personal (i.e., solidarity/charisma) variables such as intelligence, self-confidence, closeness, reliability, leadership and work effort. In addition, the well established stereotypes of Maori as happy-go-lucky and friendly may see perceived Maori
speakers rated more favourably on the personal variables of likeability and sense of humour.

As mentioned earlier, this study recruited high school students as participants. This provided a means of seeing if stereotypes associated with Maori and Pakeha had been passed onto a new generation. Furthermore, the large number of students that participated enabled the differences in the ratings of speakers by younger pupils (third and fourth formers) and older pupils (fifth to seventh formers), to be examined. It should be emphasised that this age factor is not the main focus of the present study. Its inclusion is intended only to explore a potential area of interest.

Age differences within adolescence for ratings of different ethnic or regional groups have been found in some studies, though the findings are often complex (Giles & Powesland, 1975; Vaughan & Thompson, 1961). Furthermore, the presence of cohort effects, the difficulty in generalising international research to New Zealand, and the lack of New Zealand research on adolescent differences makes it extremely difficult to predict the effects of adolescent age on speaker evaluations. Consequently, it remains unclear whether younger high school pupils will vary from older high school pupils in their evaluations of Pakeha and Maori. It is hoped that the results of this study will shed some light on this issue.
Method

Participants

One hundred and sixty-four predominantly Pakeha (76%) participants were recruited from a local Dunedin high school. There were 104 males and 59 females (one participant did not indicate their gender), ranging in age from 12 to 18 years (Mean age = 14.9 years). There were 72 students in the visual presentation and 92 students in the auditory presentation. Students were recruited from ten classes, and all forms (third to seventh form) were represented. There were 76 younger pupils whose age ranged from 12 to 14 years (Mean age = 13.5 years) and 88 older pupils whose age ranged from 15 to 18 years (Mean age = 16.1 years). Written consent was obtained from the participants' parents and the participants themselves, prior to data collection. Data from three of the participants were excluded from the experiment because they only completed one third of the questionnaire.

Design

A mixed factor design was used for this study. Two factors varied between-subjects; these were age group (young adolescent, old adolescent) and mode of presentation (visual, auditory). Two speaker characteristics varied within-subjects. These were appearance of the speaker (Maori, Pakeha) and accent of the speaker (Maori English, Pakeha English).
Materials

Story

The story used in this study was written under the guidance of a sociolinguistic expert. It is presented in Table 1.

Table 1

Experimental Story

This is a silly story about two girls who wanted to tip a fridge full of cheese into a swampy bog. In order to do this they decided to throw it off a bridge. They were just about to release the fridge when they heard some dogs barking. Slowly they turned and sure enough they found themselves facing a policeman and his two dogs. They immediately burst into tears. The policeman ignored their sobs and took them to the local judge for forgiveness, but the judge ignored their pleas and sentenced them to a weekend of community service. As they were leaving, the judge told them that she was not pleased with their actions and that if they ever did it again then she would come down on them like a ton of bricks.

As discussed in the introduction, Holmes (1997) identified the phonological features of devoiced final /z/ and unaspirated initial /t/ as occurring more frequently in ME than PE. The story above incorporated a number of words ending in ‘s’ (such as dogs, girls, etc.), and words starting with ‘t’ (such as ton, tip, etc.), to elicit these phonological features. This was done to help participants distinguish Maori English speakers from Pakeha English speakers.
Experimental Speakers

Approximately forty speakers were videotaped reading the short story above. All were videotaped from the neck up, so as to minimise people making judgements about them based on the clothes they were wearing. Eight speakers were selected from an original pool of forty speakers for this experiment. The eight speakers consisted of four females and four males. Of these, two females and two males looked Maori whereas the other two females and two males looked Pakeha. Furthermore, half of the speakers spoke with a Maori English accent, and half spoke with a Pakeha English accent. Accent was counterbalanced across gender and ethnicity, yielding four unique combinations: those who looked Maori and spoke with a Maori English accent (MM); those who looked Maori and spoke with a Pakeha English accent (MP); those who looked Pakeha and spoke with a Maori English accent (PM); and those who looked Pakeha and spoke with a Pakeha English accent (PP).

The choosing of the eight speakers was based on five factors. Firstly each of the four experimental conditions contained a male and female speaker, so as to minimise gender as a confound. Secondly and most importantly, speakers were chosen if they fitted one of the four combinations described above (both in appearance and accent). For example if a speaker looked Maori and spoke with a PE accent, then they were eligible for selection in the MP combination. Furthermore, if speakers demonstrated a speech style suggestive of a regional variation (such as the Southland burr) or another ethnic group

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they were not chosen. Thirdly, speakers were matched in reading speed as closely as possible. This was necessary as slow readers are more likely to be rated unfavourably than faster readers (Bradac, 1990). The time taken to read the story by the eight speakers ranged from 37 to 40 seconds. The three-second difference between the fastest and slowest reader is minimal. This closeness in the speakers' speech rate makes it highly unlikely that participant evaluations were based on speech rate. Furthermore, the average time it took speakers to read the story was 38 seconds. This is greater than the 18 seconds that Giles (1988, cited by Bayard, 1995) identified as taking a person to form an opinion of someone else based on their accent.

Speakers were also matched in age as closely as possible. The ages of the speakers in each combination were MM (42 and 38), MP (25 and 27), PM (25 and 26), and PP (25 and 26). Unfortunately, due to the difficulty in finding MM speakers, the age of these speakers was somewhat higher than the speakers in the other speaker combinations. However, this was not considered problematic, as research has shown that young people's age stereotypes are mainly directed at those persons aged over 70 (Hummert, Garstka & Shaner, 1997; Hummert, Garstka, Shaner & Strahm, 1995). Finally, the speakers were matched as closely as possible on socio-economic status, using their occupation or in the absence of employment, their educational qualifications as a guide. The occupation or qualification of the speakers in each speaker combination were MM (Nurse and Teachers College Lecturer), MP (Policeman and University graduate), PM (Accountant and University graduate), PP
(University graduate and University graduate). Thus, all speakers were of similar socio-economic status.

Validation of Experimental Speakers.

Preliminary ratings were obtained to confirm that the eight speakers that we judged as sounding and looking Maori or Pakeha were judged by others to be so. This was crucial because participants had to identify the speakers as belonging to an ethnic group in order to elicit any stereotypes that they might have about that ethnic group.

Seventy-four first year Psychology students were used to validate the experimental speakers. There were 54 females and 20 males ranging in age from 17 to 42 years (average age = 19.4 years). They were tested in small groups numbering no more than 10. They participated in the rating exercise as part of their course requirement. Written consent was obtained from all participants prior to their participation.

Validation of the experimental speakers involved participants listening to a video of the eight speakers reading the experimental story. The television screen was covered so that they could hear but not view the speaker. The order of presentation of the accents was reversed from group to group, so that the speaker who was heard first by one group was heard last by another group. The video was paused at the end of each speaker to allow participants to complete a brief questionnaire (see Appendix A). This involved
participants judging what ethnic group they believed the speaker belonged to. They had three choices: 'Pakeha', 'Maori', or 'other'. If they chose 'other' they were to write what ethnic group they thought it to be. Participants were then required to rate how sure they were in their decision by circling a number on a likert scale ranging from 1 (not at all sure) to 5 (totally sure). Lastly, participants had to rate how attractive they found the accent using a likert scale ranging from 1 (not at all attractive) to 5 (extremely attractive). Analysis of these last two measures are not reported because they were not particularly informative.

After rating the accents, participants viewed another video of the same speakers. This time the cover was taken off the television screen, the volume turned off and the video paused on each speaker, to allow participants to complete a brief questionnaire (see Appendix B). Participants were required to rate what ethnic group they believed the speaker belonged to using the same three choices as in the accent presentation above, except this time they were required to make their ethnicity judgements based on facial appearance only. Importantly, subjects were informed that the faces they were viewing were not the faces of the eight speakers they had just previously heard. This prevented participants from categorising the speakers into ethnic groups based on their previous hearing of the speakers’ accents. As in the accent presentation, the order of the presentation of the faces was reversed from group to group.
Ethnic categorisation choices were coded so that 1 = Pakeha and 2 = Maori. A paired T-test conducted on the participants' responses revealed that speakers who were intended to look Maori were categorised more as Maori ($M = 1.86$) than those intended to look Pakeha ($M = 1.02$), $t(73) = 32.45$, $p < .001$. Likewise, Maori English speakers were categorised more as Maori ($M = 1.89$) than Pakeha English speakers ($M = 1.10$), $t(73) = 24.36$, $p < .001$. Consequently, these results provided evidence that the speakers we used in our experiment were representative of the intended ethnic groups.

Procedure

In the experimental presentations, teachers brought their students to a classroom that had been allocated for the study. When students entered the room they were requested to pick up an information sheet (see Appendix C), a consent form (see Appendix D), and a questionnaire (see Appendix E). They were then instructed to read the consent form, and if they chose to participate they signed the consent form. People who chose not to participate were seated at the back of the classroom. Consent forms were then gathered and students were taught how to use the questionnaire. Finally, participants were instructed to keep their responses to themselves.

Classes were randomly assigned to one of two presentations (i.e., auditory or visual). In the visual presentation students watched a video of eight speakers reading the same short story aloud. At the end of each speaker's story the video was paused and the students completed the
questionnaire. The questionnaire required participants to judge what ethnic group they believed the speaker belonged to and how sure they were in their decision. Once again the likert scale of how sure they were in their decision was not particularly informative, as participants were very consistent in their ethnic classification of the speakers. Consequently, it was not analysed. Participants then used likert scales to rate the speakers on a number of variables such as self-confidence, education, reliability, leadership, income, closeness, hardworking, likeability, intelligence, humour and social class. Finally, the questionnaire required participants to write what type of job they thought the speaker had and what type of person they thought the speaker might be.

Two videotapes of the eight speakers were used. Half of the classes viewed one, and the remaining classes viewed the other. The videotapes were copied so that the exact reading of the story by the speakers was used in both videotapes. The order of presentation of the individual speakers used on the videotapes was carefully manipulated to avoid grouping of similar accents, gender and appearances. Furthermore, the two videotapes had the speaker order reversed, so that the speaker who was presented first on one video was presented last on the other. Consequently the order of presentation for one videotape was PP (Male), MP (Female), MM (Female), PM (Male), PP (Female), MP (Male), MM (Male) PM (Female), whereas the order of presentation for the other videotape was PM (Female), MM (Male), MP (Male), PP (Female), PM (Male), MM (Female), MP (Female), PP (Male). This
counterbalancing was designed to minimise any systematic effects of fatigue and disinterest on the participants' judgements.

Students viewed the videotapes on a large fourteen-inch monitor that was positioned at the front of the classroom. Participants in the auditory presentation experienced the exact same procedure outlined above except they could not view the speakers because a dark woollen blanket was used to cover the monitor. This was the only difference between the auditory and visual presentations. Consequently, judgements in the visual presentation were based on visual and auditory information, whereas judgements in the auditory presentation were based solely on auditory information.

At the conclusion of the experiment, participants were debriefed, asked if they had any questions or comments on the experiment, and thanked.

Coding

Participant ratings on the likert scales were all aligned in the same direction so that ratings of 5 were associated with the most favourable rating and ratings of 1 with the least favourable. These ratings were entered into a SPSS spreadsheet for analyses.

Participants' written responses on what type of person they thought the speaker was, and what occupation they held, were also coded. The type of person they believed the speaker was, was grouped into categories of positive,
neutral and negative depending on the nature of the participant's response. For occupation of the speakers, responses were grouped into the socio-economic status (SES) levels of unemployed, working class or middle/upper class depending on the nature of the participant's response. When a speaker's occupation was judged to be 'student' they were categorised separately from the other SES levels due to the wide diversity of occupations that students might eventually hold.
Results

The results section is structured into two sections. Firstly, the validity of the speakers was analysed. This was done to make certain that participants' evaluations of the speakers were based on the ethnicity that our speakers were intended to represent. Secondly, the ratings of Maori and Pakeha across the 11 variables of closeness, earning, education, hardworking, humour, intelligence, leadership, liking, reliability, self-confidence, and social class were analysed using a MANOVA.

It must be noted that the following term visual presentation refers to the condition in which the participants saw and heard the speaker on videotape, whereas the term auditory presentation refers to the condition in which the participants only heard the speaker on videotape. Furthermore, sound Maori refers to speakers who were perceived by participants as sounding Maori (i.e., speaking Maori English) and sound Pakeha refers to speakers who were perceived by participants as sounding Pakeha (i.e., speaking Pakeha English). Look Pakeha refers to speakers who were perceived by participants as looking Pakeha. Similarly, look Maori refers to those speakers who were perceived by participants as looking Maori. Moreover, for ease of communication, subscript acronyms are used to depict speaker combinations. These are $M_{MM}$ (Mean of speakers who Looked Maori and Sounded Maori), $M_{MP}$ (Mean of speakers who Looked Maori and Sounded Pakeha), $M_{PM}$ (Mean of speakers who Looked Pakeha and
Sounded Maori) and \( M_{pp} \) (Mean of speakers who Looked Pakeha and Sounded Pakeha).

**Speaker Validity**

Analysis first involved making sure that the majority of participants correctly identified the intended ethnicity of the speakers. This was important, because in order for attitudes towards ethnic groups to be elicited, participants had to perceive the speakers as belonging to a certain ethnic group.

Table 2

*Ethnicity Ratings of Speakers Presented in the Auditory Presentation*

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Intended Ethnicity</th>
<th>Rated Pakeha (%)</th>
<th>Rated Maori (%)</th>
<th>Rated Other (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pakeha</td>
<td>73.1</td>
<td>23.7</td>
<td>3.2</td>
</tr>
<tr>
<td>2</td>
<td>Pakeha</td>
<td>76.3</td>
<td>21.5</td>
<td>2.2</td>
</tr>
<tr>
<td>3</td>
<td>Maori</td>
<td>14.0</td>
<td>81.7</td>
<td>4.3</td>
</tr>
<tr>
<td>4</td>
<td>Maori</td>
<td>23.7</td>
<td>67.7</td>
<td>8.6</td>
</tr>
<tr>
<td>5</td>
<td>Pakeha</td>
<td>89.2</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>6</td>
<td>Pakeha</td>
<td>69.6</td>
<td>19.6</td>
<td>10.9</td>
</tr>
<tr>
<td>7</td>
<td>Maori</td>
<td>8.7</td>
<td>78.3</td>
<td>13.0</td>
</tr>
<tr>
<td>8</td>
<td>Maori</td>
<td>8.7</td>
<td>69.6</td>
<td>21.7</td>
</tr>
</tbody>
</table>

As seen in Table 2, the majority of participants in the auditory presentation categorised the speakers into the ethnic categories that the speakers had been intended to represent (range 67.7% to 81.7%). Consequently it enabled one to assume with some confidence that participants' evaluations were based on the intended ethnicity of the speaker.
As seen in Table 3, the majority of participants in the visual presentation categorised the speakers into the ethnic categories that the speakers had been intended to represent, for 7 of the 8 speakers (range 60.6% to 98.6%). Speaker number 7 was only rated by 28.2% of participants as being Maori. Because the majority of participants did not classify him as Maori he was eliminated from the analysis of ratings of Maori in the visual presentation. Although speaker eight received a lower percentage of people rating her as looking Pakeha than the other Pakeha looking speakers, this was not considered problematic because the majority of participants (60.6%) still perceived her to be Pakeha looking.

Ratings of Speakers

A MANOVA was conducted on the 11 types of ratings using participants’ age and mode of presentation (i.e., visual or auditory) as between subject factors, and speaker ethnicity and speaker accent as within subject factors. When interpreting the following results it is important to
Main Effects. The analysis revealed that there was an overall main effect of appearance across the dependent measures. This meant that the way the speaker looked had a significant effect on how they were evaluated $F(11, 150) = 18.20, p < .001$. Table 4 presents the univariate effects that comprised the multivariate effect of appearance, the relevant means and the F values.

Table 4

**Mean Ratings and F values as a Function of Appearance**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Look Maori (mean ratings)</th>
<th>Look Pakeha (mean ratings)</th>
<th>F Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closeness</td>
<td>2.80</td>
<td>2.95</td>
<td>7.64**</td>
</tr>
<tr>
<td>Earning</td>
<td>2.25</td>
<td>2.38</td>
<td>10.42**</td>
</tr>
<tr>
<td>Education</td>
<td>3.12</td>
<td>3.35</td>
<td>23.11***</td>
</tr>
<tr>
<td>Hardworking</td>
<td>3.34</td>
<td>3.36</td>
<td>0.12</td>
</tr>
<tr>
<td>Humour</td>
<td>3.03</td>
<td>3.47</td>
<td>56.82***</td>
</tr>
<tr>
<td>Intelligence</td>
<td>3.01</td>
<td>3.32</td>
<td>34.10***</td>
</tr>
<tr>
<td>Leadership</td>
<td>2.96</td>
<td>3.33</td>
<td>13.17***</td>
</tr>
<tr>
<td>Liking</td>
<td>3.23</td>
<td>3.51</td>
<td>28.47***</td>
</tr>
<tr>
<td>Reliability</td>
<td>3.28</td>
<td>3.36</td>
<td>1.81</td>
</tr>
<tr>
<td>Self-Confidence</td>
<td>2.91</td>
<td>3.67</td>
<td>143.44***</td>
</tr>
<tr>
<td>Social Class</td>
<td>2.60</td>
<td>2.92</td>
<td>53.42***</td>
</tr>
</tbody>
</table>

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

Table 4 illustrates that for 9 of the 11 variables, the speakers who looked Maori received significantly lower ratings than the speakers who looked Pakeha. For the remaining two variables there were no significant differences.
The analysis revealed an overall main effect of accent. This meant that the way someone sounded had a significant effect on how they were evaluated, $F(11, 150) = 17.63, p < .001$. Table 5 presents the univariate effects that comprised the multivariate effect of accent, the relevant means and the F values.

Table 5

*Mean Ratings and F Values as a Function of Accent.*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Sound Maori (mean ratings)</th>
<th>Sound Pakeha (mean ratings)</th>
<th>F Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closeness</td>
<td>2.81</td>
<td>2.94</td>
<td>6.65*</td>
</tr>
<tr>
<td>Earning</td>
<td>2.22</td>
<td>2.41</td>
<td>9.52**</td>
</tr>
<tr>
<td>Education</td>
<td>2.95</td>
<td>3.52</td>
<td>101.32***</td>
</tr>
<tr>
<td>Hardworking</td>
<td>3.20</td>
<td>3.50</td>
<td>25.61***</td>
</tr>
<tr>
<td>Humour</td>
<td>3.31</td>
<td>3.19</td>
<td>2.02</td>
</tr>
<tr>
<td>Intelligence</td>
<td>2.93</td>
<td>3.40</td>
<td>80.61***</td>
</tr>
<tr>
<td>Leadership</td>
<td>3.06</td>
<td>3.24</td>
<td>3.30</td>
</tr>
<tr>
<td>Liking</td>
<td>3.25</td>
<td>3.49</td>
<td>25.41***</td>
</tr>
<tr>
<td>Reliability</td>
<td>3.19</td>
<td>3.45</td>
<td>18.10***</td>
</tr>
<tr>
<td>Self-Confidence</td>
<td>3.37</td>
<td>3.21</td>
<td>6.10*</td>
</tr>
<tr>
<td>Social Class</td>
<td>2.60</td>
<td>2.92</td>
<td>32.53***</td>
</tr>
</tbody>
</table>

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

Table 5 shows that for 8 of the 11 variables, speakers who sounded Maori received significantly lower ratings than those who sounded Pakeha. However, the pattern for self-confidence ratings was different because Maori sounding speakers were rated by participants as being more self-confident than Pakeha sounding speakers. There were no significant differences between Maori and Pakeha sounding speakers for ratings of humour and leadership.
There were three significant 2-way interactions shown in the MANOVA. These are presented in the next section along with the appropriate univariate analyses of those interactions.

**Look x Mode Interactions.** Overall there was a multivariate Look x Mode interaction, $F(11, 150) = 5.76, p < .001$. In other words, across the set of ratings, the way a speaker looked had a different impact in the visual presentation than in the auditory presentation.

Univariate analyses showed that there were significant Look x Mode interactions for ratings of earnings, $F(1, 160) = 18.48, p < .001$; education, $F(1, 160) = 27.15, p < .001$; social class, $F(1, 160) = 34.05, p < .001$ and intelligence, $F(1, 160) = 10.93, p < .01$. These interactions are depicted in Figures 1-4. With the exception of intelligence ratings, post-hoc Newman-Keuls analyses revealed that in the visual presentation speakers who looked Maori were rated as belonging to a significantly lower social class ($M_{Maori} = 2.33, M_{Pakeha} = 2.98$); having significantly lower incomes ($M_{Maori} = 2.07, M_{Pakeha} = 2.41$); and being significantly less educated ($M_{Maori} = 3.01; M_{Pakeha} = 3.57$) than speakers who looked Pakeha. In the auditory presentation there was no difference between speakers who looked Maori or looked Pakeha for education ($M_{Maori} = 3.20; M_{Pakeha} = 3.18$), earning ($M_{Maori} = 2.40; M_{Pakeha} = 2.35$), and social class ratings ($M_{Maori} = 2.80; M_{Pakeha} = 2.87$).
Mode of Presentation

Figure 1: Effects of presentation mode and speaker appearance on mean earning ratings.

Figure 2: Effects of presentation mode and speaker appearance on mean education ratings.
Figure 3: Effects of presentation mode and speaker appearance on mean social class ratings.

Figure 4: Effects of presentation mode and speaker appearance on mean intelligence ratings.
Post-hoc Newman-Keuls analyses on intelligence ratings showed that in the visual presentation speakers who looked Maori ($M_{Maori} = 2.84$) were rated as being significantly less intelligent than speakers who looked Pakeha ($M_{Pakeha} = 3.37$). This difference was also found in the auditory presentation ($M_{Maori} = 3.14$; $M_{Pakeha} = 3.29$). This is an interesting result given that in the auditory presentation pupils did not view the speakers. However, the effect of how the speaker looked was 3.5 times larger in the visual presentation than in the auditory presentation.

The results above show that four of the measures (earnings, education, social class and intelligence) yielded clear effects of speaker appearance in the visual presentation. Furthermore, the results also showed that there was little or no effect of how the speaker looked in the auditory presentation. This was expected as participants did not view the speakers in the auditory presentation.

*Sound x Mode Interactions.* Overall there was a multivariate Sound x Mode interaction, $F(11, 150) = 5.61, p < .001$. This meant that the way someone sounded had a different impact in the auditory presentation than in the visual presentation.

There were significant univariate Sound x Mode interactions for ratings of earnings, $F(1, 160) = 11.74, p < .001$; self-confidence $F(1, 160) = 10.62, p < .01$; hardworking $F(1, 160) = 4.35, p < .05$; and humour $F(1, 160) =$
24.24, \( p < .001 \). These interactions are depicted in Figures 5-8. For ratings of earnings and self-confidence post-hoc Newman-Keuls analyses showed that in the auditory presentation speakers who sounded Maori were rated as having significantly lower incomes \( (M_{\text{Maori}} = 2.20, M_{\text{Pakeha}} = 2.55) \) but being significantly more self-confident \( (M_{\text{Maori}} = 3.49, M_{\text{Pakeha}} = 3.17) \) than speakers who sounded Pakeha. In the visual presentation there was no difference between speakers who sounded Maori or sounded Pakeha for earning \( (M_{\text{Maori}} = 2.24; M_{\text{Pakeha}} = 2.24) \) and self-confident \( (M_{\text{Maori}} = 3.22; M_{\text{Pakeha}} = 3.27) \) ratings.

Post-hoc analyses of ratings of humour revealed that in the visual presentation speakers who sounded Maori \( (M_{\text{Maori}} = 3.12) \) were rated as having significantly less sense of humour than speakers who sounded Pakeha \( (M_{\text{Pakeha}} = 3.31) \). This trend was reversed in the auditory presentation with speakers who sounded Maori \( (M_{\text{Maori}} = 3.45) \) being rated as having a significantly greater sense of humour than speakers who sounded Pakeha \( (M_{\text{Pakeha}} = 3.10) \).

Post-hoc analysis of ratings of hardworking did not reveal the source of the interaction. Speakers who sounded Maori were rated as significantly less hardworking than speakers who sounded Pakeha in both visual \( (M_{\text{Maori}} = 3.26; M_{\text{Pakeha}} = 3.43) \) and auditory presentations \( (M_{\text{Maori}} = 3.16; M_{\text{Pakeha}} = 3.55) \). This effect was nearly twice as large in the auditory presentation than in the visual presentation.
Figure 5: Effects of presentation mode and speaker accent on mean earning ratings.

Figure 6: Effects of presentation mode and speaker accent on mean self-confidence ratings.
Figure 7: Effects of presentation mode and speaker accent on mean humour ratings.

Figure 8: Effects of presentation mode and speaker accent on mean hardworking ratings.
The results above show that four variables (hardworking, humour, self-confidence and earnings) yielded clear effects of accent in the auditory presentation. The effect of accent was less so in the visual presentation with only two of the variables (hardworking and humour) showing accent effects.

*Look x Sound Interactions.* Overall there was a multivariate Look x Sound interaction, $F(11, 150) = 4.54, p < .001$. This meant that judgements regarding how a speaker looked were also influenced by how a speaker sounded.

There were significant univariate Look x Sound interactions for ratings of closeness, $F(1, 160) = 7.31, p < .01$; earnings, $F(1, 160) = 7.26, p < \cdot.01$; intelligence, $F(1, 160) = 13.08, p < .001$; and social class, $F(1, 160) = 5.74, p < .05$. These interactions are depicted in Figures 9-12.

Post-hoc analyses revealed that the speakers who sounded and looked Maori were rated as significantly less intelligent ($M_{MM} = 2.68; M_{PM} = 3.18$), as having significantly lower incomes ($M_{MM} = 2.10; M_{PM} = 2.33$), and significantly lower on closeness ratings ($M_{MM} = 2.66; M_{PM} = 2.95$) than speakers who sounded Maori and looked Pakeha. There was no effect of speaker appearance for speakers who sounded Pakeha, as speakers who
Figure 9: Effects of speaker appearance and speaker accent on mean intelligence ratings.

Figure 10: Effects of speaker appearance and speaker accent on mean earning ratings.
Figure 11: Effects of speaker appearance and speaker accent on mean closeness ratings.

Figure 12: Effects of speaker appearance and speaker accent on mean social class ratings.
sounded and looked Pakeha were not rated significantly differently from speakers who sounded Pakeha and looked Maori on the variables of intelligence ($M_{PP} = 3.46; M_{MP} = 3.33$), earnings ($M_{PP} = 2.42; M_{MP} = 2.40$), and closeness ($M_{PP} = 2.95; M_{MP} = 2.94$).

Post-hoc analyses of social class ratings showed that there was an effect of speaker appearance for both Maori and Pakeha sounding speakers. Speakers who looked and sounded Maori ($M_{MM} = 2.38$) were rated as belonging to a significantly lower social class than speakers who looked Pakeha and sounded Maori ($M_{PM} = 2.81$). Likewise speakers who looked and sounded Pakeha ($M_{PP} = 3.04$) received significantly higher social class ratings than speakers who sounded Pakeha and looked Maori ($M_{MP} = 2.81$). This is a good illustration of the amplifying effect of accent on appearance.

The results above show that across the four variables of closeness, earnings, intelligence and social class, speakers who sounded and looked Maori were rated least favourably, whereas speakers who looked and sounded Pakeha tended to be rated most favourably. Between these two extremes were rated the speakers who looked Pakeha and sounded Maori, and the speakers who looked Maori and sounded Pakeha. These results suggest (as predicted in the hypothesis) that accent amplifies the effects of appearance.
Look x Sound x Mode Interactions. There was an overall multivariate Look x Sound x Mode interaction, $F(11, 150) = 3.17, p < .001$, indicating that the interactions were different in the auditory presentation than in the visual presentation.

There were significant univariate Look x Sound x Mode interactions for ratings of earnings, $F(1, 160) = 14.17, p < .001$; social class, $F(1, 160) = 4.65, p < .05$; and education, $F(1, 160) = 15.34, p < .001$.

For earnings a significant Look x Sound interaction was present in the visual presentation $F(1, 71) = 19.14, p < .001$, but not the auditory presentation (See Figure 13). Post-hoc Newman-Keuls analyses revealed that in the visual presentation the speaker who looked and sounded Maori ($M_{MM} = 1.92$) was rated as earning significantly less than speakers who looked Pakeha and sounded Maori ($M_{PM} = 2.57$). When the speakers sounded Pakeha there was no effect of speaker appearance, because speakers who looked Maori and sounded Pakeha ($M_{MP} = 2.22$) were not rated significantly different from speakers who looked and sounded Pakeha ($M_{PP} = 2.26$).

Likewise, for social class a significant Look x Sound interaction was present for the visual presentation $F(1, 71) = 7.64, p < .01$, but not for the auditory presentation (see Figure 14). Post-hoc analyses showed that there was an effect of speaker appearance for both Maori and Pakeha sounding
Mode of Presentation

Figure 13: Effects of speaker appearance and speaker accent by presentation mode on mean earning ratings.

Mode of Presentation

Figure 14: Effects of speaker appearance and speaker accent by presentation mode on mean social class ratings.
speakers. The speaker who looked and sounded Maori ($M_{MM} = 2.09$) was rated as belonging to a significantly lower social class than the speakers who looked Pakeha and sounded Maori ($M_{PM} = 2.97$). Similarly speakers who looked Maori and sounded Pakeha ($M_{MP} = 2.57$) were rated significantly lower on social class ratings than speakers who looked and sounded Pakeha ($M_{PP} = 3.00$).

For education ratings a significant Look x Sound interaction was found for both visual $F(1, 71) = 10.17, p < .01$, and auditory presentation $F(1, 71) = 5.36, p < .05$ (see Figure 15). In the visual presentation there was an effect of speaker appearance for speakers who sounded Maori, because the speaker who looked and sounded Maori ($M_{MM} = 2.58$) was rated as significantly less educated than the speakers who looked Pakeha and sounded Maori ($M_{PM} = 3.43$). However, if the person sounded Pakeha there was no effect of speaker appearance, because speakers who looked Maori and sounded Pakeha ($M_{MP} = 3.44$) were not rated significantly different from speakers who looked and sounded Pakeha ($M_{PP} = 3.71$).

Post-hoc analyses in the auditory presentation did not reveal the source of the Look x Sound interaction. How the speaker looked had no effect, but those speakers who sounded Maori ($M_{Maori} = 2.91$) were rated as significantly less educated than those speakers who sounded Pakeha ($M_{Pakeha} = 3.48$).
The results above show that there were significant Look by Sound interactions in the visual presentation, across the three variables of earnings, social class and education. These interactions provided clear support of the amplifying effect of accent on appearance for the speaker who looked and sounded Maori. There was less clear support of the amplifying effect occurring with speakers who looked and sounded Pakeha. Inspection of means showed no evidence of similar interactions occurring in the auditory presentation. This result was expected as participants did not view the speakers in the auditory presentation.
Look x Sound x Mode x Age interactions. There was an overall multivariate Look x Sound x Mode x Age interaction, $F(11, 150) = 2.25, p < .05$. Univariate analyses revealed significant 4-way interactions for ratings of intelligence, $F(1, 160) = 6.48, p < .05$; reliability, $F(1, 160) = 4.5, p < .05$; self-confidence, $F(1, 160) = 13.13, p < .001$; and social class, $F(1, 160) = 6.89, p < .01$. Each of these complex interactions will be dealt with separately in the following sections.

(i) Intelligence. This interaction is depicted in Figures 16a and 16b. In order to teasing apart the 4-way interaction, separate ANOVAs were conducted for old and young adolescent groups. To avoid redundancies with earlier sections, only those effects relevant to discerning different patterns of results between these two groups of adolescents will be discussed. A significant Look x Sound x Mode interaction was found for older pupils but not for younger pupils, $F(1, 86) = 6.28, p < .05$. Further analyses showed a significant Look x Sound interaction in the visual presentation for older pupils, $F(1, 38) = 9.03, p < .01$. Post-hoc analyses of this interaction revealed that older pupils in the visual presentation showed a significant effect of speaker appearance for speakers who sounded Maori. They rated the speaker who looked and sounded Maori as significantly less intelligent ($M_{MM} = 2.46$) than the speakers who looked Pakeha and sounded
Mode of Presentation

**Figure 16a:** Mean intelligence ratings as a function of presentation mode, speaker appearance and speaker accent for younger pupils.

Mode of Presentation

**Figure 16b:** Mean intelligence ratings as a function of presentation mode, speaker appearance and speaker accent for older pupils.
Maori \((M_{RM} = 3.28)\). However, when the speakers sounded Pakeha there was no significant effect of speaker appearance on the older pupils intelligence ratings \((M_{MP} = 3.21, M_{PP} = 3.39)\).

Intelligence ratings of older pupils in the auditory presentation was affected by accent only \(F (1, 48) = 31.41, p < .001\), with speakers who sounded Maori \((M_{Maori} = 2.91)\) being rated less intelligent than speakers who sounded Pakeha \((M_{Pakeha} = 3.42)\).

(ii) Reliability. Figures 17a and 17b show the mean reliability ratings as a function of age, presentation mode, speaker appearance and speaker accent. Separate ANOVAs were conducted on reliability ratings for young and old adolescent groups. Both analyses yielded only a significant effect of speaker accent, which was reported earlier. Within each age group, separate ANOVAs were conducted for each presentation mode. These results showed a similar pattern for ratings by both age groups in the auditory presentation. Young and old pupils judged speakers who sounded Maori as less reliable \((M_{young} = 3.20, M_{old} = 3.11)\) than speakers who sounded Pakeha \((M_{young} = 3.47, M_{old} = 3.52)\), \(F_{young} (1, 42) = 4.17, p < .05, F_{old} (1, 48) = 19.89, p < .001\).

In the visual presentation speaker accent and speaker appearance had no significant impact on older pupils' reliability ratings, though a significant Look x Sound interaction was present for younger pupils'
Figure 17a: Mean reliability ratings as a function of presentation mode, speaker appearance, and speaker accent for younger pupils.

Figure 17b: Mean reliability ratings as a function of presentation mode, speaker appearance and speaker accent for older pupils.
reliability ratings, \( F(1, 32) = 5.53, p < .05 \). Newman-Keuls post-hoc analyses revealed that younger pupils rated speakers who looked Pakeha and sounded Maori (\( M_{pm} = 3.17 \)) as significantly less reliable than speakers who looked and sounded Pakeha (\( M_{pp} = 3.58 \)). However, when the speakers looked Maori there was no effect of speaker accent on the younger pupils reliability ratings (\( M_{mm} = 3.33, M_{mp} = 3.22 \)).

(iii) Self-Confidence. Analyses of both older and younger pupils yielded significant Look x Sound x Mode interactions, \( F_{old} (1, 86) = 6.03, p < .05 \), \( F_{young} (1, 74) = 6.88, p < .05 \). These are depicted in Figures 18a and 18b. Further analyses within each presentation mode showed that the nature of these interactions differed by age. Pupils in both age groups showed similar main effects of appearance and accent in the auditory presentation. Even though pupils could not see the speakers in this presentation, speakers who looked Maori were rated as less self-confident (\( M_{old} = 3.01, M_{young} = 2.87 \)) than speakers who looked Pakeha (\( M_{old} = 3.74, M_{young} = 3.70 \)), \( F_{old} (1, 48) = 26.63, p < .001 \), \( F_{young} (1, 42) = 32.06, p < .001 \). However, both groups rated speakers who sounded Maori as more self-confident (\( M_{old} = 3.53, M_{young} = 3.44 \)) than speakers who sounded Pakeha (\( M_{old} = 3.21, M_{young} = 3.13 \)), \( F_{old} (1, 48) = 10.50, p < .01 \), \( F_{young} (1, 42) = 9.17, p < .01 \).

In the visual presentation, self-confidence ratings by pupils in both age groups were significantly affected by speaker appearance, \( F_{old} (1, 38) = 21.10, p < .001 \), \( F_{young} (1, 32) = 43.43, p < .001 \). Speakers who looked Maori received
Figure 18a: Mean self-confidence ratings as a function of presentation mode, speaker appearance and speaker accent for younger pupils.

Figure 18b: Mean self-confidence ratings as a function of presentation mode, speaker appearance and speaker accent for older pupils.
lower self-confidence ratings ($M_{\text{old}} = 2.97, M_{\text{young}} = 2.75$) than those who looked Pakeha ($M_{\text{old}} = 3.60, M_{\text{young}} = 3.64$). In addition, a significant Look x Sound interaction was present for older pupils in the visual presentation mode, $F(1, 38) = 14.74, p < .001$, but not for younger pupils. Post-hoc analyses revealed that there was an effect of appearance for speakers who sounded Maori, but not for those who sounded Pakeha. Speakers who sounded Maori and looked Pakeha ($M_{\text{PM}} = 3.72$) were rated as more self-confident than the speaker who sounded and looked Maori ($M_{\text{MM}} = 2.72$). However, when the speakers sounded Pakeha there was no effect of appearance on the older pupils self-confidence ratings ($M_{\text{MP}} = 3.22, M_{\text{PP}} = 3.47$).

(iv) Social Class. As shown in Figures 19a and 19b, there was a clear effect of speaker accent on young pupils' ratings in the auditory presentation mode, $F(1, 42) = 16.20, p < .001$. This effect was attenuated, but still significant, for the older pupils in the same condition, $F(1, 48) = 7.56, p < .01$. Both younger and older pupils rated Maori sounding speakers as being from a lower social class ($M_{\text{young}} = 2.60, M_{\text{old}} = 2.70$) than Pakeha sounding speakers ($M_{\text{young}} = 3.03, M_{\text{old}} = 3.02$). Older pupils also showed a Look x Sound interaction in the auditory presentation, $F(1, 48) = 4.52, p < .05$. Post-hoc tests showed that speakers who looked Pakeha and sounded Maori ($M_{\text{PM}} = 2.70$) were rated as belonging to a significantly lower social class than speakers who looked and sounded Pakeha ($M_{\text{PP}} = 3.17$).
3.2,-----------------,

visual auditory

Mode of Presentation

**Figure 19a:** Mean social class ratings as a function of presentation mode, speaker appearance and speaker accent for younger pupils.

Mode of Presentation

**Figure 19b:** Mean social class ratings as a function of presentation mode, speaker appearance, speaker accent for older pupils.
However, when the speakers looked Maori there was no significant effect of accent on the older pupils social class ratings ($M_{MM} = 2.70$, $M_{MP} = 2.88$).

In the visual presentation, younger pupils demonstrated a significant effect of speaker appearance, $F(1, 32) = 21.90, p < .001$, by rating speakers who looked Pakeha ($M_{Pakeha} = 2.99$) as belonging to a higher social class than speakers who looked Maori ($M_{Maori} = 2.39$). Older pupils in the same condition showed a significant Look x Sound interaction, $F(1, 38) = 9.43, p < .01$, as well as significant main effects for Look, $F(1, 38) = 36.60, p < .002$, and Sound, $F(1, 38) = 18.47, p < .001$. Post-hoc analyses showed that older pupils in the visual presentation, rated the speaker who looked and sounded Maori ($M_{MM} = 1.95$) as belonging to a significantly lower social class than speakers who looked Maori and sounded Pakeha ($M_{MP} = 2.62$). However, when the speakers looked Pakeha there was no significant effect of accent on the older pupils social class ratings ($M_{PM} = 2.96$, $M_{PP} = 3.01$).

In summary, both age groups showed similar effects of speaker accent and speaker appearance in the auditory presentation for the three variables of intelligence, reliability and social class. Most age differences occurred in the visual presentation, with older pupils being more likely (than younger pupils) to use both accent and appearance when evaluating a speaker in the visual presentation.
Descriptive Statistics

As already reported in the method section participants were asked to write what type of person they thought the speaker was and what type of job they believed the speaker held. This data was examined, but it did not provide us with any additional information, consequently it is not been reported in this study, though the raw data can be viewed in the Appendices (see Appendices F and G).
Discussion

The first hypothesis, that use of speakers of Maori English would lead to higher Maori identification rates by participants, was supported by the results. These showed that 74% of participants in the auditory presentation identified speakers of Maori English as Maori. This is much greater than the Maori identification rates found in Huygens and Vaughan (1983) and Robertson (1994). In addition, 77% of participants in the auditory presentation identified speakers of Pakeha English as Pakeha. The high Pakeha and Maori identification rates in the auditory presentation illustrates that people can accurately distinguish ME from PE. This suggests that inaccurate ethnic classification of Maori and Pakeha ethnicity based on speaker accent is not due to a person’s inability to distinguish ME from PE. Instead it would appear to be due to participants erroneous assumption that ME speakers must be Maori, and PE speakers must be Pakeha. However, as already discussed this assumption is incorrect as there are Maori who speak PE, and Pakeha who speak ME (Bauer, 1994; Bayard, 1995; King, 1993; Robertson, 1994).

Having the majority of participants agreeing on the ethnic classification of a speaker is important, as attitudes towards language are determined by what the listeners perceive the speaker to be (Cargile, Giles, Ryan & Bradac, 1994). Therefore, future studies of ethnic stereotypes must have the majority (the higher the better) of participants agreeing on the
ethnicity of the speaker. Studies that do not achieve this must show caution in interpreting their results, as participants' evaluations of the speaker may not be based on the ethnicity that the speaker had been intended to represent.

This happened for one of the speakers in the present study. The male speaker who was intended to represent Maori ethnicity was only categorised as Maori in the visual presentation by 28% of the participants. Consequently, he was eliminated from any analysis involving the visual presentation of stimuli. The reason why he was not judged to be Maori in the visual presentation given that 78% of participants rated him as Maori in the auditory presentation is confusing. A possible explanation is that his clothing appearance overrode his ethnicity cues.

The videotape of this speaker showed him wearing a tie. Participants interpreted this feature as a symbol of high status and he was evaluated as such. Therefore, an interesting situation was unintentionally created where a Maori man's high status clothing appearance was in direct contrast to the low status stereotype associated with Maori. One could speculate that this incompatibility might have contributed to participants classifying him as Pakeha, so that his ethnic categorisation was more compatible with his high status appearance. Though this reason is purely speculative, it does suggest that socio-economic status information (i.e., his tie) may moderate the effects of ethnicity. This study did not seek to explore the impact of socio-
economic status cues (e.g., clothing appearance, occupation) on Pakeha and Maori ethnicity, and further research in this area would be valuable.

The results partially supported the second hypothesis concerning the amplifying effect of accent on appearance when both pieces of information were available. Speakers who looked Maori and sounded Maori were rated significantly lower on the variables of earnings, education social class, intelligence and closeness, than the other speaker combinations. Furthermore, on these same variables, speakers who looked Pakeha and sounded Pakeha were generally rated most favourably (but not always significantly) than the other speaker combinations. From these findings it can be concluded that the amplifying effect of accent on the evaluative effects of appearance was particularly prominent with the status variables. The effect was also more pronounced with speakers who looked and sounded Maori than speakers who looked and sounded Pakeha. A possible explanation is that groups who have inherently greater status are less affected by accent information. This has been illustrated with gender, as Carli (1990) found that women's (i.e., a group stereotypically viewed as low status) speech style influenced participants' evaluations of their competence and knowledge, though men's (i.e., a group stereotypically viewed as high status) speech style did not.

The lack of research on the relationship between accent and visual information when both pieces of information are available is surprising
especially as we typically have access to both visual and auditory information when forming an impression of someone. Consequently, research that studies the relationship between accent and appearance and also the impact of a person’s perceived status on that relationship will be beneficial.

The third hypothesis, that Maori would be rated lower than Pakeha on a number of variables (in particular the status variables), was clearly supported. In both the visual and auditory presentations, speakers who were perceived to be Maori were rated as less educated, belonging to a lower social class, earning less, less intelligent, and less likeable than speakers perceived to be Pakeha. Furthermore, participants were less willing to have a close relationship with a speaker who was perceived to be Maori than one perceived to be Pakeha. Speakers of Maori English were also rated as lazier and less reliable than speakers of Pakeha English, though there was no difference on these two variables between speakers who looked Maori and speakers who looked Pakeha. Conversely, speakers who looked Maori were rated as worse leaders than speakers who looked Pakeha, though there was no difference in leadership ratings between speakers of Maori English and speakers of Pakeha English. The findings above emphatically show that the negative stereotypes of Maori consistently found in research dating back to the 1950’s are currently present in New Zealand’s youth.
Given that stereotypes have been shown to influence information processing (Stangor & Schaller, 1996), the negative stereotypes of Maori are potentially very damaging, especially in situations where first impressions are important. Three areas (though no doubt there are many more) are discussed below to illustrate the detrimental impact that unfavourable attitudes towards Maori can have.

Firstly, Maori continue to perform poorly within New Zealand's schooling system (Zwart, 1998). It has been argued that low teacher expectation of a Maori child's academic success has been a contributing factor to this (Edwards, 1970; Haigh, 1974; St George, 1983). They argue that because Maori pupils have traditionally performed poorly in the New Zealand schooling system, teachers have a low expectation of academic success from these students. In other words teachers form a stereotype of Maori pupils as low academic achievers. This leads to a different interaction between teacher and pupil, which contributes to continued low academic achievement of Maori (Edwards, 1970; Haigh, 1974; St George, 1983).

Secondly, one would assume that the negative stereotypes of Maori would adversely effect them in job interviews. Indeed Singer (1988) found that after reading a job application, participants judged a Maori applicant to be more competent at a low status job (filing clerk) than a high status job (departmental manager). In contrast, a Pakeha applicant (whose job
application was exactly the same except for ethnicity) was judged to be more competent at a high status job than a low status job. This clearly demonstrates the damaging effects that the negative stereotypes of Maori can have on their employment opportunities.

Thirdly, research has shown that police hold a number of negative stereotypes towards Maori, believing them to be law breaking, of low intelligence, and ignorant (Huang & Singer, 1984). A study by Hampton (1975) showed that police act on these stereotypes. He investigated the police decision to proceed with prosecution for 406 males and 209 females, aged 13 to 16. He found that police were significantly more likely to prosecute a male Maori than a non-Maori male, even when both were from the same social class. Female ethnicity was not found to have an influence in the police decision to prosecute when home condition (good or poor) and parental situation (live together, separation, death) were controlled for.

The above research highlights the negative stereotypes held of Maori in the education, employment and law enforcement sectors of society, and how these stereotypes (whether consciously or not) can lead to discrimination against Maori. Given that today's youth are holding the same unfavourable attitudes towards Maori as their parents and grandparents did, and that stereotypes once established tend to remain stable throughout the lifetime (Wilson, 1996), one can argue that the teenagers in the present study will probably carry their negative stereotypes
of Maori into their eventual work environments. This may result in continued discrimination against Maori along the lines evidenced in the studies above. Consequently, future research is necessary to determine situations in which stereotyping leads to discrimination. Such research will help to expose the extent of racism in New Zealand.

Though the unfavourable stereotypes held towards Maori appear entrenched, they can be reduced. Two ways of achieving this are discussed below. Continuation of some of the negative stereotypes associated with Maori can be explained because they reflect social reality (Bayard, 1991b). Maori are over-represented in crime, low educational achievement, unemployment and the lower socio-economic classes (Zwarts, 1998). Bayard (1991b) is probably correct when he states that the negative stereotypes of Maori will continue until there is true educational, economical and employment equity between Maori and Pakeha. Given this, it is imperative that social and economic policies that ensure Maori equity with Pakeha in the areas above are endorsed and supported by the government, the education system, iwi and New Zealand society in general.

The media also have an important role in reducing the negative stereotypes of Maori. A recent study of the way Maori issues were treated in the Evening Post and the Auckland Star concluded that though Maori issues were still treated in a negative manner, they were not overwhelmingly so (Cochrane, 1990). Despite this apparent improvement
in media coverage of Maori issues, the media with its strong influence on societal opinion can directly challenge negative stereotypes of Maori by reporting Maori issues in a more positive manner.

Two other findings are briefly worth mentioning. Firstly, contrary to prediction, speakers who were perceived to be Maori were judged as less likeable than speakers perceived to be Pakeha. This is a surprising result as previous research had identified that Pakeha viewed Maori as friendly (Graves & Graves, 1974; Oliver & Vaughan, 1991). It may be explained by recent changes in Maori and Pakeha relations. Recent Waitangi Tribunal rulings in favour of Maori (which have included monetary and land compensation) combined with Maori demands for biculturalism and acknowledgment of the Treaty of Waitangi have threatened many Pakeha (Spoonley, 1990). These feelings of threat may account for Maori being viewed as less likeable by Pakeha.

Secondly, perceived Maori speakers were rated as having a greater sense of humour than perceived Pakeha speakers in the auditory presentation, but not in the visual presentation. This may have occurred because in the auditory presentation the Maori accent may have conjured up humorous images of Billy T James (a famous and very salient Maori television comedian) who often used a strong ME accent as a source of amusement during his performances (Bayard, 1995). However, in the visual presentation, participants were exposed to a non-humorous scene consisting
of Maori reading aloud a story, resulting in a decrease of sense of humour ratings.

Age differences in evaluations of speakers were not the main focus of the present study, therefore they will only be briefly discussed. Overall, the younger and older pupils were similar in their evaluations of perceived Maori and Pakeha speakers. Most differences between them occurred in the visual presentation, with older pupils tending to use both pieces of information (i.e., appearance and accent) when making their evaluations. A possible reason for this is that older pupils may have learnt that auditory information (i.e., accent), as well as visual information is an important source of information when forming an impression of someone. The reason as to why this would occur for older adolescents but not for younger adolescents is beyond the scope of this study. However, given that increased sophistication in stereotyping occurs in middle childhood (Mackie et al., 1996), one could argue that some sort of change (perhaps due to social or cognitive causes) may also occur in adolescence, resulting in greater attendance to the combination of accent and appearance information by older adolescents. This reason is purely speculative and further research using differently aged samples will allow firmer conclusions regarding age differences in stereotyping to be made.

A result that needs to be discussed further is that speaker appearance effects occurred in the auditory presentation for young children on the
intelligence and self-confidence variables, and for older pupils on the social
class and self-confidence variables. These results are surprising, as
participants did not view the speakers in the auditory presentation. It must
be noted that the vast majority of findings in the auditory presentation
showed no effects of appearance. Furthermore, when appearance effects
did occur in the auditory presentation they were inconsistent. Individual
differences between speakers are a possible explanation for the effect of
appearance in the auditory presentation for the intelligence (for the younger
pupils) and the social class variables (for the older pupils).

There were a number of individual differences between speakers that
were unable to be controlled for. These included physical attractiveness,
accent attractiveness, facial expressions and voice quality (i.e., hesitations,
loudness etc.). The impact of these factors was minimised by using analyses
that usually involved two or four speakers per cell. Moreover, the high
ethnic identification rates and the consistent strong effects of ethnicity,
further suggest that the impact of the above factors was minimal.

Use of a matched guise technique in which one speaker speaks in both a
Maori and Pakeha sounding accent would have allowed greater control of
the variables above. However, speakers who could competently mimic PE
and ME could not be found. I am sure such speakers exist and the use of
them in a matched guise technique would be immensely beneficial in the
study of attitudes towards ME and PE.
The effects of appearance in the auditory presentation (for both older and younger pupils) for the self-confidence variable, is probably best explained by the ambiguity of the term *self-confidence*. The term self-confidence caused confusion amongst the participants, as they did not understand what it represented. Therefore, it is likely that participants' confusion over this term contributed to the inconsistent results pertaining to the self-confidence ratings. It is strongly suggested that future researchers who use the concept of self-confidence have a clear definition of what it represents, and that their participants have a full understanding of it.

In summary, the vast majority of findings from the auditory presentation showed no effect of speaker appearance. Furthermore, when speaker appearance effects did occur in the auditory presentation, they were inconsistent. Consequently, the occurrence of appearance effects in the auditory presentation was the exception to the rule, and as such is not of great concern.

The present study was intended to highlight the stereotypes associated with Maori, and to provoke more indepth research in this area. Some future avenues of research have already been discussed in the context of the appropriate hypotheses. However, the use of non-student samples and the use of a North Island sample where 88% of Maori reside (Zwartz, 1998) would be useful comparisons to the present study. In addition, research investigating gender differences in evaluations of speakers, and differences
in participant evaluations of males and females from the same ethnic group would be beneficial. Recent research by Johnston, Locke, Giles and Rattray (1997) has shown that Maori can also be stereotyped in a positive manner. This is yet another avenue which future research may wish to explore.

Finally, little research has been conducted on Maori attitudes towards themselves. Based on black American views of themselves (Sniderman & Piazza, 1993) and Archer and Archer's (1970) findings, it is anticipated that Maori will also hold a negative view of themselves. If this occurs it may mean that a self-fulfilling prophecy exists amongst Maori, in which their own negative views of themselves results in them behaving in a manner consistent with that view (Ballara, 1986). Clearly, such a finding would have major implications. Therefore, it is imperative that research is conducted in this area.

Perhaps the most telling finding to emerge from the present study is that negative stereotypes of Maori are very much alive in New Zealand. As discussed, these stereotypes can (and do) lead to discrimination against Maori. Because of this, it is crucial that research continues in this area so that racial myths, stereotypes and prejudice within New Zealand can be exposed. Such exposure is the necessary first step on the long road to achieving Maori and Pakeha equity.
References


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Appendix A - Experimental speaker validation questionnaire for when participants only heard the speakers.

Code number __

INSTRUCTIONS:
You are going to hear a short passage read by eight different people; this questionnaire asks for your opinion of these people. The video will be played through once with pauses to let you record your opinions on the scales below. There are no right or wrong answers; answer on your first impressions.

1. New Zealander of European descent (i.e Pakeha).
2. New Zealander of Maori descent.
3. Other (please write what ethnic group you believe they belong to).

Using the scale above put the number in the space which represents the ethnic group you believe the person you have just heard belongs to. For example if you believe the first speaker sounds like a Maori then you would put the number two in the space provided.

What ethnic group do you believe speaker 1 belongs to?_____
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure Totally sure

How attractive do you find this person’s voice.

1 2 3 4 5 6 7
not at all attractive

What ethnic group do you believe speaker 2 belongs to?_____
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure Totally sure

How attractive do you find this person’s voice.

1 2 3 4 5 6 7
not at all attractive

Extremely attractive
What ethnic group do you believe speaker 3 belongs to? ______
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure Totally sure

How attractive do you find this person's voice.

1 2 3 4 5 6 7
not at all attractive Extremely attractive

What ethnic group do you believe speaker 4 belongs to? ______
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure Totally sure

How attractive do you find this person's voice.

1 2 3 4 5 6 7
not at all attractive Extremely attractive

What ethnic group do you believe speaker 5 belongs to? ______
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure Totally sure

How attractive do you find this person's voice.

1 2 3 4 5 6 7
not at all attractive Extremely attractive

What ethnic group do you believe speaker 6 belongs to? ______
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure Totally sure

How attractive do you find this person's voice.

1 2 3 4 5 6 7
not at all attractive Extremely attractive
What ethnic group do you believe speaker 7 belongs to? _____
How sure are you in your decision? (circle one number)

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How attractive do you find this person’s voice.

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What ethnic group do you believe speaker 8 belongs to? _____
How sure are you in your decision? (circle one number)

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How attractive do you find this person’s voice.

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Appendix B – Experimental speaker validation questionnaire for when participants only saw the speakers.

Code number _______

INSTRUCTIONS:
You are going to hear a short passage read by eight different people; this questionnaire asks for your opinion of these people. The video will be played through once with pauses to let you record your opinions on the scales below. There are no right or wrong answers; answer on your first impressions.

1. New Zealander of European descent (i.e Pakeha).
2. New Zealander of Maori descent.
3. Other (please write what ethnic group you believe they belong to).

Using the scale above put the number in the space which represents the ethnic group you believe the person you have just seen belongs to. For example if you believe the first speaker is Maori then you would put the number two in the space provided.

What ethnic group do you believe speaker 1 belongs to? _____
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure Totally sure

How physically attractive do you think this person is

1 2 3 4 5 6 7
not at all attractive Extremely attractive

What ethnic group do you believe speaker 2 belongs to? _____
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure Totally sure

How physically attractive do you think this person is

1 2 3 4 5 6 7
not at all attractive Extremely attractive
What ethnic group do you believe speaker 3 belongs to? 
How sure are you in your decision? (circle one number)

Not at all sure Totally sure

How physically attractive do you think this person is

not at all attractive Extremely attractive

What ethnic group do you believe speaker 4 belongs to? 
How sure are you in your decision? (circle one number)

Not at all sure Totally sure

How physically attractive do you think this person is

not at all attractive Extremely attractive

What ethnic group do you believe speaker 5 belongs to? 
How sure are you in your decision? (circle one number)

Not at all sure Totally sure

How physically attractive do you think this person is

not at all attractive Extremely attractive

What ethnic group do you believe speaker 6 belongs to? 
How sure are you in your decision? (circle one number)

Not at all sure Totally sure

How physically attractive do you think this person is

not at all attractive Extremely attractive
What ethnic group do you believe speaker 7 belongs to? ______
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure   Totally sure

How physically attractive do you think this person is

1 2 3 4 5 6 7
not at all attractive   Extremely attractive

What ethnic group do you believe speaker 8 belongs to? ______
How sure are you in your decision? (circle one number)

1 2 3 4 5 6 7
Not at all sure   Totally sure

How physically attractive do you think this person is

1 2 3 4 5 6 7
not at all attractive   Extremely attractive

COULD YOU PLEASE FILL OUT THE FOLLOWING

Gender _______     Age _______

What ethnic group do you identify with _______
Appendix C – Participant Information Sheet

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

This project is being undertaken as part of the requirements for a Master in Arts. The major aim of this project is to assess people’s views on the way people speak. Should you agree to take part in this project you will be asked to watch a few brief videos of people speaking. After the videos you will be asked to fill out a questionnaire concerning the people you have just viewed in the video. The whole experiment lasts about 30-40 minutes. Your responses from the questionnaire will be collected and examined. Only my supervisors and I will have access to the data and your results will remain completely confidential.

The data collected will be securely stored so that only those mentioned above will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University’s research policy, any raw data on which the results for the project depend will be retained in secure storage for five years, after which it will be destroyed.

Results of this project may be published but any data included will in no way be linked to any specific participant. You are most welcome to request a copy of the results of the project should you wish.

You may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind.

If you have any questions about our project, either now or in the future, please feel free to contact either:

Kelly Holmes or Tamar Murachver
Department of Psychology Department of Psychology
University phone number 479 7614 University phone number
479 8351
Appendix D – Participant Consent Form

I have read the Information Sheet concerning the project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:
1. my participation in the project is entirely voluntary;
2. I am free to withdraw from the project at any time without any disadvantage:
3. the results of the project may be published but my anonymity will be preserved.

I agree to take part in this project.

.......................................................... ..........................................................
(Signature of participant) (Date)
Appendix E – Experimental Questionnaire

SPEAKER EVALUATION QUESTIONNAIRE

INSTRUCTIONS:
You are going to hear a short passage read by eight different people; this questionnaire asks for your opinion of these people. The voices will be played through once with pauses to let you record your opinions on the scales below. There are no right or wrong answers; answer on your first impressions.

1. New Zealander of European descent (i.e. Pakeha).
2. New Zealander of Maori descent.
3. Other (please write what group you think they belong too)

Using the scale above put the number in the space which represents the ethnic group you believe the person you have just seen or heard on the video belongs to. For example if you believe the first speaker is Maori then you would put the number two in the space provided.

#1 What ethnic group do you believe Speaker 1 belongs to? _____
How sure are you in your decision? (circle one number)
1 2 3 4 5 6 7
Not at all sure Totally sure

#2 What ethnic group do you believe Speaker 2 belongs to? _____
How sure are you in your decision? (circle one number)
1 2 3 4 5 6 7
Not at all sure Totally sure

#3 What ethnic group do you believe Speaker 3 belongs to? _____
How sure are you in your decision? (circle one number)
1 2 3 4 5 6 7
Not at all sure Totally sure

#4 What ethnic group do you believe Speaker 4 belongs to? _____
How sure are you in your decision? (circle one number)
1 2 3 4 5 6 7
Not at all sure Totally sure

#5 What ethnic group do you believe Speaker 5 belongs to? _____
How sure are you in your decision? (circle one number)
1 2 3 4 5 6 7
Not at all sure Totally sure
#6 What ethnic group do you believe Speaker 6 belongs to? _____
How sure are you in your decision? (circle one number)
1 2 3 4 5 6 7
Not at all sure Totally sure

#7 What ethnic group do you believe Speaker 7 belongs to? _____
How sure are you in your decision? (circle one number)
1 2 3 4 5 6 7
Not at all sure Totally sure

#8 What ethnic group do you believe Speaker 8 belongs to? _____
How sure are you in your decision? (circle one number)
1 2 3 4 5 6 7
Not at all sure Totally sure

Please rank each speaker on the following scales.
(TICK ONE SPACE IN EACH SCALE ONLY.)

1. How self-confident is the person?

<table>
<thead>
<tr>
<th></th>
<th>very confident</th>
<th>not confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker #1</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Speaker #2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker #3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker #4</td>
<td></td>
<td></td>
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<tr>
<td>Speaker #5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker #6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker #7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker #8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. What is the most likely level of education the speaker has reached?

<table>
<thead>
<tr>
<th></th>
<th>No school qualifications</th>
<th>School cert</th>
<th>Sixth form cert</th>
<th>Some uni education</th>
<th>University Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker #1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Speaker #2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker #3</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Speaker #4</td>
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<tr>
<td>Speaker #5</td>
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<tr>
<td>Speaker #6</td>
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</tr>
<tr>
<td>Speaker #7</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Speaker #8</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
3. How reliable is the person?

<table>
<thead>
<tr>
<th>Speaker #1</th>
<th>Speaker #2</th>
<th>Speaker #3</th>
<th>Speaker #4</th>
<th>Speaker #5</th>
<th>Speaker #6</th>
<th>Speaker #7</th>
<th>Speaker #8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. How good a leader would this person be?

<table>
<thead>
<tr>
<th>Speaker #1</th>
<th>Speaker #2</th>
<th>Speaker #3</th>
<th>Speaker #4</th>
<th>Speaker #5</th>
<th>Speaker #6</th>
<th>Speaker #7</th>
<th>Speaker #8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. How much do you think this person earns a year?

<table>
<thead>
<tr>
<th>Speaker #1</th>
<th>Speaker #2</th>
<th>Speaker #3</th>
<th>Speaker #4</th>
<th>Speaker #5</th>
<th>Speaker #6</th>
<th>Speaker #7</th>
<th>Speaker #8</th>
</tr>
</thead>
<tbody>
<tr>
<td>below 10,000 thousand</td>
<td>10-20 thousand</td>
<td>20-30 thousand</td>
<td>30-40 thousand</td>
<td>above 40 thousand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
6. How close a relationship would you want with this person?

<table>
<thead>
<tr>
<th>stranger</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>close friend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker #1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Speaker #2</td>
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<tr>
<td>Speaker #3</td>
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<tr>
<td>Speaker #4</td>
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<td>Speaker #5</td>
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<td>Speaker #6</td>
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<tr>
<td>Speaker #7</td>
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<tr>
<td>Speaker #8</td>
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</tr>
</tbody>
</table>

7. How hardworking is the person?

<table>
<thead>
<tr>
<th>very hardworking</th>
<th>very lazy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Speaker #1</td>
<td></td>
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<tr>
<td>Speaker #2</td>
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<td>Speaker #3</td>
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<td>Speaker #4</td>
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<td>Speaker #5</td>
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<td>Speaker #6</td>
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<td>Speaker #7</td>
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<tr>
<td>Speaker #8</td>
<td></td>
</tr>
</tbody>
</table>

8. How likeable is the person?

<table>
<thead>
<tr>
<th>very likeable</th>
<th>not likeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Speaker #1</td>
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<td>Speaker #2</td>
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<td>Speaker #3</td>
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<td>Speaker #5</td>
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<td>Speaker #6</td>
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<td>Speaker #7</td>
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<td>Speaker #8</td>
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</tbody>
</table>
9. How intelligent is this person?

<table>
<thead>
<tr>
<th>Speaker</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Speaker #1</td>
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<td>Speaker #2</td>
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<td>Speaker #3</td>
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<td>Speaker #4</td>
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<td>Speaker #5</td>
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<td>Speaker #6</td>
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<td>Speaker #7</td>
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<tr>
<td>Speaker #8</td>
<td></td>
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</tbody>
</table>

10. What sort of sense of humour does this person have?

<table>
<thead>
<tr>
<th>Speaker</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker #1</td>
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<tr>
<td>Speaker #2</td>
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<td>Speaker #3</td>
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<td>Speaker #4</td>
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<td>Speaker #5</td>
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<td>Speaker #6</td>
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<tr>
<td>Speaker #7</td>
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<td></td>
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<tr>
<td>Speaker #8</td>
<td></td>
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</tbody>
</table>

11. What is the person's most likely social class?

<table>
<thead>
<tr>
<th>Speaker</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker #1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker #2</td>
<td></td>
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<tr>
<td>Speaker #3</td>
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<tr>
<td>Speaker #4</td>
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<tr>
<td>Speaker #5</td>
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<td>Speaker #6</td>
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<tr>
<td>Speaker #7</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Speaker #8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
After each speaker please write what type of job you think this person may have (if any) and what type of person they might be.

Speaker #1: ___________________________________________

_____________________________________________________

Speaker #2: __________________________________________

_____________________________________________________

Speaker #3: __________________________________________

_____________________________________________________

Speaker #4: __________________________________________

_____________________________________________________

Speaker #5: __________________________________________

_____________________________________________________

Speaker #6: __________________________________________

_____________________________________________________

Speaker #7: __________________________________________

_____________________________________________________
When you have rated all eight speakers then please complete the below details.

AGE ______

GENDER (i.e. Male or female) ______

Please tick the space(s) which represent the ethnic group(s) you identify with.

______ New Zealander of European descent (i.e. Pakeha).

______ New Zealander of Maori descent.

____________________ Other (please write what group you identify with)

The results of this study will be made available if you are interested.

Thanks for your help.
Appendix F – Raw Data for type of person participants thought the speaker was.

Tally of type of person comments for the visual (V) and auditory (A) presentations by speaker.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Number (V)</th>
<th>Number (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker One (PP)</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td>Positive Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral Comments</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Negative Comments</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Speaker Two (PM)</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>Positive Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral Comments</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Negative Comments</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Speaker Three (MM)</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>Positive Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral Comments</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Negative Comments</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Speaker Four (MP)</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>Positive Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral Comments</td>
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<td>6</td>
</tr>
<tr>
<td>Negative Comments</td>
<td>19</td>
<td>15</td>
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<tr>
<td>Speaker Five (PP)</td>
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<td>24</td>
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<tr>
<td>Positive Comments</td>
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<tr>
<td>Neutral Comments</td>
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<td>6</td>
</tr>
<tr>
<td>Negative Comments</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Speaker Six (PM)</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>Positive Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral Comments</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Negative Comments</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Speaker Seven (MM)</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Positive Comments</td>
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</tr>
<tr>
<td>Neutral Comments</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Negative Comments</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Speaker Eight (MP)</td>
<td>15</td>
<td>23</td>
</tr>
<tr>
<td>Positive Comments</td>
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<td></td>
</tr>
<tr>
<td>Neutral Comments</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Negative Comments</td>
<td>13</td>
<td>11</td>
</tr>
</tbody>
</table>
Appendix G – Raw Data for type of occupation participants thought the speaker’s held.

Tally of jobs (by status) that participants believed speakers held, for the auditory and visual presentations.

<table>
<thead>
<tr>
<th></th>
<th>Unemployed</th>
<th>Working Class</th>
<th>Middle/Upper</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auditory</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker 1 (PP)</td>
<td>10</td>
<td>45</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Speaker 2 (PM)</td>
<td>3</td>
<td>40</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
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