Name-Face Congruency in Biracials:

Perception of Eurasians in New Zealand

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Abstract

Perceptions of mixed race Chinese-Europeans were investigated by independently varying their facial and name ethnicity. In Study 1a, Chinese faces were judged as more competent when paired with a European surname, and European faces more judged as more likeable when paired with a Chinese surname. However, when in Study 1b incongruency was manipulated via the ethnicities of targets' first names, participants rated all targets more positively when paired with European names; there was no effect for competence. Study 2 examined perceptions of ambiguous (morphed) Chinese-Caucasian blends paired with ethnically congruent or incongruent first or last names. Although there were no effects of congruency on liking or competence ratings, faces with Chinese names, whether first or last, were judged as more Chinese in appearance than faces paired with Caucasian names. Furthermore, 50% morphs were judged as more Chinese than Caucasian in appearance, consistent with the phenonemon of hypodescent. Overall, the findings show the importance of naming stereotypes and name-face consistency for judgement and perception; reasons and implications are discussed.

Acknowledgements

Table of Contents

List of Figures

Introduction

Jul.   What's in a name? that which we call a rose

By any other name would smell as sweet;

So Romeo would, were he not Romeo call'd,

Retain that dear perfection which he owes

Without that title. Romeo, doff thy name;

And for that name, which is no part of thee,

Take all myself.

Rom.   I take thee at thy word.

Call me but love, and I'll be new baptiz'd;

Henceforth I never will be Romeo.

　　　(Shakespeare, trans. 2000, 1.2.47-56.)

In this oft quoted passage, Juliet Capulet laments that her love Romeo is born of her rival family, and carries their surname – Montague. She speaks of his name reflecting his blood lineage, but suggests that if he could cast it aside he would no longer be bound by it. He tells her to call him 'love', and by rejecting Romeo's name, the pair can imagine he is someone else, and allow their courtship to endure.

　　　This scene demonstrates the power of a name, which reveals a great deal of information about ethnicity, culture, nationality, and family. The latter is of most concern to Juliet, but would she think the same of Romeo if he were named Wei Zhang? Could Romeo cast aside all ties to his heritage and take on a name so incongruous with his appearance? Would the rose still smell as sweet?

Many migrants face this very dilemma, changing their name in order to better assimilate with their new community, especially if their name is very 'foreign' or difficult to pronounce, resulting in a more "common" name that may be inconsistent with their ethnic appearance. This results in a seemingly incongruous name-appearance pairing. This may also derive from a mixed race person having names which reflects the heritage of one or both parents. For example a Chinese migrant to New Zealand may use the name 'Jenny Xiao', and her mixed race Chinese-European friend may be named 'Xiang Johnson'.

But what are the psychological consequences of these "mismatched" names for perceivers? Previous research has shown that names are not arbitrary.The 'Bouba-Kiki effect' refers to the consensus that "round" and "spiky" names are more appropriate for round and spiky shapes, respectively (Ramachandran & Hubbard, 2001). Further research suggests such congruently named shapes are liked more than incongruently named ones (O'Sullivan, 2014). Similarly, if a person's name does not fit the *ethnicity* of their face, judgments about them may be significantly different.

One mechanism that may predict effects of mismatched names is expectancy violation. An expectancy is a schema-driven set of beliefs about a person; traits such as gender, race, age, and occupation allow perceivers to predict about how they will behave (Jussim, Coleman, & Lerch, 1987). This is important for responding to the environment and making quick judgments based on imperfect information. When this initial prediction is proved incorrect, the observer's reaction is to assign a more extreme behaviour rating to the actor (Kernahan, Bartholow & Bettencourt, 2000). In

the present case, when a person does not 'fit' their name, we would expect to see a difference in trait ratings between congruent and incongruent name-face pairings.

Bettencourt, Dill, Greathouse, Charlton, & Mulholland (1997) investigated category-based expectancy violations by having participants observe a student speaker who was from the football team or the speech team, and who presented well or poorly. The well-spoken football player (a positive expectancy violation) was perceived more favourably than the well-spoken speech club member, while the poorly-spoken speech club member was perceived *less* favourably than the poorly spoken football player (a negative expectancy violation). This demonstrates the effect of stereotypes on person perception, and how the same action can be viewed differently depending on the expectations of a social group.

Similarly, in a study by Jackson, Sullivan, and Hodge (1993), participants viewed strong or weak job applications from supposedly black or white job candidates. The fit of the applicant to their stereotype predicted their success. Black applicants with strong credentials were more successful than white applicants with the same credentials, but the opposite was true among applicants with poor credentials. Consistent with Bettencourt et al (1997), targets who violated negative stereotypes (the well-spoken footballer; the talented black applicant) were positively reviewed, whereas those who violated positive stereotypes (the poorly-spoken speech club member; the incompetent white applicant) were reviewed more negatively. Stereotype violation results in favourability increases for a positive violation, and decreases for a negative one, compared to stereotype consistent behaviour.

In the current studies, participants viewed and rated supposedly mixed race females, for whom a name and face were displayed. Faces were either Chinese or European in appearance, and names paired with them were racially congruent or incongruent. It was predicted name congruence would affect ratings assigned by participants, and would be determined by whether incongruent name-face pairings (the stereotype violation) are seen as positive or negative. Face ethnicity was expected to have a main effect on ratings, and an interaction with name congruency.

STUDY 1A

Method

Participants

Twelve male and 66 female non-Chinese students enrolled in first or second year University of Otago psychology papers volunteered to take part in the study in exchange for course credit. An additional 7 Chinese participants (1 Male, 6 Female) completed the study, but their data were not included in the analyses below.

Materials

Sixty female names were created for the study. This was achieved by first selecting 30 common Chinese surnames ("Gōng ān bù tǒng jì", 2007) and 30 common British surnames (Dance, n.d.). British surnames were used instead of the most common New Zealand surnames, as these include several non-European names. Thirty Chinese given names ("Zài zhōng guó", 2012), and 30 British given names (Office for National Statistics, 2014) were mostly taken from the websites referenced, but were supplemented with other names from a baby names website.

Half of the English first names were then paired with an English surname, and the other half with a Chinese surname, to create European-European (EE; for example, Lucy Clarke) and European–Chinese (EC; Abigail Yang) first/last name combinations. Similarly, half of the Chinese first names were randomly paired with a Chinese surname and the other half with an English surname to create Chinese-Chinese ('CC; for example, Mingyu He) and Chinese-European ('CE; for example, Xian Allen) first/last name combinations. The complete set of names appears in Appendix A.

Thirty female Chinese faces and thirty female Caucasian faces, previously used by Ge et al. (2009), were used as targets. The faces were presented in greyscale, and measured 16.5cm wide by 12.2cm high when displayed onscreen, with a resolution of 72 pixels/inch.

Names and faces were randomly paired, such that half of the European faces were given EE names, and the other half EC names; similarly half of the Chinese faces were given CC names and the other half CE names (see Figure 1. below). Thus, faces in each racial group always had a racially congruent first name paired with either a racially congruent or incongruent surname. Pairings of first and last names, and of names with faces, were the same for all participants.

Lucy Clarke

Chloe Chan

Mingyu He

Hui Green
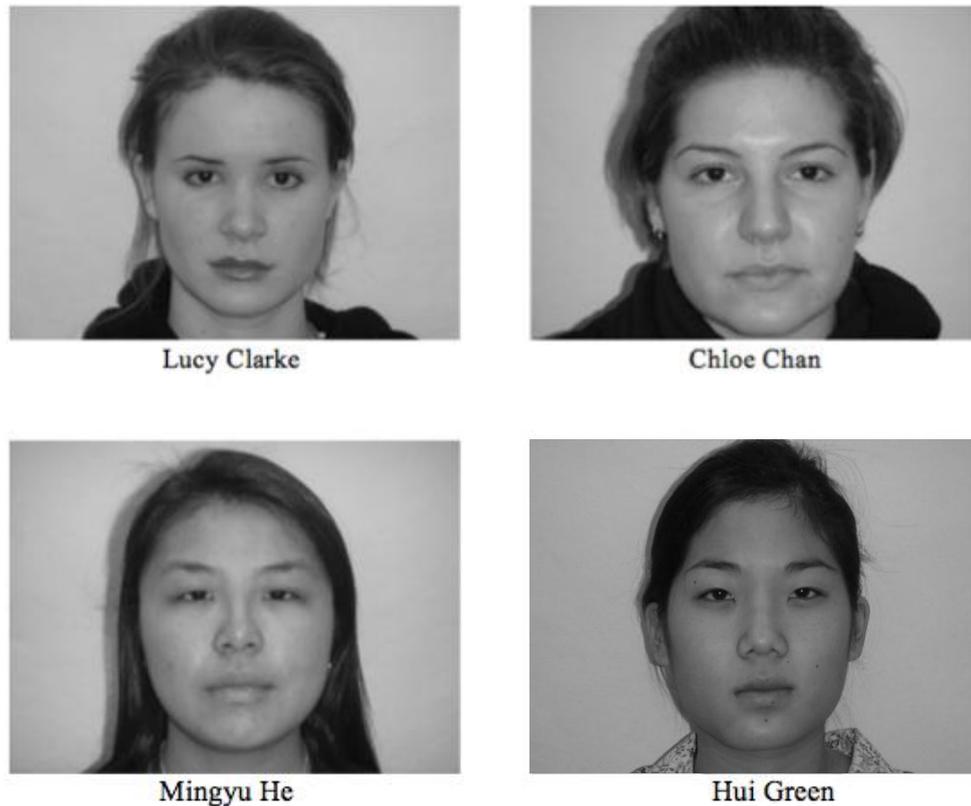
Figure 1. Clockwise from top left; Examples of European congruent (EE), European incongruent (EC), Chinese incongruent (CE), and Chinese congruent (CC) face-name combinations for experiment 1a.

Procedure

Participants were tested in individual, light and sound attenuated experimental cubicles containing an iMac 21-inch computer workstation. After giving informed consent, participants were asked to complete a paper-and-pencil demographics questionnaire, including questions about ethnicity, age, and gender. Participants were then directed to begin the computer task by pressing the 'c' key. From this point all instructions and questions were presented, and responses collected, by computer via software created in Superlab.

All participants received the following instructions:

> "Multi-racial individuals – people who are born to parents who identify with
>
> different racial groups – are increasingly common in New Zealand society. We
>
> are interested in how these individuals are perceived and judged. On each of 60
>
> trials the computer will show you a bi-racial person – someone who has
>
> reported identifying as both EUROPEAN and CHINESE – along with the
>
> person's name. Please rate how warm, competent, intelligent, honest, and
>
> likeable you think each person is, using the 1-9 number keys on the top of your
>
> keyboard. There are no right or wrong answers; we are just interested in your
>
> impressions."

Participants pressed the spacebar to indicate their understanding of the

instructions, which initiated the first of 60 trials. On each trial one of the four name

types (EE, EC, CE, or CC) was presented 5.5cm from the bottom of the screen for

2000ms. The names appeared onscreen in 38pt Times New Roman font. The face

assigned to the name then appeared for 2000ms directly above the name (so that the

centre of the photograph was in the centre of the screen); the name also remained on

the screen.

The face and name were then immediately replaced by a series of individual

questions, always in this order: "How WARM do you think this person is?"; "How

COMPETENT do you think this person is?"; "How INTELLIGENT do you think this

person is?"; How HONEST do you think this person is?"; and "How much do you

think you would LIKE this person if you met them face to face?"). Participants made

their ratings on separate Likert-type scales anchored at 1 ("Not at all X", where "X"

was replaced by warm, competent, intelligent, honest, or likable) and 9 ("Extremely

X"). Participants selected their response by pressing the corresponding number key

on the keyboard, which prompted a 500ms blank screen and the next rating scale. A

blank screen appeared for 2000ms between the final rating and the start of the next

trial.

After the final trial, participants were instructed to contact the experimenter,

who ran them through a second, unrelated study, before debriefing and dismissing

them.

Results

Data from eleven participants who failed to follow instructions (e.g., by giving

the same rating for every stimulus) were not analysed. A principle components factor

analysis, with varimax rotation, of the five dependent measures, suggested two

underlying factors, which together explained 80% of the variance. The first was

strongly associated with competence and intelligence, the second with likability,

honesty, and warmth. This two factor model is consistent with previous findings

discussed by Cuddy, Fiske, and Glick (2008), in which Competence and Warmth are

seen as two dimensions of social perception.

Consequently, scores for the two factors, which were termed "competence"

and "likability", were analysed separately in 2 (face type: Chinese versus European) x

2 (name congruency: congruent versus incongruent) within-subjects analyses of

variance (ANOVAs).

The analysis of the competence factor showed a main effect of face type but not name congruency. Chinese faces (M = 0.198, SE = 0.079) were rated as significantly more competent than European faces (M = -0.199, SE = 0.066), $F(1,66)$ = 49.715 $p < 0.001$. A significant interaction $F(1,66)$ = 10.173 $p = 0.002$ was due to the fact that Chinese faces were judged significantly more competent when paired with incongruent names (M = 0.249, SE = 0.079) than congruent names (M = 0.146, SE = 0.082), t(66) = -3.165, $p < 0.002$, while European faces were judged marginally less competent when paired with incongruent names (M = -0.166, SE = 0.067) than with congruent names (M = -0.231, SE = 0.068) (t(66) = -1.896, $p = 0.062$). These findings are depicted in Figure 2.
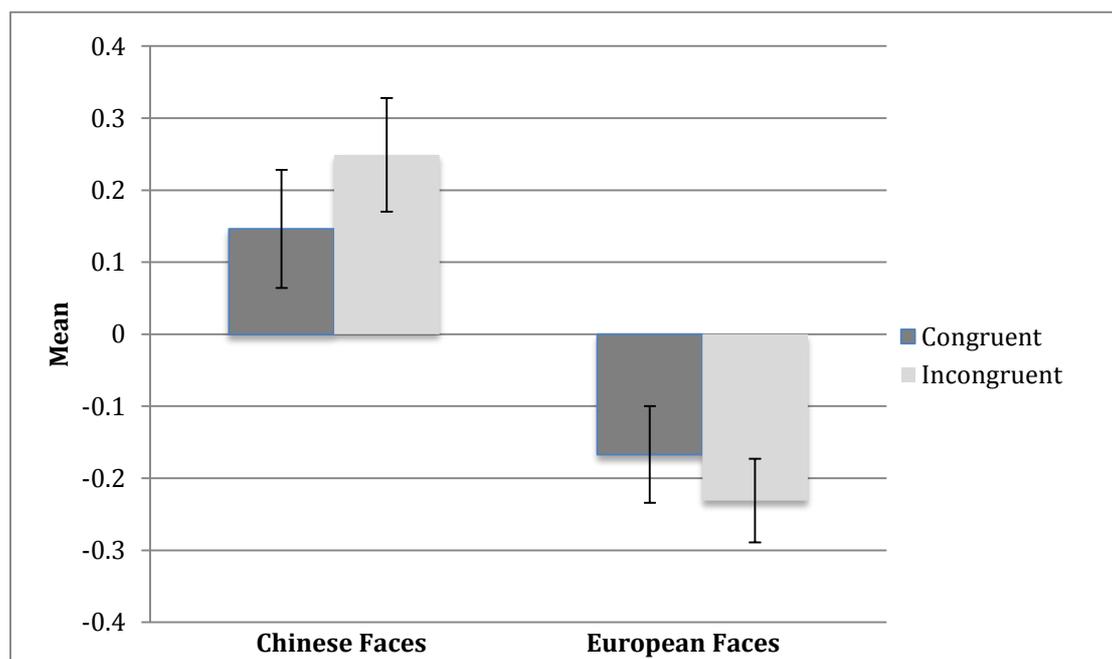
Figure 2. Mean competence-factor scores across face-type and name-type conditions for experiment 1a. Error Bars +/- 1SE.

The analysis of likability revealed main effects for both face type and name congruency. European faces received higher liking ratings (M = 0.098, SE = 0.066) than Chinese faces, (M = -0.098, SE = 0.071), $F(1,66) = 16.84$, $p < 0.001$. Congruently-named faces (M = -0.043, SE = 0.065) were liked significantly less than incongruently named faces (M = 0.044, SE = 0.066), $F(1,66) = 20.797$, $p < 0.001$. The main effects were qualified by an interaction, depicted in Figure 2, $F(1,66) = 6.21$, $p = 0.015$, such that the incongruency effect was only significant for European faces, t(66) = 4.45 p < 0.001. These results are displayed in Figure 3.
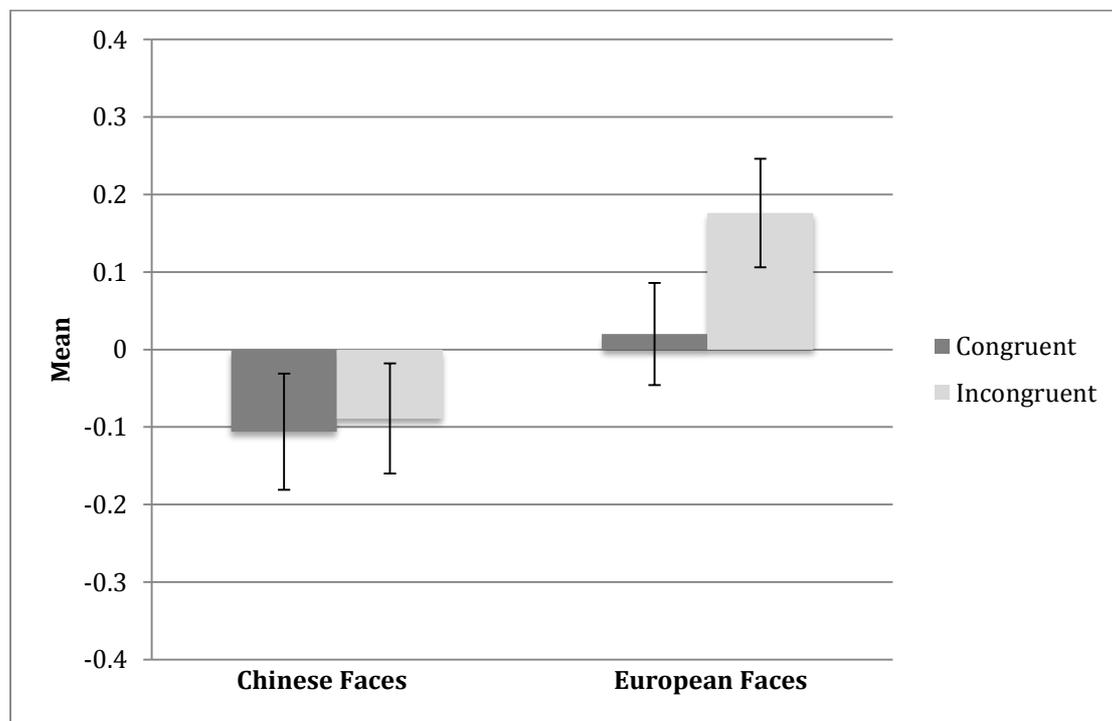
Figure 3. Mean likability-factor scores across face-type and name-type conditions for experiment 1a. Error Bars +/- 1SE.

Discussion

The aim of Study 1a was to investigate the effects of name-face congruence on person perception. Previous research suggests that a mismatch between a person's name and their apparent ethnicity should create an expectancy violation. This in turn results in more extreme ratings of behaviour and personality (Jussim, Coleman, & Lerch, 1987; Kernahan, Bartholow, & Bettencourt, 2000). It was therefore predicted the results of Study 1a would show more extreme evaluations of the incongruent name-face pairings than the congruent.

A main effect of face type indicated that Chinese faces were judged as more competent than European faces, independent of their names. This may be due to the pervasive stereotype that Chinese people are harder working than Europeans, and are New Zealand's 'model minority' (Chung & Walkey, 1988; Ip & Pang, 2005). This may be especially true of University students, who may see Asian students as overly hardworking and not engaging in the 'student lifestyle' of the University. A recent survey revealed 28% of New Zealanders agree that Asians poorly integrate into New Zealand society (Asia New Zealand Foundation, 2015).

The face type effect was qualified, however, by an interaction with name congruency. Chinese individuals were seen as more competent, and European individuals less competent, when they had a race-incongruent surname compared to a race-congruent surname. One possible explanation is that the Chinese face with the European name prompted incongruency resolution. The participants in this study would have looked at this face type more closely as they try to 'figure out' the incongruence, and Chinese facial features would stand out more as a result.

Results from Hilliar and Kemp (2008) suggest 'feature selection' occurs with mixed race faces, when names trigger the viewer to pick up on racial facial features ethnically congruent with the name. Feature selection could also have occurred for Study 1a, where the observer seeks out confirmation the face is indeed Chinese, and so picks up on its Chinese features. Because the face therefore appears more Chinese in appearance, it is given higher scores for competence as part of a Chinese stereotype.

Whatever the mechanism, the finding suggests anglicized names of ethnic minorities, adopted to blend in to an adopted culture, could have the reverse effect by calling attention to ethnic differences and the stereotypes that go with them.

A similar argument holds for judgments of likeability. Europeans were, in general, liked more than Chinese, consistent with an historical distrust of Chinese in New Zealand. Negative attitudes have been fomented recently by politicians, such as politician Member of Parliament Winston Peters, who has publicly blamed Chinese migrants for bringing corruption and vice to New Zealand (Small, 2013). More recently, Chinese migrants and offshore investors have been blamed by the Labour Party for rising house prices in Auckland, and for preventing 'New Zealanders' from owning their own home (Walters, 2015). A 2014 survey revealed that this sentiment is shared by 54% of Auckland residents, and 39% of New Zealanders (Asia New Zealand Foundation, 2015). However, whilst negative feelings towards Asian investors have increased, so too have feelings of warmth towards Asians people New Zealand (Asia New Zealand Foundation, 2015). Chinese may be judged as less

likeable than Europeans in the current study, but improving attitudes may result in higher likeability were this study to be repeated in the future.

Notably in the current study, liking for Europeans increased when they had a Chinese surname. Although this result makes little sense from a simple stereotyping perspective (in which a Chinese New Zealander should be liked less than a European one), it is explainable in terms of incongruity resolution. As argued above, incongruently-named European faces may have been more intensely scrutinised to make sense of the inconsistency, with the result a compelling and satisfying 'story'.

Before discussing the results further, however, a replication is in order. Study 1a operationalized (in)congruency in terms of (mis)matching surnames, which may be a special case of name incongruity. Surnames are usually passed down through paternal lineage, and generally reflect a person's ancestors and cultural heritage from their father's side only. For instance, Barack Obama takes his surname from his African father and not from his European mother. First names are more subject to trends, and are less likely to reflect ethnic heritage than a surname. Therefore the combination of a European first name with a Chinese face may be seen as less incongruent than a European last name with a Chinese face, producing different results. A second study was consequently designed to explore the generality of the effects in Study 1a, by using an incongruent *first* name rather than surname for the 'incongruent' conditions.

STUDY 1B

Method

Participants

Twenty-four male and 77 female non-Chinese students enrolled in first or second year University of Otago psychology papers volunteered to take part in the study in exchange for course credit.

Materials

Materials were the same as in Study 1a, with the exception of the "incongruent" names. Specifically, unlike in Study 1a, faces in each racial group in Study 1b always had a racially congruent *surname* paired with either a racially congruent or incongruent *first name*. Thus, half of the European faces were given European-European names as in Study 1a, and the other half Chinese-European names (CE; for example, Ming Edwards); similarly half of the Chinese faces were given Chinese-Chinese names and the other half European-Chinese names (EC; Elizabeth Yu). Examples of the name-face pairings appear in Figure 4. Name-face pairings were fixed, so that all participants in Study 1b saw the same pairings but in a different (random) order to Study 1a. Pairings for the CC and EE names were identical to those in Study 1a, whereas pairings for EC and CE names were new for Study 1b.

Lucy Clarke

Hui Green

Mingyu He

Chloe Chan
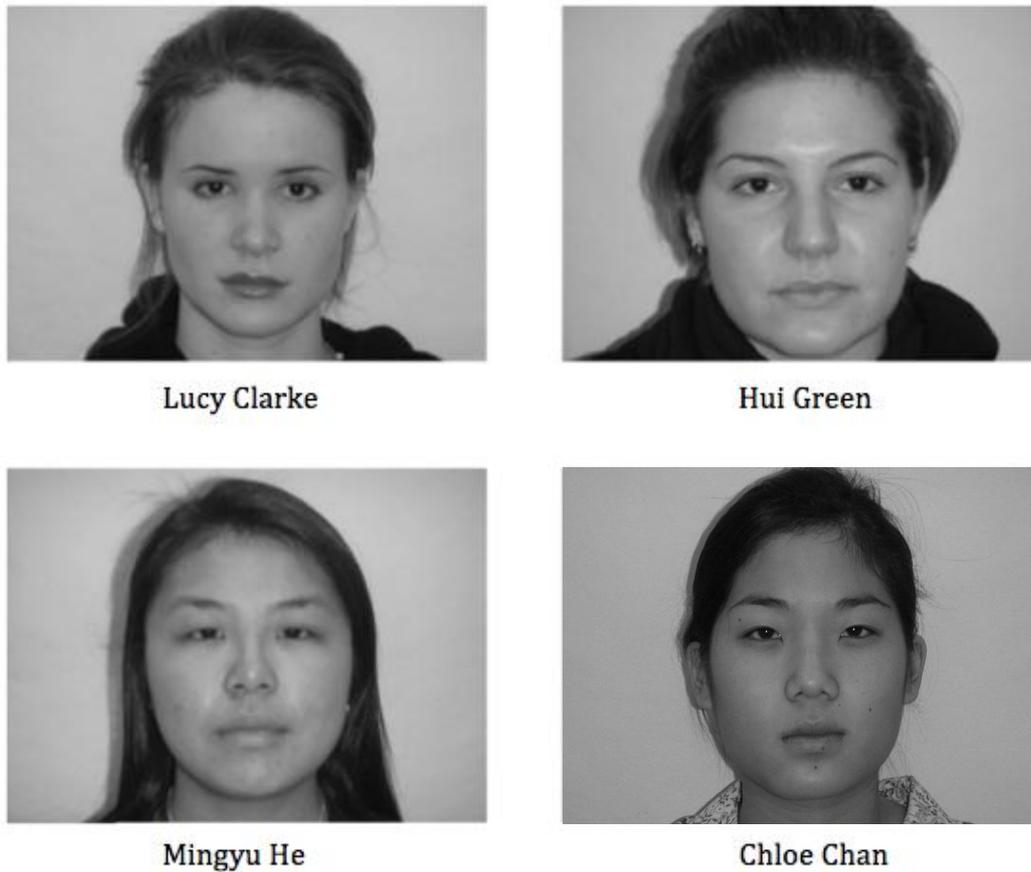
Figure 4. Clockwise from top left; Examples of European congruent (EE), European incongruent (EC), Chinese incongruent (CE), and Chinese congruent (CC) face-name combinations for experiment 1b.

Procedure

The procedure for this study was identical to Study 1a.

Results

Data were analysed as described in Study 1a. Data from twenty participants who failed to follow instructions (e.g., by giving the same rating for every stimulus) were not analysed.

Once again, initial analysis of the ratings suggested two factors, which explained

76% of the variance, and associated with competence and likability. Factor scores

were analysed in separate 2 x 2 ANOVAs.

The analysis of competence revealed main effects for both face type $F(1,56) =$

48.772, $p < 0.001$, and name congruency $F(1,56) = 4.836$, $p < 0.032$. Chinese targets

were judged as significantly more competent (M = 0.178, SE = 0.081) than European

targets (M = -0.178, SE = 0.079), and incongruently named targets (M = 0.027, SE =

0.077) were judged significantly more competent than congruently named targets (M

= -0.027, SE = 0.077), as seen in figure 5 below. No significant face-name interaction

was observed $p = 0.384$.
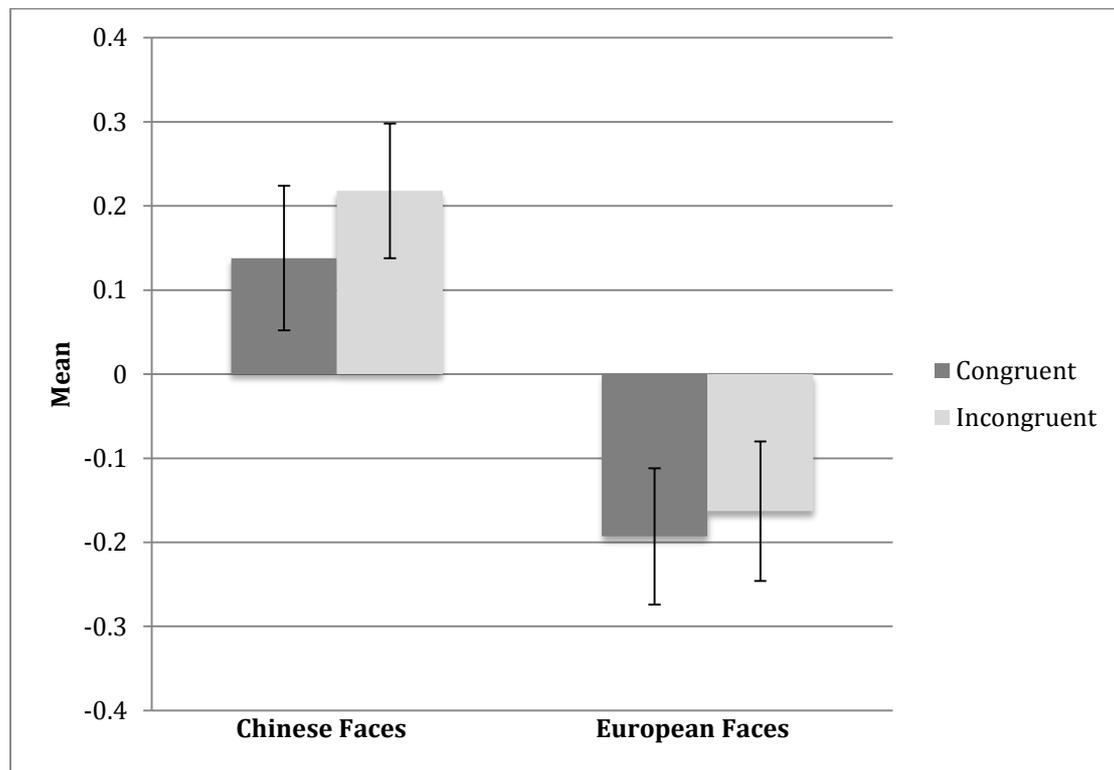
Figure 5. Mean competence-factor scores across face-type and name-type conditions
for experiment 1b. Error Bars +/- 1SE.

The analysis of likability revealed a main effect of face type, such that

European faces (M = 0.097, SE = 0.065) were liked significantly more than Chinese

faces (M = -0.097, SE = 0.072), $F(1,56) = 11.658$, $p < 0.001$. There was no main

effect of name congruency, but a significant name-face interaction again emerged.

$F(1,56) = 10.043$ $p < 0.002$. This interaction (see Figure 6), was due to the fact that

European targets were judged as more likable when paired with congruent names (M

= 0.141, SE = 0.069), than with incongruent names (M = 0.053, SE = 0.067). Chinese

targets were more liked with incongruent names (M = -0.058, SE = 0.072) than

congruent names (M = -0.136, SE = 0.076). A t-test revealed name type had a

significant effect on likability ratings for both Chinese targets, t(56) = -2.444, $p <$

0.018, and for European targets, t(56) = 2.251, $p < 0.028$. Seen another way, both

Chinese and European faces were liked better when they had European first names.
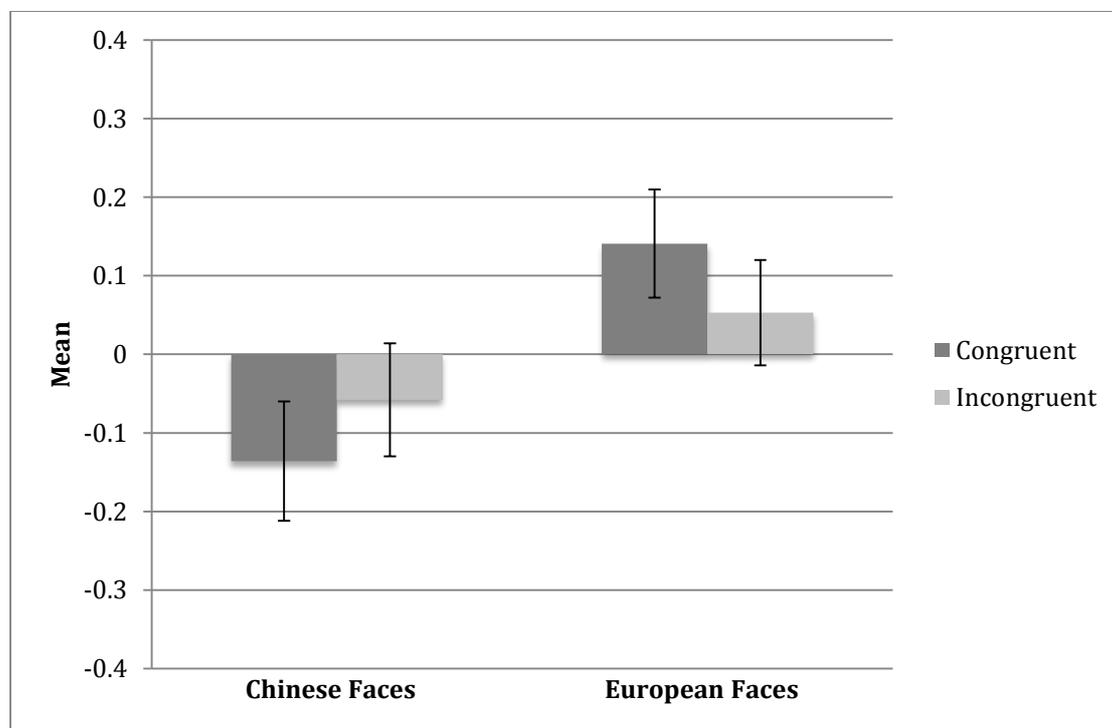
Figure 6. Mean likability-factor scores across face-type and name-type conditions for experiment 1b. Error Bars +/- 1SE.

Discussion

Study 1a revealed that the fit between a person's ethnic identity and their surname influences the perception of their competence and likeability. The purpose of Study 1b was to replicate the results using incongruent *first* names. The results, however, were only partially consistent. Again, Chinese faces were judged overall more competent than European faces, but the effect did not interact with name congruency. Furthermore, likeability followed ethnicity for both faces and names: Europeans were seen as more likeable than Chinese, and faces were liked better when they had British first names (regardless of whether the names were congruent)

An English first name can embody belonging to a western nation, and signify integration with its culture. Taiwanese students are often given English names by teachers in English language classes, in the hope this will enable learning and better connectivity with the language (Chen, 2012). As one teacher interviewed by Chen (2012) stated "…since you come here to learn English, you need to have an environment, so I think names are, you know, introduction, first step." Chen (2012) also noted the majority of both Taiwanese American and Taiwanese exchange students interviewed chose to be known by an English name while in America. Thus, if someone is given or takes a western first name it may be perceived as a desire to conform to Western societal norms in a very intimate way.

Whilst it is reasonably clear that faces with European first names are liked more for both races (Study 1b), surnames do not have the same effect (Study 1a). There was no significant interaction between surname congruency and face type (Study 1a), meaning in this case that last names do not affect likeability. As New

Zealand is a multicultural society with citizens of varying ethnic ancestry, it is

expected that surnames reflect this. Respect for one's heritage is not seen as

detrimental, and so it is not expected that someone should change their surname to fit

in. So whilst surname is still a marker of ethnicity, it does not appear to affect a

persons' likeability, whether it matches their appearance or not.

Although Studies 1a and 1b tell a complicated story, they are consistent in

showing that the relationship between a person's visual appearance and the race

suggested by their name can influence first impressions. However, there are two

notable weaknesses. First, the findings of Studies 1a and 1b may not realistically

represent individuals of mixed race. The faces used in these studies were of

unmodified European and Chinese women, and were relatively racially unambiguous,

despite information given to participants that they would see targets who identified as

mixed race Chinese-European. The potential implausibility of the face stimuli means

that extension to 'real-world' situations requires caution.

Second, it is unclear whether names influenced the way a face was judged, or

the way the face was *perceived*. For example, the association of a Chinese face with a

British surname may not have influenced how likable the target appeared, but rather

influenced how *Chinese* the target appeared. To test the effect of naming on face

perception, a new paradigm was developed, in which participants judged racially

ambiguous faces, not only in terms of their competence and likeability, but also in

terms of their racial identity.

Eberhardt, Dasgupta, and Banaszynski (2003) discovered that race labels affected how people drew faces from photographs. Ambiguous faces with either a black or white race label were drawn by participants. When later viewed by outsiders, these (now unlabeled) sketches were seen as depicting the race the drawers saw attached to the photograph. This suggests the race profile triggered participants to seek out the typical features for that race within the ambiguous face, which was noticeable enough for outsiders to see. Pauker, Weisbuch, Ambady, Sommers, Adams and Ivcevic (2009) additionally discovered that ambiguous faces were remembered better when given an own group label (e.g. black or white). These findings demonstrate labels alter ethnicity perception, and further research has found even subtle 'race' cues such as names can produce a similar effect.

Hilliar and Kemp (2008) explored the use of names as a non-physical racial cue for ambiguous faces. Asian and European participants were shown four face/name combinations, (Asian face and name, European face and name, mixed ethnicity face with Asian name, and mixed ethnicity face with European name), and rated the ethnic appearance of each. A mixed-ethnicity face with a European name resulted in higher scores (looks more European), than with an Asian name (looks more Asian). This study suggests there is an effect of name ethnicity on mixed-race/ambiguous faces, possibly due to priming the observer to expect a stereotyped appearance and seek out those features in the target's face. Mixed race individuals usually have a multi-ethnic background, and this can be reflected in their name; a point which has not been previously addressed. How does having both a mixed race name and a mixed race appearance affect how a person is perceived by others?

Discrimination based on name ethnicity may be particularly problematic for biracial populaces as they may or may not solely associate themselves with the race their name portrays. Surnames in particular usually only reflect paternal lineage, and do not reveal information regarding the mother's ethnicity (unless it is "double barreled", e.g. Smith-Chan). A mixed race individual may therefore only be seen as having the same race as one parent, not both.

The use of racially ambiguous faces also permits an examination of "hypodescent", the tendency to view such faces in terms of the socially subordinate or minority social group (Peery and Bodenhausen, 2008). For example, Barack Obama, who has an African-American father and European mother is most commonly seen as an African-American man, not a European man. Because of this, one would expect him to be subject more often to the stereotypes of his minority-race heritage, rather his majority-race heritage.

Halberstadt, Sherman, and Sherman (2011) proposed that hypodescent is due to attention to the features of new groups that distinguish them from previously learned groups. A side effect of this efficient learning strategy is that the distinguishing features are overly weighted in judgements, leading perceivers to be too quick to judge ambiguous category members as members of the new group. Because minority group members, by definition, will tend to be seen and learned less often than majority group members, this bias results in hypodescendant classification. Consistent with this model, Halberstadt, Sherman, and Sherman (2011) found participants were more likely to judge Asian-Caucasian morphs as "Asian" when they were unfamiliar with Asian people. In a second study they found that, even when

race was held constant, participants judged ambiguous category members in terms of the less frequently encountered group.

An experiment by Peery and Bodenhausen (2008) also revealed the nature of race perception of bi-racial faces and the role other sources of information play. Participants judged targets who were white, ambiguous, or black as shown by photos on their 'online profile', which also included biological information, cultural information, both kinds of information, or neither kind of information, regarding their racial identity. Results showed that targets with ambiguous appearances were judged to be 'black' even when additional "white" information was provided. This suggests faces are sufficient to induce hypodescent, and information about family heritage/ethnicity are not sufficient to override it. This could mean surnames (which carry genealogical information), should not have any more of an impact on hypodescent than first names.

Understanding hypodescent in relation to social judgment is important, as although increasing numbers of people identify as multiracial worldwide (e.g., from 9% in 2001 to 11.2% 2013 in New Zealand; Statistics New Zealand, 2014), they are still (at first glance) categorized as outgroup members. In many societies around the world, mixed-race can be seen as the out-group for both the minority and majority groups (Pauker et al, 2009). This can make it difficult for a mixed race person to 'fit in', especially when they identify or are categorized as minority.

Cameron Crowe, the director of 'Aloha', issued a statement after receiving criticism for casting Caucasian Emma Stone as Allison Ng, a mixed race

Chinese/Hawaiian/European pilot (Crowe, 2015). Crowe stated "Captain Allison Ng was written to be a super-proud ¼ Hawaiian who was frustrated that, by all outward appearances, she looked nothing like one. A half-Chinese father was meant to show the surprising mix of cultures often prevalent in Hawaii". This further highlights the potential for negative public reaction to a person of mixed race who does not appear to be so. Some are ostracized for appearing too little like the minority (hyperdescendant), and others for appearing too much like the minority (hypodescendant).

Mintz (1971) noted 'mixed' race is not automatically viewed as a class of its own, but as a point on a continuum between two unambiguous races. The continuum has been shown to be broken into two categories (a 'Categorical Perception') for between race morphed face sets (Levin & Angelone, 2002). For example, White-Black bi-racial faces up to a certain point along a continuum between two races will appear 'White', and faces after that point will appear to be 'Black'. Effort and motivation is therefore required to classify mixed race as such, rather than mono-racial (e.g. 'Black' or 'White').

Observers with an internal motivation (do not want to BE prejudiced) are more likely to use the classification of 'multi-racial' than those with an external motivation (do not want to APPEAR prejudiced; Chen, Moons, Gaither, Hamilton, & Sherman, 2014). The higher their external motivation, the less likely that person is to use the multiracial classification. However, the category is still only used 50% of the time by those with internal motivations (Chen et al., 2014). So despite best efforts to correctly identify race as mixed, bi-racial individuals are still often placed in the

'minority' group. Sanchez and Bonam (2009) investigated whether this meant bi-racial students were seen to be eligible for college minority scholarships. They were found to be less suitable for scholarships, as they were seen as only 'half' minority. So not only are multiracial individuals often perceived as minority, but they can be seen as 'not minority enough' to receive the benefits of minority scholarships and incentives.

Study 2 will use three levels of Chinese-European face morphs to test whether participants view our 'mixed race' targets are also seen as minority. The possibility of hypodescent will be examined by asking participants to rate how Chinese the mixed race faces appear.

STUDY 2

Studies 1a and 1b used unambiguous faces in order to maximize the strength of the congruency manipulation, but, as noted above, in so doing they compromised external validity. Study 2 was designed to test the effects found in the first studies with more plausible mixed-race faces, as well as to explore the perception and classification of these faces as a function of name type. The addition of an ethnic appearance rating allows one to discern whether naming effects result from judgment or perception. For example, a person may be rated higher in competence because they really appear so, or because competence is tied in with perceived Chinese appearance (which is increased through pairing with an incongruent name).

In addition, Study 2 improved on the methodology of Studies 1a and 1b by using all four possible name type combinations, which allowed us to test for interactions between first and last name congruency. As a further methodological

improvement, Study 2 fully randomized, for each participant, the assignment of names to faces and, finally, used only direct ratings of likability and competence, rather than factor scores.

Method

Participants

Thirty-eight male and eighty-six female students enrolled in first or second year University of Otago psychology papers volunteered to take part in the study in exchange for course credit. This included 26 who identified as Chinese, who were run but not analysed in order to maintain a similar participant demographic to Studies 1a and 1b. This left thirty-one males and sixty-seven females whose responses were analysed. Ages ranged from 18 to 30 with an average of 21.65 years both before removing Chinese participants, and afterwards.

Materials

Twenty four sets of Chinese-Caucasian morphed faces were created for use as experimental stimuli. The sets were made by first creating 24 unique pairings from the faces used in Studies 1a and 1b. Each pair consisted of a European face and a Chinese face with similar hair length and style (the remaining faces could not be matched on these dimensions). Then, using Morpheus morphing software, three blends were created for each pair: 33% Chinese/ 67% Caucasian; 50% Chinese/50% Caucasian; and 67% Chinese/33% Caucasian (Figure 7). As in Studies 1a and 1b, the faces were presented in greyscale, and measured 16.5cm wide by 12.2cm high when displayed onscreen, with a resolution of 72 pixels/inch. Twenty four names (six of each name type EE, CC, EC, and CE), were selected at random from among the names used in Studies 1a and 1b (See Appendix B).

Chinese 'Parent' face (0%)   European 'Parent' face (100%)

33% Morph   50% Morph   67% Morph
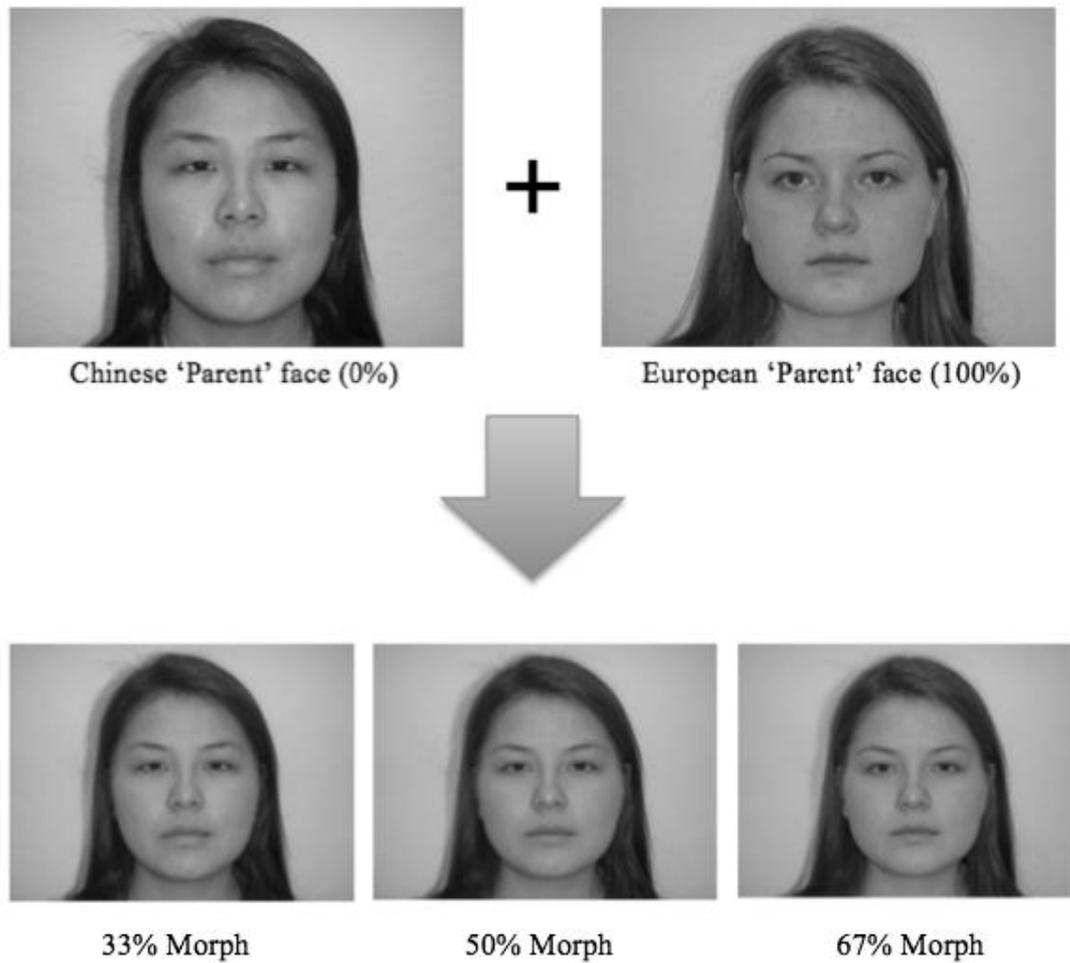
Figure 7. Example of two 'Parent' faces and three levels of faces resulting from morphing in experiment 2.

Procedure

The procedure was identical to that of Studies 1a and 1b, with the following exceptions:

Participants were randomly assigned to one of three experimental conditions, each of which rated all faces of one type (33%, 50%, or 67% Chinese). Each face appeared (without replacement) with one of the 24 names. Assignment of names to faces, and order of presentation, were randomized for each participant. Participants

made three ratings for each name/face stimulus: likability, competence, and appearance (how "Chinese" the face appeared). The wording and scales used for likability and competence were the same as in Study 1, and the wording for appearance was as follows: 'On a scale of 1 to 9, how CHINESE do you think this person looks?'.

Results

The three ratings (likeability, competence, and "Chineseness") were analysed in separate first name type x last name type x morph level mixed model ANOVAs, with the first two factors treated as repeated measures.

For competence, a marginal first name by condition interaction F (2,96) = 2.764, p = 0.068 was seen, where the 33% face with the Chinese first name was more competent than the 33% face with a European first name. There were no significant effects found for ratings of competence in the 50% or 67% face conditions.

There were no significant or marginal interactions for likeability.

The analysis of appearance revealed a significant main effect of face type, F (2,96) = 63.715, $p < 0.001$. As seen in Figure 8, the 33% European face (M=6.39, SD=1.21) was judged the most Chinese in appearance, followed by the 50% European face (M=5.50, SD=1.25), and the 67% European face (M=3.37, SD=1.10).

A one sample t-test shows the mean score (5.50) for the 50% face type is significantly different from the midpoint of the scale (p = 0.009), which would be the

expected score if no hypo/hyperdescent was occurring. The score of 5.5 indicates

hypodescent has occurred in that faces that were, in terms of their morphs level, equal

parts Chinese and Caucasian. Such faces were nevertheless seen as "more Chinese"

than expected by chance.
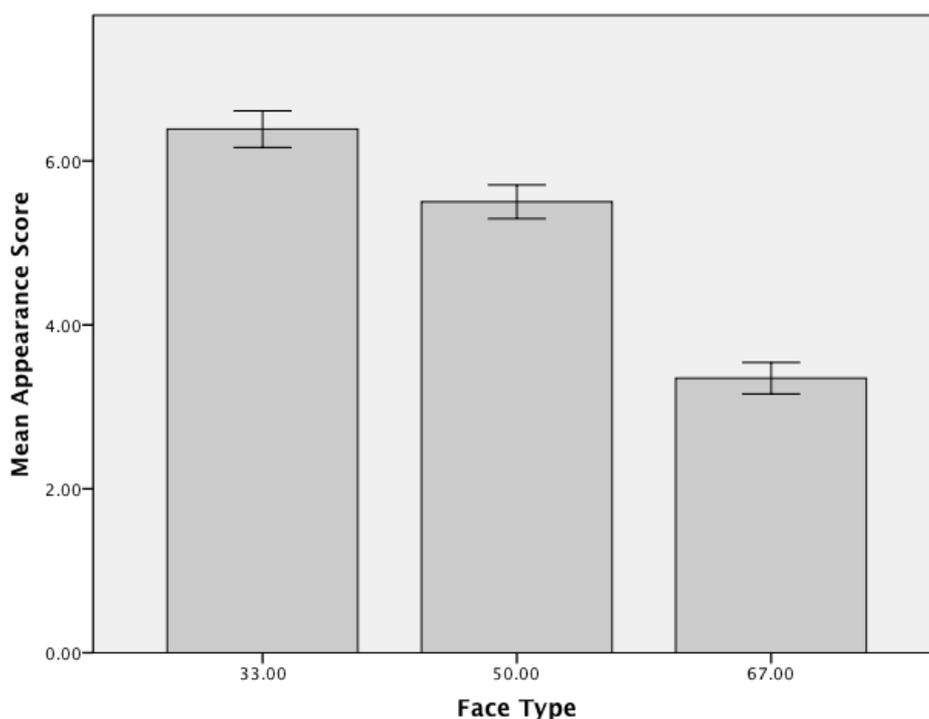
Figure 8. Mean "Chineseness" as a proportion of the European face in the morphs,
Experiment 2. Error Bars +/- 1SE.

There were also main effects on "Chineseness" of first name type, $F(1,96) =$

20.862, $p < 0.001$, and last name type, $F(1,96) = 12.580$, $p = 0.001$. In both cases,

faces were seen as more Chinese in appearance when they appeared with a Chinese

name (first name mean = 5.18 versus 4.90, SDs = 1.73; last name mean = 5.14 versus

4.94, SDs = 1.77 and 1.69).

A marginal $F(1,97) = 3.678$, $p = 0.058$ two-way interaction of first name and

last name was additionally observed (see Figure 9). Although no pairwise

comparisons were significant, the interaction appears to be due to the fact that

European names increased the perception of a face as European, but this was

especially true when both first and last names were European.
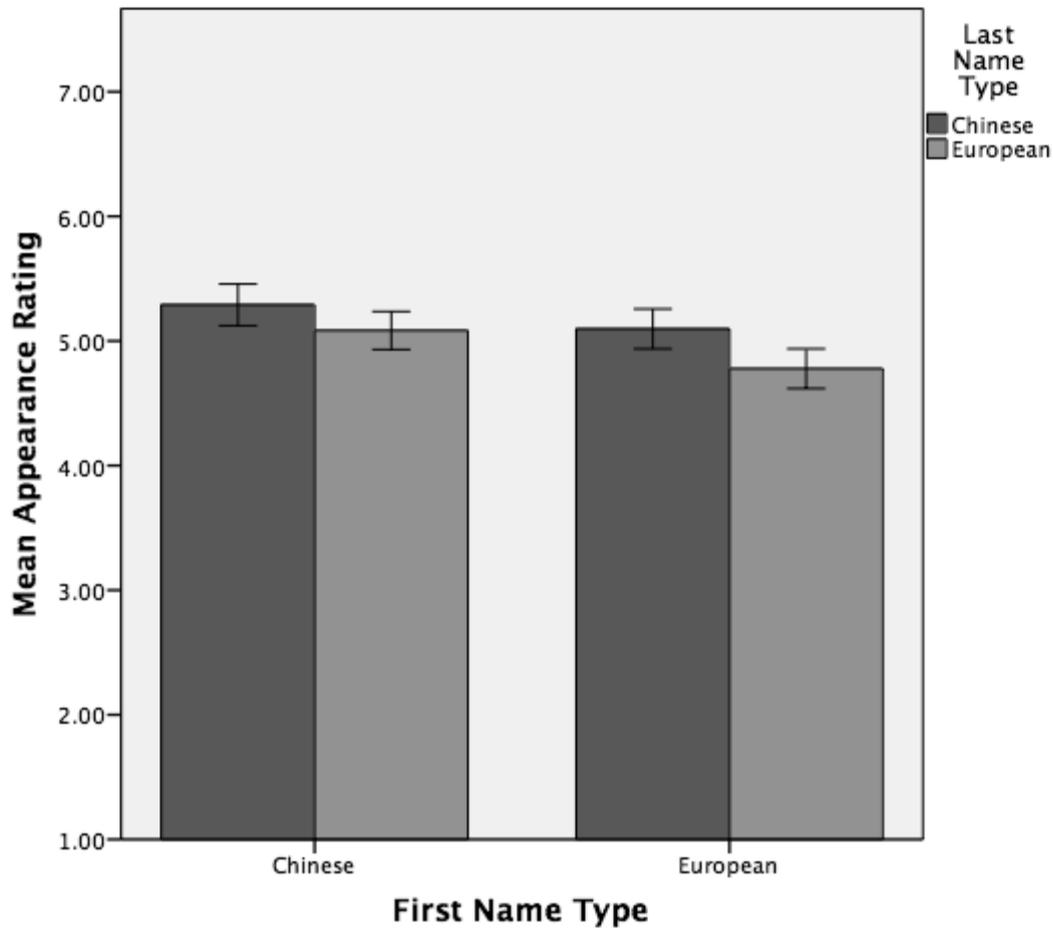
Figure 9. Mean appearance ratings for first and last name combinations in experiment

2. Error Bars +/- 1SE.

Discussion

The main purpose of this study was to replicate Studies 1a and 1b with more

realistic representations of mixed race Chinese-European people. This meant using

morphs created by blending photographs used in the previous studies. The secondary

purpose of Study 2 was to introduce an additional measure of Chinese appearance to

determine if name congruency affects race perception. The appearance measure also served as a test of the hypodescent hypothesis.

Surprisingly, there was little evidence of any effect of naming on judgments of likeability or competence. The one possible exception was an interaction of first name and face type, such that 33% morphs (i.e., those relatively Chinese in appearance) were judged as more competent when paired with Chinese than with European first names. Even this effect was weak and, if anything, inconsistent with Studies 1a and 1b, which found that incongruently-named Chinese faces tended to be judged as more competent. The obvious difference between Studies 1a and 1b, and Study 2, is the ambiguity of the faces; the morphs may have been ambiguous enough to support either Chinese or European categorization, thereby reducing the possibility of expectancy violation. If so, the results suggest that, for name-face incongruence to influence judgment, the expectancy violation must be stark.

In contrast to competence and likeability, there were clear effects on racial perception. Supporting the validity of the morphing manipulation, faces were judged as more Chinese as the proportion of "Chineseness" increased. More interestingly, the 50% morphed faces were judged about the midpoint of the scale, in the direction of the Chinese endpoint, providing evidence of hypodescent. Consistent with this result, Ho, Sidanius, Levin and Banaji (2011) established Asian-White mixed race faces were classed as 'white' once they were (on average) 43.5% Asian. Such findings show that less evidence is necessary for a face to be judged as Chinese, than to be judged as Caucasian.

There was also evidence for small but significant effect of both first and last names on perception of race ("Chineseness"), consistent with Hilliar and Kemp (2008), who found that blended Asian-European faces were judged as more Asian in appearance when paired with an Asian name rather than a European name. There was no interaction between first and last names, meaning that the two sources of information exerted independent effects on how Chinese the face appeared. Interestingly, there was a trend to perceive faces with European first and last names as more European than the same faces paired with first and/or last Chinese names. Put another way, any deviation from a "full" European name resulted in an increase in perceived Chineseness –the first demonstration of *name-based* hypodescent.

General Discussion

The studies in this thesis were originally conducted as an extension of the study by Hilliar and Kemp (2008), by including incongruent names and measuring their interaction with face type through ratings of personality traits. The intention was to discern if name congruence had an effect on the perception of mixed race individuals, initially with unambiguous faces. Study 2 used morphed faces to ask whether more ambiguous ethnic appearance is affected by name congruence, and to test for hypodescent.

In Study 1a, participants rated European and Chinese faces on their likeability, honesty, warmth, competence, and intelligence. These faces were paired with either a congruent or incongruent name, which affected how the personality traits were evaluated by observers. Chinese faces were seen as more competent than European faces overall, but the difference was magnified when the faces were paired with race-

incongruent versus race-congruent names. Analogously, European faces were rated as more likeable than Chinese faces overall, particularly when paired with incongruent names. The results are consistent with the mechanism of expectancy violation, where scrutiny of facial appearance has been enhanced and features racially incongruent with the name are picked up. For example, when a Chinese face with a European surname is seen, the features least European (i.e. most Chinese) are noticed more as the individual cannot resolve their expectancy violation through accepting the face as European. Therefore they must dismiss the name as a true reflection of the target's race as a result. Because they have looked more closely at the face during this process, Chinese features are more salient, and so the face now appears more Chinese.

Study 1b was a replication of Study 1a, but the incongruencies occurred in first names rather than surnames in order to test whether the effect was specific to the last name, or generalized to the first name also. In this case, Chinese targets were again judged as more competent, and less likeable, than European targets, but this time a more general naming bias was observed: targets were liked better when they had a European rather than a Chinese first name, regardless of congruency. It may be that the incongruent (Chinese) first name paired with the European face is either too implausible/unfamiliar, or it makes the target seem more Chinese rather than European. Result patterns for the pairing of the incongruent (European) first name with the Chinese face seem to follow those for incongruent surname pairing, possibly as an English first name is relatively common and accepted for a Chinese person to have. First name incongruency may therefore have a special effect on European names, which may require further investigation. Or the results may simply reflect a bias against foreign-sounding names, but if so, it is not clear why the effect occurred

only with first names. Perhaps a European first name represents an overt attempt to integrate with western society, which is looked upon favorably, or is liked more as it is familiar.

Despite some differences, Studies 1a and 1b together support the general conclusion that name-face incongruence can produce a significant alteration in person perception. Study 2 was conducted in order to determine if the results of the previous studies could be replicated when the visual stimuli were more plausible as mixed race (through the use of morphs), and whether the effects might be due to differences in *perception* of the faces. In fact, there was found to be a significant effect only for appearance, whereby faces with the highest proportion of Chinese parent in the morph were rated as the most Chinese in appearance, followed by the 50-50 morph, and the morph with the lowest proportion of Chinese parent face. Effects of name congruency were not observed, possibly due to a subtler incongruence via the use of morphed faces. However, even in the moderately incongruous situation, incongruent names did affect how racial appearance was *perceived*. This is consistent with the idea, raised in Studies 1a and 1b, that incongruency caused greater attention to specific facial features in order to reconcile the target's appearance with their name, thereby giving those features more weight in their race perception.

Hypodescent was observed in Study 2, as the 50-50 morphed face was rated as more Chinese in appearance than one would expect by chance. If no hypodescent occurred, one would expect to see a mean rating which was not statistically different to the scale midpoint. As the rating is significantly higher than five, observers have perceived the 50-50 faces as looking more Chinese than European.

Faces in Study 2 were rated as more Chinese in appearance when paired with either a Chinese first or last name, consistent with Hilliar and Kemp (2008). We had expected to replicate their results whereby the 50-50 face was rated as more Chinese in appearance when paired with a Chinese name, and also potentially see a difference for mixed ethnicity names. It therefore appears that just one half of the name being Chinese is enough to make an ambiguous face appear more Chinese, an important extension of the work by Hilliar and Kemp (2008), who only used full Asian and European names. Appearance may be more sensitive to influences of naming than previously thought.

A number of methodological differences between Studies 1a/1b and Study 2 may have contributed to the dissimilarity in results. First, in addition to different operationalisations of congruity (i.e., first versus surname), both initial studies used fixed pairings of names to faces, whereas Study 2 used random pairings. Creating unique matches removes the possibility that some name-face pairings were more likeable, or were a better fit, for reasons other than racial congruity. If so, Study 2 may be the more reliable result.

Second, in Studies 1a and 1b, participants saw each name-face pairing only once, but saw them twice in Study 2. There may be an effect occurring whereby the novelty of the incongruent name-face pairings has worn off by the second viewing, possibly reducing the mean effect sizes for Likeability and Competence ratings in Study 2. In future, analysing the blocks separately instead of averaging them could determine whether scores are lower for the second set.

Third, in Studies 1 and 2, five ratings were reduced to two factors –
Competence (Intelligence and Competence), and Likeability (Warmth, Likeability,
and Honesty) – whereas Study 2 used only two, direct ratings of these constructs. This
reduced the number of ratings each participant had to make, allowed for two sets of
ratings in Study 2 which were averaged, and for the inclusion of an appearance rating.
However, it is possible the use of the original five ratings in Study 2 would have
produced different results. This should be weighed up against the benefits of using
less ratings, and potentially re-running studies 1a/b with two factors could determine
if there is even a noticeable difference.

Finally, three levels of morphed faces were used in Study 2, which were rated
between subjects, whereas studies 1a and 1b used face type as a within subject
variable, such that participants saw both 'extremes' of the fully Chinese and fully
European faces. This might alter the outcome as the two face types are compared and
rated as opposites accordingly, whereas this could not occur in Study 2.

The faces in Study 2 are more plausible "bi-racial" faces, which may have
lessened the incongruence between name and face and the difference in scores
between name type conditions. This could be why no effect of name type is seen in
Study 2, whereas the incongruence in Study 1a/b is exaggerated and so an effect is
found.

Although the faces used in Study 2 were fairly "realistic" mixed-race faces,
neither Study used actual individuals of mixed race heritage. It would valuable to use

pictures of actual mixed race people with differing amounts of minority heritage (e.g.

one minority parent, one minority grandparent) to capture the real variability in

appearance of these individuals. Additionally, the use of both male and female faces

would allow for the study of gender effects on how mixed race individuals are

perceived, and whether these effects interact with participant gender, participant race,

and/or name congruency.

Future studies should also include a measurement of attitudes towards (and

level of contact with) other races, and with mixed-race individuals. These factors

could then be taken into account for their potential effect on ratings, especially

likeability. A pre-test for the attractiveness of each face might also help to determine

if there is any bias due to how the face appears. As mixed-race faces are often seen as

more attractive than mono-racial faces (Rhodes et al., 2005), this could be an

important step. Additionally, if name type has an effect on appearance, it may also

therefore produce an effect on facial attractiveness.

Repeating these studies with Chinese participants would also be of interest, to

gauge the perceptions of mixed race Chinese-Europeans. One could use participants

from China, and Chinese university students in New Zealand to see if there is a

different outcome with this population. Chinese inhabitants of New Zealand may be

shaped by their interactions with a multicultural New Zealand society, whereas

Chinese citizens may have had little contact with mixed-raced people. Whilst Hilliar

and Kemp (2008) found no effect of participant race when rating mixed race

appearance, the well-known in-group versus out-group phenomenon could occur for

judgement of attributes (Bettencourt, Dill, Greathouse, Charlton, & Mulholland, 1997; Rhodes et al., 2005).

Chinese cultural differences are also likely to affect judgments of mixed-race individuals, but could be positive or negative depending on the participant (Zhou, 2010). New Zealand acculturation could be another demographic question worth scrutinising, as the environment/society may have encouraged people to be more accepting of both mixed race people and mixed ethnicity names, compared to other countries. Participant age and their generation could also affect their views. A recent survey found younger Americans are also more familiar with Chinese culture than older Americans (Ishii, Kaigo, Tkach-Kawasaki, & Hommadova, 2015), which could make them more accepting and positive toward Chinese.

Conclusion

The current studies show unambiguous faces labelled as mixed race are affected by the name they are paired with. The congruence of the name, and which part of the name is incongruent, also have bearing on this outcome. Chinese targets were overall found to be more competent and less likeable than the European, and European targets more likeable and less competent than the Chinese. In some cases, name incongruence pushed these ratings out even further (e.g. Chinese faces with incongruent surnames had even higher competency and lower likeability). Both Chinese and European faces were liked more when paired with European first names. Whilst no significant effects were found for likeability and competence when faces were ambiguous/morphed, there was evidence hypodescent had occurred, and Chinese names made the face more Chinese in appearance. Perhaps this means

appearance is still the most important factor when initially judging someone, and

'mixed race' is merely a label after all.

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Appendix A: Names used in Studies 1a and 1b

Xia Huang	Lucy Clarke	Hui Green	Chloe Chan
Xiodan Sun	Stacey Brown	Ming Edwards	Hope Ma
Zhen Hu	Amelia Jones	Cai Nelson	Emma Lo
Jiao Lin	Grace Smith	Qui Turner	Mia Wang
Chenguang Chen	Leah King	Xian Allen	Natalie Guo
Guiying Ho	Alice Hall	Meiying Moore	Kelly Yi
Ai Zeng	Charlotte White	Yun Jackson	Alexis Tang
Lun Wang	Hannah Robertson	Jing Morgan	Isabelle Chang
Mingyu He	Megan Wright	Juan Thompson	Elizabeth Yu
Yan Zang	Jessica Roberts	Lihua Miller	Zoe Xu
Chun Xue	Michelle Johnson	Fang Ward	Abigail Yang
Shan Deng	Laura Davies	Shu Wilson	Joy Zhu
Xuilan Zhao	Julia Wood	Min Walker	Sophie Tse
Xuiying Chen	Madison Taylor	Ning Campbell	Emily Dong
Chun Xue	Mary Williams	Qian James	Kate Li

Appendix B: Names used in Study 2

Xiodan Sun	Amelia Jones	Ming Edwards	Chloe Chan
Jiao Lin	Grace Smith	Xian Allen	Mia Wang
Lun Wang	Michelle Johnson	Yun Jackson	Elizabeth Yu
Xuiying Chen	Laura Davies	Jing Morgan	Abigail Yang
Yan Zhang	Madison Taylor	Shu Wilson	Joy Zhu
Xuilan Zhao	Mary Williams	Min Walker	Kate Li