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# The New Zealand Journal of Psychology

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# “It is everyone’s problem”: Parents’ experiences of bullying

Susan Harcourt, Vanessa A. Green, Chris Bowden *Victoria University, Wellington*

The social-ecological systems perspective suggests that bullying is best understood when the context is extended beyond the school environment to include families. However, there is currently a lack of qualitative research focusing on the experiences of parents whose children have been bullied. This study examined the experiences of 26 parents whose children had been bullied at primary school in New Zealand. The participants responded to an anonymous, online, qualitative questionnaire and the responses were analysed using directed content analysis. Participants described the significant impact of bullying on themselves, their children, and their families; and their experiences of how schools respond to bullying. School policies acknowledging a shared responsibility for dealing with bullying are recommended, along with greater awareness, support, and education around the effects of bullying on children and their families.

Keywords: bullying, parents, schools, qualitative,

Bullying has been described as a dangerous, pervasive social problem (Rigby, 2008). Children and young people involved in bullying tend to demonstrate greater evidence of psychosocial issues than those who have not been involved, including conduct problems, emotional disturbances, and difficulties in peer relationships (Nansel et al., 2001; Smith, Talamelli, Cowie, Naylor & Chauhan, 2004). Victims of bullying may experience increased depression, stress and hopelessness, decreased self-esteem, and may be more likely to self-harm or attempt to commit suicide (Coggan, Bennett, Hooper & Dickinson, 2003). Bullying perpetration or victimisation in adolescence can predict an increased likelihood of mental health and social adjustment problems in adulthood (e.g., anxiety, personality disorders, substance dependence, aggressive offending) (Gibb, Horwood & Fergusson, 2011).

To be classified as bullying the behaviour must be repeated, have the intention of causing harm, and involve a physical or social power imbalance (Olweus, 1993). This behaviour can take various forms including physical or verbal aggression, relational aggression

(e.g., spreading gossip, socially excluding others), or cyber-bullying, which is bullying through the use of electronic communication devices (Craig, Pepler & Blais, 2007; Wang, Iannotti & Nansel, 2009).

Approximately 10-12% of children worldwide report having experienced bullying (Craig et al., 2009; Cross et al., 2011; Liang, Flisher & Lombard, 2007; Nansel et al., 2001; Ortega et al., 2012) and there is some evidence to suggest that the prevalence of bullying in New Zealand may be higher than in other countries. In a survey of 3,265 New Zealand high school students, 27% reported having experienced ‘chronic’ bullying in the previous six months (i.e., five or more separate incidents) (Coggan et al., 2003). Furthermore, in a recent international study, New Zealand was ranked fourth-highest of 50 countries in terms of bullying prevalence for school students (Mullis, Martin, Foy & Arora, 2012). Nearly one third (31%) of Year Five students indicated that they were bullied ‘about weekly’, significantly higher than the international average of 20% (Mullis et al., 2012). This concerning statistic may be due in part to the structure of New

Zealand’s public school system, where each school is governed by a Board of Trustees, meaning that individual schools may not have an explicit anti-bullying administrative policy (Slee et al., in press).

The social-ecological systems perspective on bullying (Swearer & Espelage, 2011) proposes that bullying is a complex social phenomenon, influenced by the interaction of multiple inter- and intra-individual factors. The perspective suggests that bullying among children and young people must be understood across individual, family, peer, school, and community contexts (Swearer & Espelage, 2011). In New Zealand, the majority of bullying research has involved children as participants (e.g., Coggan et al., 2003; Fenaughty & Harré, 2013; Jose, Kljakovic, Sheib & Notter, 2011; Marsh, McGee, Nada-Raja & Williams, 2010; Raskauskas, 2010; Raskauskas, Gregory, Harvey, Rifshana & Evans, 2010). The relatively few New Zealand studies involving adult participants have focused primarily on the perspectives of school staff. For example, Green, Harcourt, Mattioni, and Prior (2013) and Mattioni (2012) examined the experiences and perceptions of teachers and principals in relation to bullying, while Cushman, Clelland, and Hornby (2011) reported the perspectives of school staff on bullying as part of a wider study focusing on student mental health and wellbeing. These studies appear to have explored bullying within only one context, namely the school.

Although bullying research in New Zealand does not appear to have included parents as participants, international research demonstrates the important role played by parents and families in the social-ecological network of influences on bullying. A recent meta-analysis (Lereya, Samara & Wolke, 2013) analysed 70 studies and concluded that parenting behaviour and parent-child relationships correlate significantly with

children's experiences of being bullied. Warm and affectionate relationships, high parental involvement and support, and good family communication and supervision were found to protect children from victimisation, while maladaptive parenting, abuse, and neglect were "the best predictors of victim or bully/victim status at school" (p. 12).

One of the studies analysed in the Lereya et al., (2013) meta-analysis found that children of authoritarian and neglectful parents were more likely to be bullied than children of authoritative parents, while children of permissive and neglectful parents were more likely to perpetrate bullying (Dehue, Bolman, Vollink, and Pouwelse, 2012). Parents have also been found to have an important influence on the success of school-based anti-bullying programmes. In their systematic review, Ttofi and Farrington (2011) found programmes which included parental involvement, meetings, and training were significantly correlated with decreases in bullying behavior and victimisation within the school. The authors recommended that future anti-bullying programmes involve efforts to educate parents about bullying through presentations and teacher-parent meetings.

These examples of quantitative research demonstrate the impact that parents can have on children's experiences of bullying. However, qualitative research also plays an important role in the understanding of social issues, as it allows the voices of otherwise unheard groups to be brought to the forefront of the debates and decisions which affect them (Gilgun & Abrams, 2002). As such, recent research has begun to take a qualitative approach to parents' perspectives on bullying. Harcourt, Jasperse and Green (2014) systematically reviewed 13 such studies conducted between 2000 and 2013. Six themes were identified across these studies: (1) a wide range of strategies used by parents in response to bullying; (2) the significant negative effects of bullying on children and families; (3) issues of awareness, disclosure, and support; (4) concerns around responsibility for bullying; (5) variation in parents' definitions of bullying; and (6) a tendency for some

parents to see bullying as normal, or to blame the victims.

In one study, Sawyer, Mishna, Pepler, and Wiener (2011) interviewed parents of children who had experienced bullying, and found wide variation in how parents identified bullying behaviours, how they had found out about their child's experience, and the strategies they suggested their child use. In a similar study, Humphrey and Crisp (2008) found that parents of bullied preschoolers experienced significant negative effects resulting from bullying. Parents also felt that preschool staff should provide them with support, information, and resources. Another study, Brown (2010), described parents responding to bullying by taking action to protect their child, seeking help from schools, and supporting their child in the 'aftermath' of bullying.

Harcourt et al. (2014) also identified several limitations within the qualitative literature involving parents. The most significant of these limitations was the fact that only four of the 13 studies exclusively involved parents whose children had actually experienced bullying; the remainder of the studies also included parents of bullies or non-involved children, teachers, other school staff, and children and adolescents. Overall, the results of the Harcourt et al. (2014) review suggest that the existing literature presents a limited scope for in-depth analysis of the experiences of parents whose children have been bullied.

In summary, previous New Zealand and international studies have primarily focused on bullying within school contexts, and sought the perspectives and experiences of students, teachers, and principals. Quantitative studies have explored parental influences on children's bullying behaviour and the efficacy of bullying interventions, while qualitative research has focused on the perspectives of children and adolescents, and parents of bullies, non-involved children, teachers and school staff. Recent reviews have identified the need for studies to explicitly explore the experiences and perspectives of parents whose children have experienced bullying, with a focus on parents' personal reactions, decision-making processes, and practical responses to

bullying.

This study seeks to address this gap in the wider research literature by exploring the perspectives and experiences of parents whose children had been bullied while attending a New Zealand primary school. The study builds on previous research (Brown, 2010; Humphrey and Crisp, 2008; Sawyer et al., 2011) and contributes to a greater understanding of the social-ecological systems framework of bullying by exploring parents' experiences with, reactions to, and perceptions of bullying and school responses to bullying.

The study aims to develop a better understanding of the factors and contexts that shape parents' decision-making in responding to bullying, to inform the development of parent education and support. This was achieved by examining parents' experiences within the micro-systemic environment of their home and family, as well as their meso-systemic interactions with their child's school in the process of responding to the bullying. The study was guided by three specific research questions:

- 1) What actions do parents take in response to their child being bullied?
- 2) What are the effects of bullying on parents and their children and families?
- 3) What are parents' experiences and perceptions of how schools respond to bullying?

## Method

### *Ethical clearance and informed consent*

Ethical clearance was gained for this study from the Human Ethics Committee at Victoria University of Wellington. Participants were required to complete an informed consent form and indicate that they had read an information sheet before they could participate.

### *Questionnaire development*

An online, anonymous, descriptive questionnaire was developed to collect comprehensive responses about participants' experiences as parents of children who have been bullied. The questionnaire first asked participants

to provide demographic details about themselves, their child, and the school where the bullying occurred, and basic information about their child's experience of bullying (e.g., type of bullying experienced). The main body of the questionnaire consisted of twelve open-ended questions (see Appendix) based on questions used in previous, related studies (e.g., Brown, 2010; Humphrey and Crisp, 2008; Sawyer et al., 2011), and focused on the aims of this study (e.g., school responses to bullying, effects on family, responsibility for bullying).

The content, format and accessibility of the questionnaire were pilot-tested by three individuals known to the authors. Several minor changes were made in response to these pilot tests, including clarifying instructions, detailing confidentiality processes, and refining the wording and intention of several questions.

### Procedure

A webpage was created to facilitate participant recruitment and questionnaire distribution ([www.parental-responses-to-bullying.com](http://www.parental-responses-to-bullying.com)). The webpage described the study, gave the contact details of the researchers, and listed links to online bullying resources and support services for parents and children. The webpage also provided the URL link to the questionnaire including details about ethical approval and consent. Definitions of the four types of bullying (physical, verbal, social/relational, and cyber) were provided. Before beginning the questionnaire, participants were required to confirm that they were the parent or primary caregiver of a child who had experienced bullying; that this bullying had occurred at a New Zealand primary school in the last ten years; and that the bullying matched the given definitions.

Advertisements were placed in the monthly newsletters of several national counselling and mental health organisations, directing potential participants to the webpage for further information. The study was also advertised through the social networks of the authors, who sent emails to colleagues and contacts, and shared the webpage link on Facebook. Finally, a randomly selected sample of New

Zealand primary schools were sent an email requesting that they advertise the study in their school newsletter. Given the time constraints of the study being a university Masters level project, and the labour and time-intensive nature of emailing individual schools, only 5% of the 1,979 eligible schools ( $n = 98$ ) were individually contacted. The set deadlines also prohibited the possibility of follow-up procedures being implemented. In all of the above procedures, respondent-driven sampling was used, where participants are expressly asked to recruit peers to participate in research (Wejnert & Heckathorn, 2008). The questionnaire link was live for three months.

## Results

### Demographics of Participants

The questionnaire link was accessed 51 times during the three month data collection period, and 31 questionnaires were begun. Of these, four were incomplete (i.e., respondents had only answered the initial demographic questions) and one was completed with reference to a child whose experience of bullying did not occur at primary school. Data analysis was therefore based on the 26 usable questionnaires. All 26 participants were female, aged between 28 and 57 years (mean age 42). Twenty-five participants indicated they were the mother of the child who had been bullied; one indicated she was the child's step-mother. The majority of participants ( $n = 23$ ) indicated that they were Pākehā, New Zealand European or European; two were New Zealand Māori/New Zealand European; and one self-identified as Asian. In response to an open question asking how they had heard about the research study, the majority of participants (81%,  $n = 21$ ) stated that they had heard about it from a friend or work colleague, often via email or Facebook.

Fourteen participants indicated that their child who had been bullied was male, and 12 that their child was female. These children were aged between 5 and 11 years old when the bullying began. Most participants indicated that their child had experienced more than one type of bullying: 24 children had experienced verbal bullying; 19

had experienced social bullying; and 16 had experienced physical bullying. Only three participants indicated that their child had experienced cyber-bullying. Thirteen participants indicated that the school where their child had experienced bullying was located in a major city; twelve were in a smaller city or town; and one was in a rural center (i.e., population 1000-5000). To ascertain the socio-economic standing of these schools, participants were asked to indicate the decile ranking of the school (1 = low decile, low SES standing; 10 = high decile, high SES standing). The results indicated that 17 of the schools were high decile (i.e., deciles 8-10), six were mid-decile (4-7), and two were low decile (1-3). One participant was unsure of the school's decile.

### Data Analysis

Participants' qualitative responses were analysed using directed or deductive content analysis, where concepts from previous research findings or theory guide the categorisation and interpretation of text data (Hsieh & Shannon, 2005). In conventional or inductive content analysis, researchers begin data analysis with no predetermined themes or categories, allowing codes to emerge from the data (Hsieh & Shannon, 2005; Mayring, 2000). By contrast, directed content analysis aims to use existing theory or research to "provide predictions about the variables of interest or about the relationships among variables, thus helping to determine the initial coding scheme or relationships between codes" (Hsieh & Shannon, 2005, p. 1281). Accordingly, four themes identified in the Harcourt et al. (2014) systematic review were selected as relevant to the current study, and used to structure the directed content analysis process: (1) strategies used by parents; (2) the negative effects of bullying; (3) issues of awareness, disclosure, and support; and (4) responsibility for bullying. Hsieh and Shannon (2005) state that in the process of directed content analysis, responses that do not fit into the initial coding scheme may be used to develop a new theme. Accordingly, a new theme which was not described in the Harcourt et al. (2014) review, namely schools' responses to bullying, was identified

through an inductive process, resulting in a total of five overall themes.

The first author analysed the text of participants' descriptive responses to identify 'meaning units', defined as specific words, sentences, or paragraphs related to a theme (Graneheim & Lundman, 2004). As the context of the information was important, thematic units were used rather than line by line coding in which the context would have been lost.

A first version of the coding scheme was discussed by the research team including clarification of the five overall themes, the coding scheme, definitions, examples and classification rules, with the goal of establishing a common understanding of the codes. Next, based on the refined and revised coding scheme, participants' responses were coded independently by the first and third authors. Each meaning unit was underlined and given a one- or two-word code to represent the essence of the meaning unit (Graneheim & Lundman, 2004).

Codes were then thematically grouped into the five overall themes, divided into categories and sub-categories, and entered into a matrix of analysis (Elo & Kyngäs, 2008). The codings were compared and discrepancies between the two coders discussed. These consensus sessions led to final modifications of the coding scheme. The text was then independently coded a second time, and a final consensus session consolidated an understanding of the codes between the two coders resulting in 100% agreement. According to Elo et al., (2014) the trustworthiness of qualitative deductive content analysis can be improved by double coding, while Schreier (2012) suggests that if the code definitions are clear and subcategories do not overlap, two rounds of independent coding should produce similar results. This was the case in the current study.

**Main Findings**

The categories of findings, which arose during the directed content analysis process are displayed in Table 1, followed by detailed descriptions of each category.

**Table 1**  
Categories of findings identified in the content analysis of participants' descriptive responses

Thematic categories	Sub-categories
Actions taken by parents	a) Supporting their child (e.g., comforting, giving advice) b) Approaching the school (e.g., child's teacher, senior management) c) Approaching the bully and their family d) Seeking support and advice (e.g., counselling, advice from friends) e) Serious actions (e.g., transferring child to another school)
Effects of bullying	a) Effects on parents (e.g., emotional distress, dilemmas) b) Negative effects on children and families (e.g., increased conflict) c) Positive effects on children and families (e.g., resiliency, closer relationships)
Experiences with and perceptions of schools	a) How schools responded to bullying (e.g., active vs. inactive) b) What schools should have done (e.g., follow clear response process) c) Schools' attitudes towards bullying (e.g., normalising, making excuses) d) Who is responsible? (e.g. different responsibilities for schools and families)

**Actions taken by parents**

Participants were asked to indicate, by selecting corresponding tick-boxes, who of a range of people they had spoken to in response to their child's experience of bullying (see Table 2). They were then asked to describe this action in further detail. Their responses were organised into five sub-categories.

them understand why the bullying could be happening. As one parent commented, "you do your best to take away the hurt." Participants also provided their children with suggestions for strategies to combat the bullying, such as telling the bully to stop, telling a teacher, or ignoring the bullying. One participant described her approach by

**Table 2**  
Number of participants who indicated speaking to people in varying roles in response to bullying

Person spoken to	Number of participants (%)
Own child	25 (96%)
Child's teacher	26 (100%)
School senior management (e.g., principal, Board of Trustees member)	22 (85%)
Another teacher	7 (27%)
Non-teaching school staff member (e.g., counsellor, administrator)	5 (19%)
The bullying child/children	6 (23%)
A parent/parents of the bullying child/children	10 (38%)
Other	4 (15%)

**Supporting their child.** As indicated in Table 2, 25 participants spoke to their child in response to the bullying. Participants reported comforting and reassuring their child, discussing the situation with them, and trying to help

stating, "I think there will always be bullies and it's important to figure out some strategies your child can use."

**Approaching the school.** All 26 participants spoke to their child's

teacher in response to the bullying, and the majority (85%,  $n=22$ ) also spoke with a member of the school senior management team (see Table 2). Parents also described approaching other school staff members (e.g., teachers, teacher aides, Resource Teachers of Learning and Behavior). In general, participants took this action immediately upon finding out their child had been bullied. However, six parents (23%) indicated that they only spoke to school staff when the bullying escalated to physical aggression. A further six participants (23%) reported only approaching the principal when they felt the classroom teacher's response was ineffective or insufficient.

**Approaching the bully and their family.** Ten participants (38%) indicated that they spoke with the parents of the bully in an attempt to address the situation. For example, one parent stated that she "was calm and talked nicely to the parents and understood that it was not going to happen again." Six participants (23%) spoke with the bullying children; one mother described explaining to a group of bullies "that what they did and were continuing to do was not nice, and really, it just needs to stop."

**Seeking support and advice.** Parents described seeking support and advice from a wide range of sources. Five participants (19%) sought support for their children through counselling services, child psychologists or community mental health services, while others spoke to the Ministry of Education ( $n=2$ ), their family doctor ( $n=1$ ), and visited websites ( $n=1$ ). Nine participants reported relying on friends and family members for support and advice; one commented that "other parents with children in a similar situation were a useful support group."

**Serious actions.** Approximately half of the participants indicated that after they had tried multiple unsuccessful strategies to address the bullying, they eventually took more serious actions. Eight (31%) reported transferring their child to another class or another school, or beginning to home-school them. Two parents (8%) said they had directly confronted the school Board of Trustees and threatened to involve the Ministry of Education, the Police, or the Human Rights Commission. One parent reported refusing to pay the school donation,

while another reported keeping copies of all correspondence between herself and the school, and delivering this information to the Education Review Office, who were "very grateful for this."

### Effects of bullying

**Effects on parents.** Parents expressed a wide range of emotions in response to their child's experience of bullying. A common emotion was worry or concern for their child, both as the bullying was occurring and in relation to their future: "[I was concerned for] how it would affect him further down the track, as a teenager or even older." A majority of participants (62%,  $n=16$ ) also expressed anger towards school staff, towards the bullies and their parents, or towards the situation in general, and seven (27%) expressed a sense of failure or guilt that they had not been able to keep their child safe. As one parent described, "[I felt] awful, completely useless and powerless because I couldn't keep my child from being hurt. I feel that I let him down by not doing more to stop the bullying from happening." Overall, parents described feeling upset, disappointed, frustrated, and powerless, and two expressed regret that they had not taken action against the bullying sooner. Unexpectedly, four parents (15%) described feeling sympathetic towards the bullies. As one described, "at the time we felt very negatively towards [the bully] but I do recognise that he needed the most help out of everyone". Along with these emotional effects, participants described a range of physical effects on themselves as a result of working through their child's experience of bullying, including loss of sleep, stress-induced illnesses, excess alcohol consumption, and exhaustion.

Eleven parents (42%) described facing dilemmas in responding to the bullying, including deciding whether to remove their child from the school and considering whether their child was "over sensitive...or whether this is normal stuff." Parents faced the dilemma of wanting to assist their child, while simultaneously not wanting to "kick up too much of a stink", or "tell the teachers how to do their jobs". One mother felt that she and her son had acquired "reputations as complainers," while another "got tired of being called

an overprotective mother." A particularly salient dilemma for parents was the conflict between their sense of duty to ensure their child attended school, and their duty to protect them. As one parent stated, "there is nothing worse than sending your child to a place where there is no guarantee they will be happy."

**Negative effects on children and families.** Participants described a wide range of negative emotional, physical, and behavioral effects on their children as a result of the bullying, including increased anxiety, fear, and loneliness; decreased confidence and self-esteem; feeling sick; and wanting to avoid school. Given that these effects have been extensively described in the wider bullying literature (e.g., Due et al., 2005; Salmon, James, Cassidy & Javaloyes, 2000), they will not be described in detail here.

However, several cognitive effects observed by parents are worthy of discussion. Several parents reported that their children appeared to modify their perceptions of themselves and the world as a result of the bullying. For example, four participants (15%) felt that their child had begun to believe that what the bullies said about them was true. One parent commented that her daughter began to agree that the bully "was right in saying that she was ugly and had terrible clothes," while another stated that her daughter had almost accepted that it was 'normal' to be bullied. Five parents (19%) commented that their children began to think differently about approaching their school for help. As one mother stated, "[my son's] experiences in the past of not really being taken seriously by teachers has taught him it won't do any good to speak up."

The effects of bullying appeared to go beyond the individual child, affecting others in the family system as well. Ten participants (38%) made comments relating to increased general tension within the home, stress between themselves and their partners, and reduced opportunities for family "quality time", due to the amount of time they had to spend supporting the child who had been bullied. Tensions also arose between the child who had been bullied and their siblings. Three participants (11%) noted that the child who had been bullied would take out their frustration



the attention that the child who had been bullied was receiving. As a result, these siblings became angry and frustrated; one parent stated that all of her children had begun "acting up more" at home.

**Positive effects on children and families.** An unexpected theme was the perceived positive outcomes of the bullying experience on their children and families. For example, eleven participants (42%) made comments suggesting that their child had developed a greater understanding of how their family would support them, and appeared to feel a closer connection with them as a result. As one parent commented, "my daughter realised that we were really in her corner, and she started to open up to us again." Similarly, three participants indicated that they perceived a stronger, more positive connection between their child and their school as a result of the bullying having been successfully resolved. Another positive outcome reported by five parents (19%) was the development of resiliency within their child. As one parent commented, "we were worried for a while there, but she still sings in the shower."

Participants also described positive effects on the wider family as a result of the bullying experience. For example, five parents (19%) described sibling relationships having become closer as siblings tried to protect, support, and reassure the child who had been bullied. Four parents (15%) also reported strengthened family relationships overall, as a result of their shared experience. As one parent commented, "if anything we pulled together to get [our son] through this tough time...you could say it drew us close to fight a common enemy."

### **Experiences with and perceptions of schools**

**How schools responded to bullying.** Parents' descriptions of schools' responses to bullying were categorised as positive, where the school was active in responding to the bullying, or negative, where the school did not take action. Parents described a wide range of experiences, both positive and negative, which did not appear to depend on the child's age, gender, location (e.g., city vs small town) or school decile; which is particularly pertinent given that there was a range of deciles represented in

the sample.

Positive responses included the school taking action in relation to the bully (e.g., requiring that they apologise, increased supervision and monitoring, suspending the bully) or meeting with the bully's parents to discuss the situation. Schools also took wider preventive measures, such as addressing "bad language" with all students and holding discussions about "being a good friend and what that looked like." Participants also described the positive actions schools had taken to ensure that their child felt supported and safe, including apologising to the child, praising and reinforcing them for reporting the bullying behavior, reassuring them that staff members were available to talk to, and suggesting strategies which the child could use in counteracting bullying. Two parents described in detail how the school had reinforced their child's self-esteem by subtly supporting them and including them in school activities. For example, one parent commented that her daughter was "monitored by teaching staff in her syndicate (in a way that she wasn't aware of or uncomfortable about) and given some extra special tasks to make her feel good about herself. The principal was very clear about this being important."

Unfortunately, the majority of parents did not experience positive and active responses from their child's school. For example, only three (11%) participants explicitly stated that the school had actively informed them of their child's bullying experience. The remainder were told about the bullying by their child, often reluctantly; told by other parents; or became aware of the bullying after having investigated possible reasons for changes in their child's behaviour. For example, one parent commented, "it got to the point when I was dropping him off to school [and] he was crying and refusing to want to go. That's when I knew something wasn't right."

Ten parents (38%) made comments suggesting that the school simply did not believe their child's reports of the bullying, while seven (27%) felt that their concerns about the extent of the bullying were not taken seriously. Four participants (15%) described schools appearing to attempt to relieve themselves of responsibility, by stating

that the child should address the bullying themselves or that the bullying was not their problem if it occurred outside of school. Six parents (23%) felt that the school had tried to further relieve their responsibility by providing excuses for the bully's behaviour. For example, one participant described being told that a bully was "horrible to everyone", another that the bully had been "put up to it by an older child," and a third that an incident was simply "play that's got out of hand."

### **What schools should have done.**

Participants provided a range of suggestions for how they felt the school should have responded to their situation. Overall, parents wanted the school to take bullying more seriously. Twelve parents (46%) expressed the need for schools to follow a clear response process in responding to bullying, including suggestions such as contacting the parents of the children involved, providing the support of a counsellor, organising mediation, and establishing and implementing an 'action plan' with the support of "an outside expert with bullying."

Participants also made suggestions about how schools could better respond to bullying in general, including increased supervision in the playground, programmes focusing on positive behaviour, and clear consequences for bullying. Four parents (15%) felt that schools should have a 'zero tolerance' policy for bullying; one parent suggested that schools could use incidences of bullying as a "learning opportunity for all the kids involved." Five participants (19%) acknowledged that the bully and their family may also need support and advice, and suggested that they must be involved from the beginning of the process.

### **Schools' attitudes towards bullying.**

In general, participants felt that the attitudes of school staff towards bullying appeared to influence their responses to the situation. For example, six parents (23%) described that school staff seemed to perceive bullying as a normal, accepted part of school culture. Three parents (11%) commented that bullies tended to be popular children, "held in high regard by the teachers"; staff therefore appeared reluctant to accept that these children had bullied others. Similarly, four participants (15%) expressed their

concern that schools tend to focus on 'fixing' the bully, leaving the victims to fend for themselves. As one mother commented, "I think there is a culture of protecting the bully and helping them, while the victim is left to struggle on." Overall, parents felt that schools must listen to the child who had been bullied, avoid blaming them for the situation, and ensure that they feel supported and safe.

**Who is responsible?** Approximately half of the participants made comments reflecting the importance of shared responsibility for bullying between parents, teachers, and school staff. As one parent commented, "there has to be a partnership between school and family as there are two parts to play in dealing with bullying." However, participants also clearly identified certain aspects of bullying for which they felt the school must take primary responsibility, particularly if the bullying had occurred on school grounds, during school hours. Seven parents (27%) stated their firm belief that it is the school's responsibility to create and maintain a safe environment for their children, for example: "The school needs to provide a place that is safe for all kids – that is not something we can do as a family." Five participants (19%) commented that schools must take responsibility for informing parents of what is happening at school and ensuring clear, open communication.

Five participants (19%) stated that the bully's family should be responsible for being aware of their child's behaviour at school, and modelling appropriate behaviours and relationships in the home. Participants felt that their responsibility, as the parents of the child who had been bullied, was to take action if the school was ineffective, to teach respect and empathy, and support and advocate for their child. Three parents (11%) discussed the importance of wider community involvement in preventing and responding to bullying. As one parent stated, "I believe everyone in a community needs to take responsibility for bullying, it seems to be a nationwide problem and not just in schools and with children." Another parent concluded, "everyone should take responsibility. It is everyone's problem."

## Discussion

This study examined the experiences of 26 parents whose children had been bullied at primary school in New Zealand. These parents reported taking a wide range of actions in response to bullying; highlighted the significant effects of the bullying on themselves, their children, and their families; and described their experiences in their interactions with schools in response to the bullying.

Similar to previous studies (Brown, 2010; Humphrey & Crisp, 2008; Sawyer et al., 2011), the majority of participants reported that they were not informed of their child's experience of bullying by the school. Several participants indicated that their child had been reluctant to tell them of their bullying experience, while others found out only through observing changes in their child's behaviour. Once they were aware of the bullying occurring, all 26 participants took action, by supporting their child emotionally and suggesting strategies they could use, advocating for their child by approaching school staff or the bully and their family, and seeking further support from external agencies. Such strategies are similar to those reported by parents in Brown (2010), Greeff and Van den Berg (2013), Purcell (2012), and Sawyer et al. (2011).

The wide range of actions described by parents, and the fact that the majority reported working both with their child and school staff, clearly suggests that these parents saw the need for a comprehensive, collaborative response to bullying. While these parents did what they could within the microsystem of their home (e.g., comforting and reassuring their child, giving them guidance), they also took action within the meso-systemic context, in their interactions with schools, families of bullies, and community representatives (e.g., counsellors, doctors).

The negative emotions described by parents in this study in response to their child's experience of bullying (i.e., worry, guilt, anger, frustration) reflect those of previous studies (Brown, 2010; Humphrey & Crisp, 2008; Sawyer et al., 2011). Similarly, parents' descriptions of the negative effects experienced by their children (i.e., anxiety, fear, decreased confidence, feeling sick) are also demonstrated elsewhere in the bullying literature (e.g., Due et al.,

2005; Salmon et al., 2000). However, participants reported a range of positive and negative effects on themselves, their children, and their families, which do not appear to have been explored in previous studies within the bullying literature. For example, parents described feelings of sympathy for the bully, dilemmas they faced in responding to the bullying, and tensions which arose between family members. Parents also described the development of resiliency in their children, and the development of closer relationships between family members and between their children and their school. These findings suggest that parents' experiences of bullying vary significantly across families and that there is a need to explore the possibility of post traumatic growth (Tedeschi & Calhoun, 1995, 1996, 2004) in children and families after bullying. In particular, post traumatic growth (PTG) has been defined as "the experience of positive change that occurs as a result of the struggle with highly challenging life crises" (Tedeschi & Calhoun, 2004, p.1). How individuals cope with stress and trauma appears to play an important role in whether individuals experience recovery (a return to former levels of functioning), survival (a lower level of functioning), or thriving (a higher level of functioning) (Aldwin, 1994). Studies have shown that there are three broad outcomes associated with PTG: changes in self-perception (e.g., increased sense of personal strength), changes in interpersonal relationships (e.g., greater empathy and compassion for others), and changes in philosophy of life (e.g. greater wisdom and spirituality) (Tedeschi & Calhoun, 1996). Future studies should not ignore the possibility of positive effects of bullying and should focus on the narratives individuals and families tell about their experiences. (Tedeschi & Calhoun, 2004).

Parents expressed their views on the responsibilities of the multiple people involved in responding to bullying, with a number of parents expressing the opinion that schools need to take greater responsibility for bullying. By contrast, Green et al. (2013) found that educators generally felt that parents and families should be more involved with preventing and responding to bullying. As such, it could be concluded that the frustration

and conflict between adults in relation to bullying may be as a result of schools not meeting families' expectations, and vice versa. These concerns must be addressed to encourage an effective and collaborative response to bullying.

Several findings of this study suggest that schools were focusing on bullying only within their micro-systemic social environment, without considering the interactions between the wider social-ecological contexts of school, home, and community. For example, parents reported that they were rarely contacted by schools in relation to bullying, that their actions were sometimes perceived as interfering and inconvenient, and that schools appeared to attempt to relieve themselves of responsibility for bullying. Participants felt that bullying must be taken more seriously by schools, and that schools must provide effective support and guidance for children and parents. The majority of participants reported approaching more than one school staff member in response to their child's experience of bullying, which suggests that parents may feel unsure about who to approach within a school in relation to bullying. Participants placed particular importance on schools having clear processes in responding to bullying, including the need to inform parents of their child's experience of bullying, to include the family of the bully in the response process, and to utilise support and guidance from external sources. These findings suggest that parents want to be actively involved in the process of responding to their child's experience of bullying. Parental involvement in school in general has been found to have benefits for students (e.g., increased academic achievement), teachers (e.g., improved school climate), and parents (e.g., increased parental confidence), as well as improved overall parent-teacher relationships (Hornby & Witte, 2010).

A significant limitation of this study must be acknowledged in the relatively small, homogeneous sample – of the 26 participants, all were female, most were NZ European and approximately two-thirds indicated that their child experienced bullying while at a high decile school. This somewhat non-representative sample may have been a result of the authors being unable to contact potential participants

directly, given that we were not, for instance, seeking participation from parents who had registered their contact details with a particular organisation or community group. The Internet-based nature of the recruitment procedures and the questionnaire may also have contributed to the small sample size by restricting access to the study for parents without access to a computer or the Internet. Participants were also required to self-select, which may have led to a homogeneous and potentially biased sample. Self-selection may bias research findings when participants who actively choose to participate in research differ from those who choose not to (Olsen, 2008). In the current study, parents may have chosen to participate specifically because of their negative experiences with and perceptions of bullying. By contrast, parents who held neutral, ambivalent, or even positive perceptions of bullying may have chosen not to participate; accordingly, their experiences and perspectives are not reported here.

Another concern during the recruitment process was the lack of uptake from schools who were asked to help with recruiting participants. Of the 98 schools emailed with a request to advertise the study in their school newsletters, only two replied, both declining to participate. It is unclear why schools were reluctant to respond, however the outcome is similar to the low response rate experienced by Mattioni (2012) in her attempt to invite schools to participate in an anonymous online survey about the bullying perceptions and attitudes of teachers and principals. A more successful approach may have been to pre-notify each school of the upcoming request with a written letter, followed by an email, as described by Bandilla, Couper and Kaczmirek (2012).

Overall participation rates and the total amount of data collected may also have been affected by individual participant motivation, given that research participants may be influenced by "the degree to which the topic of a question is personally important, beliefs about whether the survey will have useful consequences, respondent fatigue, and aspects of questionnaire administration" (Krosnick & Presser, 2010, p. 266). Furthermore, Couper (2000) notes that

participation and measurement error in web-based survey research, as opposed to traditional, in-person data collection, may be affected by comprehension problems, technical flaws, or design and layout issues. These factors could explain why four individuals followed the questionnaire URL link and began to answer the questionnaire, but did not complete it. However, the fact that the 26 participants who completed the questionnaire spent an average of 35 minutes completing their questionnaire, and wrote an average of 730 words, suggests that they understood the questions and were motivated to answer them in significant detail.

Holbrook, Krosnick and Pfent (2008) note that researchers have been responding to an overall drop in survey research participation rates in recent years in a number of ways, including extending the period of data collection, increasing the number of contact attempts with potential participants, sending advance notice of participation requests, and offering incentives. However, given the restrictions on this study as part of a university Masters research project (e.g., limited time frame for data collection and submission of final report, lack of funds) alongside the data-rich nature of the 26 participants' responses, it was decided that data analysis would proceed appropriately with the available sample.

This study has identified a number of directions for future research. Firstly, further examination of this topic with a more diverse sample (i.e., participants of both genders, of different ethnicities, and from a wide range of socio-economic backgrounds) could provide greater insight into the social-ecological network of influences on bullying. Furthermore, it would be beneficial to understand the perspectives of parents whose children's experiences of bullying differ from those examined in this study, either as a function of age, type of bullying (e.g. traditional vs cyberbullying) or the role the child played. Such studies could also further explore the use of social networking and respondent-driven sampling in participant recruitment, given the unexpectedly successful use of social networks in this study. The majority of participants (81%) stated that they had heard about the study through links to the study webpage on

Facebook or emails from friends or work colleagues. This success highlights the importance of social networks in relation to bullying, and the potential to utilise such networks to gain access to this population for future research.

Another beneficial direction for research could be to examine parents' use of strategies in response to bullying in greater depth. Parents could be interviewed about the decision processes behind the actions they took in response to bullying, and their perceptions as to why some strategies may be more successful than others. Parents' sources of information and advice could also be explored, in order to identify the types of information gained from formal (e.g. books, published guidelines, 'expert' advice) and more informal resources (e.g., website forums, friends and family, other parents in similar situations). Such research could help contribute to the development of effective resources within these domains, such as specialised support groups run by parenting organisations.

The findings of this study suggest that the development of resiliency, post traumatic growth or stress-related growth appears to be one of the few positive outcomes resulting from a child's experience of bullying. While several previous studies (e.g., Bowes, Maughan, Caspi, Moffit & Areneault, 2010; Greeff & Van den Berg, 2013) have examined the correlations between family factors and resiliency in response to bullying; post-traumatic growth processes and outcomes (Tedeschi & Calhoun, 1995, 1996, 2004) is another area which could benefit from further research. For example, future studies could qualitatively and longitudinally examine the development of resiliency, protective factors and coping strategies in families in response to bullying, in order to contribute to a better understanding of how best to support and promote such processes and outcomes.

A final direction for future research could be an in-depth examination of the micro- and meso-systemic processes involved in single episodes of bullying, through the use of case study research. The actions, experiences, and complex interactions of the relevant children, families, school staff, and external representatives could be followed

throughout the complete process of responding to an incident of bullying, from the initial disclosure to the resolution of the situation, successful or otherwise. This detailed analysis would provide a greater understanding of bullying, based on the interactions and perspectives of individuals at all levels of the social-ecological network.

A significant implication arising from the findings of this study is the need for clear and comprehensive school policies detailing each school's unique approach for preventing and responding to bullying in their community. Such policies would demonstrate the school and Board of Trustees' commitment to meeting the Ministry of Education's National Administration Guideline 5(a), which states that schools must "provide a safe physical and emotional environment for students" (Ministry of Education, 2012). Furthermore, it appears that there is considerable interest amongst school staff to make anti-bullying policies obligatory, with one recent survey finding that 65% of 1,236 teachers and principals agreed that anti-bullying guidelines should be compulsory for all schools (Green et al., 2013).

The Bullying Prevention Advisory Group (BPAG) was convened in 2013 and has produced guidelines to assist schools with the development of such policies. The group consists of representatives from a wide range of organisations, including the Ministry of Education, the New Zealand Council for Educational Research, the Education Review Office, the Human Rights Commission, and the New Zealand Police. The aim of BPAG is to "provide practical information for schools to support effective prevention and management of bullying behaviour... [and] help schools prevent and respond to bullying effectively as part of promoting positive environments in which all students can learn and thrive" (Bullying Prevention Advisory Group, 2015, p. 4). With the help of these guidelines, school policies should be tailored to each school community and involve the collaboration of staff, parents, and external support agencies (e.g., educational psychologists, police education officers).

In response to the findings of this study, policies should encourage improved communication and positive relationships between schools and

parents by clearly identifying processes in response to incidents of bullying. Guidelines could include: (a) who in the school, parents, students, and staff should report to in response to bullying; (b) whether and how the school will inform parents of incidents of bullying; (c) what emotional and practical support the school can provide for parents and children; and (d) how schools will act to involve the victim/s, bully or bullies, parents, bystanders, and external agencies in responding to the bullying. Ensuring that parents and staff are aware of and have access to a clear, comprehensive, collaborative school policy, which outlines key roles and responsibilities, will also enable accountability in the process of responding to bullying.

Schools could also consider investing in specific programmes which prevent or deter bullying and promote a positive school climate. There are a considerable number of evidence-based anti-bullying programmes available (Olweus & Limber, 2010; Smith, 2011; Jimerson, Swearer & Espelage, 2010), including KiVa (Salmivalli, Kärnä & Poskiparta, 2011), which has recently been brought into New Zealand. Explicitly stating how such initiatives are implemented in a school could demonstrate both the school's commitment to providing a safe environment for students, and how the school is protecting and fostering students' rights to education and personal security, as outlined in the Universal Declaration of Human Rights and the United Nations Convention on the Rights of the Child (Human Rights Commission, 2009; 2013).

A further implication is the need for parents to be aware of the wide-reaching effects of bullying on themselves and their family, as well as their child who was bullied. For example, parents may need to be aware of and attuned to changes in their child's behaviour which may indicate that they are experiencing bullying, including angry outbursts, becoming easily upset, or refusing to go to school. Furthermore, parents should be aware of the potential effects of bullying on the relationships between parents and children, between siblings, and between partners. Given that participants reported closer family bonds as a result of having worked through their child's experience of bullying together, parents could seek

support through family counselling to promote this positive outcome. More research needs to be done on the role that professionals and the therapeutic process can play in helping families experience post-traumatic growth following adversity (Jackson, 2007).

This study has focused on parents' experiences with bullying in New Zealand, in order to contribute to a growing literature exploring the impact and experience of bullying within multiple contexts. Participants reported acting quickly and using a wide range of strategies in response to bullying, which was found to affect children, parents, and the wider family system. Parents felt that bullying could be addressed more effectively if schools and families work together; clear, comprehensive, collaborative school policies and practices may contribute to this. It is hoped that the findings and recommendations resulting from this study will contribute to a more comprehensive understanding of bullying, and to the development of effective policies, initiatives, and practices to reduce the impact of bullying on children, young people, and their families in New Zealand and worldwide.

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### Appendix: Questionnaire questions

1. Please describe what happened during your child's experience of bullying, and how you found out about it.
  
2. How long had the bullying been going on before you found out?
  
3. Please indicate which of the following people you talked to or approached in response to your child's experience of bullying.
  - Your own child
  - School senior management (e.g., principal, deputy principal, Board of Trustees member)
  - Your child's teacher
  - Another teacher
  - Non-teaching school staff member (e.g., nurse, counsellor, administrator)
  - The bullying child/children
  - A parent/parents of the bullying child/children
  - Other (please describe)
  
4. Based on your responses to the above question, please describe, in as much detail as you can, what actions you took when you found out about your child's experience of bullying.
  
5. Please describe the effects of your actions on your child and the situation (e.g., did your actions help stop the bullying? Did your actions comfort your child?)
  
6. Please describe, in as much detail as you can, what actions the school took (if any) to address the bullying, or support you and your child.
  
7. Please describe the effects of the school's actions on your child and the situation (e.g., did they help stop the bullying? Were they effective?)
  
8. Please describe, in as much detail as you can, what effects the bullying had *on you personally?* (i.e., your emotions as you went through the process of responding to the bullying)



9. What effects did the bullying have *on your child*?

10. What effects did the bullying have *on your other family members*? (e.g., your child's relationship with their siblings, your relationship with your partner, etc.)

11. Did you seek or receive any form of support while dealing with the bullying?

- If you did, please describe this support and how it helped.
- If you did not seek or receive support, please explain why this was the case.
- What type of support would you have liked?

12. There is growing concern over a general disagreement between schools and families about who should take responsibility for dealing with bullying. What are your thoughts on this?

13. Do you have anything else you would like to say about your experience of supporting your child in his/her experience of bullying at primary school? Please share any further comments you may have, remembering that your responses will remain anonymous.

# Perspectives towards Māori identity by Māori heritage language learners

Awanui Te Huia Victoria University, Wellington

Māori identities continue to evolve and adapt as a result of social and environmental changes Māori experience. Well-known markers of Māori identity including whakapapa Māori and te reo Māori are explored within this study. A qualitative study of 19 Māori heritage language learners ranging from beginner through to advanced levels of proficiency participated in this research. Results indicated that many Māori experience racism and discrimination, and as such provides evidence for why some Māori may not choose to enhance aspects of their Māori identity, including learning te reo. Participants in the study demonstrated that Māori cultural identity development was a process requiring support from significant others. Relationships with whakapapa whānau, and others from the language community provided relief from discrimination, and enhanced a desire to be viewed as Māori. Furthermore, te reo Māori was viewed as a resource for engaging in Māori cultural environments where the language was spoken.

Keywords: Māori identity, whakapapa whānau, te reo Māori

Māori have undergone a series of dynamic changes in the reclaiming of space and identity (Smith, 1989). Who we are and who we want to become are both equally important questions for negotiating our identity (Hall, 1990; Robson & Reid, 2001). Māori identities continue to evolve with the change that Māori have experienced, and continue to experience. Since the 1960s, Māori have begun the process of “renegotiating and reclaiming the past” and *te reo* Māori has been central to this process (Smith, 1989, p. 6). Although research has been conducted on *te reo* Māori, and identity, very few studies have explored, in detail, how these two processes influence one another in a (post) colonial context. This study will explore how Māori heritage language (HL2) learners perceive Māori identity and how these perceptions may impact on Māori language learning behaviours.

With one in seven people in New Zealand identifying as Māori in 2013 (Statistics NZ, 2013), the way in which Māori view identity is of particular relevance to understanding Aotearoa as a nation. Māori identity has been labeled in numerous ways that were consistent with Western constructs of ethnic identity categorisation across various times. Post-

contact, Māori were identifiable as Māori based ‘lifestyle’. Subsequently, Māori identity was measured through blood quantum (using a fraction based system) (Pool, 1991). The current government trend of ethnic identification offers two options for measuring Māori ethnic identity. First, Māori are Māori if they have Māori ancestry, and second, if they choose to identify as Māori (Kukutai & Callister, 2009). One of these identity types can be thought of as ascribed (i.e. *whakapapa* based/having Māori heritage) and the other achieved (i.e. reaching a state where one chooses to be Māori) (Marcia, 1966; Phinney, 1989).

Given the historical context of colonisation in New Zealand (as documented in numerous Waitangi Tribunal reports) exploring Māori identities requires an understanding of the history in which contemporary Māori identities evolve. In the context of reclaiming Māori identity, Pitman (2012, p. 46) indicated:

*“Defining who you are [as Māori] is important. We must reclaim the right to define ourselves because it’s that constant redefining of us by the coloniser that causes schizophrenia, confusion and separation from each other.”*

Reclaiming a ‘right’ to claim a

Māori identity has been studied in detail. McIntosh explains that Māori choose to identify as Māori, the individual is engaging in the act of “claims making” (2005).

Following the concepts of social identity theory (Tajfel & Turner, 1986), rather than making self-proclamations of one’s preferred identity, others must agree with the identity claim that is laid. Through processes of colonisation, including the labeling and categorisation of Māori, the personal act of claiming a Māori identity can be difficult for those who believe in a set of criteria and perceive themselves to have failed to meet aspects of a set of criteria for ingroup membership.

Of Māori who claim to be ethnically Māori, 46.5% identified Māori as their sole ethnic group, this percentage fell from 52.8% in 2006 (Statistics New Zealand, 2013). With 45.6% of Māori indicating that they had one other ethnic group other than Māori, these statistics highlight the increasing diversity of Māori identity profiles. Those who are interested in claiming a Māori identity may feel more or less comfortable to make a claim depending on their acquisition of a range of identity markers. Some familiar markers of Māori identity include knowledge of *whakapapa*, *mātauranga* Māori, *te reo* Māori, and visible features (including physical racially defining characteristics and in some cases *tā moko*<sup>1</sup> or the display of *taonga*<sup>2</sup>) (Durie, 2001; Higgins, 2004; McIntosh, 2005; Penetito, 2011). In addition to the features mentioned above, contribution to the wider group by being ‘seen’ in Māori contexts, such as marae (*kanohi kitea*) or maintaining relationships with one’s *ahi kā* (keeping the home fires burning). Māori who are investing in learning their heritage language are likely to incorporate aspects of these identity markers into their descriptions of central components of

1 Māori designed tattoos.

2 Māori adornments

Māori identity. Furthermore, Māori HL2 learners' views of identity may contribute to their personal motivation for language learning. Alternatively, language learning could be a catalyst for broadening aspects of Māori identity, including relationships.

### *Whakapapa as a central marker of Māori identity.*

A common culturally mandated form of Māori identity is through the role of *whakapapa*<sup>3</sup> (Durie, 2001; Lawson-Te Aho, 2010; Mead, 2003). *Whakapapa*, by definition, insinuates a set of relationships with the living and the departed, and the individual and their environment in a wider sense of the meaning. Mikaere (2010, p. 225) indicates that *whakapapa*:

*“establishes that everything in the natural world shares a common ancestry. With this knowledge of interconnection comes an acute awareness of interdependence which, in turn, fosters the realisation that our survival is contingent upon the nurturing of relationships, both with one another and with the world around us.”*

*Whakapapa* spans over time and space giving those with shared *whakapapa* a shared history and narrative (Walker, 1989). *Whakapapa* claims to identity are founded on relationships that a person has with their *whānau*<sup>4</sup> or wider groupings (including *hapū*<sup>5</sup> and *iwi*<sup>6</sup>) who equally share a common *whakapapa*. When discussing the importance placed on representations of Māori ancestors, Mead (1993) explains:

*“...as individuals we have no identity except by reference to them<sup>7</sup>. We are beings only because they prepared the way for us, gave us a slot in a system of human relations, a place in the whakapapa lines, and membership in a whānau and in an iwi.”* (p. 206)

From this view, *whakapapa* connections provide a place of belonging for those who share mutual *whakapapa* connections.

For individuals who hold secure bonds within their *whakapapa* relationships, these individuals are likely to enjoy a sense of belonging that such

3 ancestry.

4 family, including extended family

5 subtribe

6 tribe

7 'Them' in this context is referring to the ancestors

relationships provide. Traditionally, the place of *whakapapa* in Māori society was highly valued as it provided individuals with direct guidance about their role and status within a group (Mead, 2003). Brewer and Yuki (2007, p. 314) describe that:

*“In cultures where ingroups are defined primarily as relational networks, well-being and self-esteem may be more closely associated with enhancement of the quality of relationships.”*

Similar to the principles of relational selves (Brewer & Yuki, 2007), for Māori, the self was made meaningful through the web of interpersonal connections between *whakapapa* ties.

Findings from Te Kupenga, a study of Māori wellbeing, also indicated that 89% of Māori were able to identify their *iwi*, and 62% had been to the marae that they had *whakapapa* connections to and of those 62%, there were 34% who had visited in the past year (Statistics New Zealand, 2014). These results could be interpreted to demonstrate that a number of Māori may know how to identify their *iwi*, however, the centrality of those relationships to their identity may not be salient, particularly in instances where they are operating in mainstream settings. Reid and Robson (2001) take the position that:

*“central to tangata whenua identity is whakapapa. Whakapapa is used to connect with or differentiate oneself from others. Many view hapū and iwi identity as a prerequisite to Māori identity.... However, while being identified by hapū or iwi is fundamental for some, it may be inaccessible for others”* (p. 3).

Statistics New Zealand research has explored the notion of *whānau* and the centrality of both *whakapapa* *whānau* (a collective with shared ancestry) and *kaupapa* *whānau* (those with a common purpose or goal) inclusively (Statistics New Zealand, 2012). Findings indicated that four-fifths of respondents indicated that they viewed their *whānau* through *whakapapa* only, whereas the remaining participants viewed their *kaupapa*-based relationships (friends and others) as inclusive of their *whānau*. It is possible that there are a number of Māori who may rely on *kaupapa* *whānau* (of which include a Māori language speaking community) to provide the individual

with a sense of collective Māori identity.

### *Te reo Māori and Māori identity*

*Te reo* Māori is commonly considered a central aspect to Māori identity and has been closely linked with the concept of personal *mana*<sup>8</sup>. Revered Māori language expert and advocate, Kāretu (1993, p. 226) explains:

*“...for me language is essential to my mana. Without it, could I still claim to be Māori? I do not think so, for it is the language which has given me what mana I have and it is the only thing which differentiates me from anyone else.”*

These sentiments have been shared with other well-known Māori leaders, exemplifying the intrinsic connection between the language and Māori identity. Dewes (1977, p. 55) notes *“Ko te pūtaka o te Māoritanga ko te reo Māori, he taonga tuku iho nā ngā tupuna”*. Underlying these positions is the idea that Māori are custodians of the culture, and *te reo* Māori is an inheritance from ancestors, and the gods (Mead, 2003).

Although some Māori speakers view *te reo* Māori as closely tied to Māori cultural ingroup membership, through processes of colonisation, many Māori do not possess the skills to engage with their culture through Māori language. Pihama (2001, p.71) indicated that ensuring the assimilation of Māori was enacted through

*“the replacement of te reo Māori me ōna tikanga, or what is described as the ‘habits and usages of the Natives’ with the customs and language of the Pākehā colonists.”*

There is an acknowledgement that by removing *te reo* Māori from the mouths of its native speakers, the colonial agenda was achieved more readily. The oppression of indigenous native languages has been used in numerous occasions by imperial/colonial forces (Wa Thiong'o, 1986) for cultural assimilation or inhalation (Memmi, 1965).

With merely 21.3% of Māori self-reporting that they are capable of conversing about *“a lot of everyday things in te reo Māori”*, this means

8 Mana has a variety of definitions (authority, control, influence, prestige, and power) to name a few definitions (Williams, 2010)

9 The root of the Māori culture is in the language, a gift from our ancestors

that essentially, four out of five Māori are unable to use the language on an everyday level (Statistics New Zealand, 2013). Furthermore, 21.3% appears to be slightly optimistic given that Te Kupenga 2013 (Statistics New Zealand, 2014), indicated that merely 11% (50,000) Māori adults indicated that they could “*speak te reo Māori very well, or well*”. The low rate of Māori language speakers raises issues for both the health of the language, but it also raises questions about criteria for claiming Māori cultural ingroup membership based on language abilities.

If *te reo* Māori is a central marker of identity, yet four-fifths of the population do not possess such skills to meet the criteria, this leaves a number of Māori in a vicarious position. Those who are capable of speaking *te reo* Māori, have knowledge of *mātauranga* Māori and their *whakapapa* connections are defined as a small elite minority holding social and political power in some Māori settings (Penetito, 2011).

On the other hand, the small proportion of Māori language speakers means that the survival of the language falls on the shoulders of the few, which is a heavy responsibility to uphold for future generations. It is likely that some Māori language speakers would be supportive of Māori identity definitions that are inclusive of being a language speaker, as this may be believed to prompt other Māori, who are non-Māori speakers, to learn the language.

### **Impact of discrimination on Māori cultural identities**

McIntosh (2005) suggested that Māori identities in contemporary settings vary in the centrality of cultural connectedness. Her identity model is located within a contemporary Māori-specific context and incorporates three categories: fixed, forced and fluid identities. Fixed identities include those that are described as ‘traditional’ identities, involving a set of beliefs that some Māori view as necessary in order to claim authentic group membership. Within this fixed ‘traditional’ identity, knowledge of *whakapapa*, *te reo* Māori and *mātauranga* Māori are prioritised. The fixed identity profile is perhaps highlighted in the sections above. Moving to the second identity profile, fluid

identities include those who intertwine mainstream Europeanised identities with traditional identities, whereby new fused identities are possible. The final category includes those who occupy a forced identity profile, which is characterised by deprivation and marginality. Those operating from a marginal profile are unlikely to see value in their Māori identity or in *te reo* Māori, as their view of being Māori is largely clouded by discrimination and poverty.

There continues to be a great proportion of individuals with Māori ancestry who prefer not to identify as Māori (Durie, 2005; Kukutai & Callister, 2009). Reasons for Māori choosing not to identify as Māori are likely to come from the high rates of discrimination enacted toward Māori by the dominant culture, Pākehā. Health research findings have indicated that Māori experience discrimination at rates higher than any other ethnic group in New Zealand (Harris et al., 2006).

Social identity theory (Tajfel & Turner, 1986) may help to understand why it might be advantageous for Māori to reduce the number of Māori identity markers when they are constantly operating in discriminatory environments. Social identity theory recognises that individuals are motivated by a need to see themselves favourably in comparison with other groups. For groups of lower status (which usually includes migrant and indigenous groups), positive social comparison is not necessarily achievable if they are being compared to high-status groups. Groups holding low status positions in society may attempt to “pass” as members of higher status groups in order to achieve a positive view of the self (Tajfel, 1978). However, those who attempt to ‘pass’ can experience negative psychological consequences (Phinney, 1990). Individuals who are operating from within this profile are unlikely to invest in learning *te reo* Māori.

### **Summary**

This study will explore how some Māori HL2 learners view their identities as Māori. As this is an exploratory study, set hypothesis will not be tested. However, drawing from previous research, it is possible that Māori HL2 learners may share in a common view that *te reo*

Māori is central to Māori culture. Given the high rates of discrimination found in other studies, Māori in this study are also likely to have experienced racism and prejudice. Māori HL2 learners who have begun investing in relationships that are founded on a common understanding of the value of Māori culture and language are likely to find shelter within their *whānau whānau* of Māori HL2 learners. As *whakapapa* is one of the most commonly viewed culturally mandated forms of Māori identity pre-requisites (Lawson-Te Aho, 2010; Mead, 2003), it is likely that *whakapapa* will play a role in the process of Māori cultural identity formation and negotiation.

## **Method**

### **Participants**

The participants involved in this study were those from both the advanced and undergraduate groups. Participants included 11 undergraduate students from Victoria University of Wellington, with introductory to conversational levels of language proficiency with a mean age of 22 years. Advanced level learners included eight participants, who were graduates of Te Panekiretanga o te reo Māori, a programme for Māori language excellence, established to train already proficient Māori language speakers in the art of *whaikōrero* and *karanga*. Gloyne (2014, p. 306) indicates that Te Panekiretanga o te reo is a *whare* “*hei kāinga mō te matatau kia matatau kē ake ai!*”. This group had a mean age of 37.1 years.

### **Recruitment**

### **Materials and procedure**

The structured interview schedule was developed based on findings from the literature review and the personal observations of other Māori HL2 learners who indicated a range of possible Māori identity definitions. The interviews were designed to enable participants to freely discuss how they viewed the combination of language and identity. Interviews were recorded using an Olympus Voice-Trek V-51

10 a house “that is a home for those who are already proficient to become even *moreso*”. This translation is not that of the original author

Digital Voice Recorder. These were then transcribed, initially including stammers and stutters (in accordance with Braun and Clarke, 2006) and sent to participants for review consistent with a Kaupapa Māori guiding principle of ‘*Manaaki ki te tangata*<sup>11</sup>’ and ‘*Kaua e takahia te mana o te tangata*<sup>12</sup>’ (Smith, 1999, p. 120). Of the 19 participants, only one chose to make an addition to their transcript, however, the remaining participants chose not make changes.

Once interviews were approved, transcripts were coded using a combination of processes including thematic analysis (Braun & Clarke, 2014). An interpretative phenomenological approach (IPA) (Smith, 2004) was also applied which is a qualitative research method commonly used in psychology. The IPA acknowledges that the researchers lived experiences interact with the data. Rather than assuming that the researcher is capable of being objective, the subjective nature of qualitative research is acknowledged and appreciated within this approach. NVivo software was used to manage the large quantity of interview data. The School of Psychology Human Ethics Committee at Victoria University of Wellington provided ethical approval for this study.

Interviewees were provided with the opportunity to select a pseudonym of their choice. Names were applied in order to make the reader connect more with the text. Two participants, preferred to keep their own name rather than use a pseudonym. Individuals were interviewed in Māori centered spaces (such as Māori language tutorial rooms, or indigenous psychology rooms) or in the participants workplace due to the convenience for the interviewee. Interview locations were chosen specifically to allow the process of power-sharing between the researcher and participants to take place consistent with Kaupapa Māori principles (Bishop & Glynn, 1999).

11 Translated directly as “share and host people, be generous”. In this context, the process of manaaki ensures that the mana of the participant was upheld through transparency in the research process

12 Translated as “do not trample over the mana of people”

## Analysis

Each of the recordings was listened to at least three times before being imported into the NVivo software. The interviewer was fairly familiar with the transcripts prior to coding. As transcripts were analysed, sematic nodes were created. These nodes were reviewed and refined using visual maps of how these individual nodes contributed to conceptual level themes. Nodes were then grouped together into larger clusters, which became the themes of the study consistent with thematic analysis (see Braun & Clarke, 2006).

Responses from advanced- and undergraduate-level learners were initially analysed separately but, after cross-references were made, it was clear that the discussions from both the undergraduate and advanced participants overlapped. Once initial stages of coding had been completed, each of the codes was scrutinised for consistency. This was largely a difficult process, as individual nodes appeared to overlap in a number of places. In order to ensure that themes were indeed discrete from one another, and internally consistent, a group of three Māori researchers were asked to provide comment on the extent to which the themes appeared internally consistent and discrete from other themes. The researchers comments were taken into consideration, and included in the following results.

## Results

*Theme 1: The centrality of whakapapa in the journey of identity exploration; the self in connection to whakapapa*

For many participants, *whakapapa* relationships were central to their Māori identity development. Individuals who were raised outside of their tribal region were able to find a connection with their Māori identity through learning more about their *whakapapa whānau* connections.

Herewini: *I would have only been about 12 at the time... that I used to write back to my kaumātua and used to learn te reo, well not so much te reo, but more whakapapa, that was the real... my whakapapa. “Who am I where am I from?” those sorts of things.* (Advanced)

Similar to the assertions of Mikaere

(2010), many participants described *whakapapa* as a means of understanding the self through a wide set of connections. Such a holistic worldview is consistent with other relationally oriented cultures (Nisbett, Peng, Choi, & Norenzayan, 2001). The ability to understand how an individual is connected through an expansive web of relationships was viewed by some participants as central to understanding one’s identity.

Hori: *[Whakapapa is] fundamental to where we come from and everything in and around us, everything has whakapapa.* (Undergraduate)

Some participants viewed *whakapapa* as a means of providing guidance for future generations. Notably, only one participant discussed having a specific *whānau* strategy, however, a number of participants discussed the importance of retaining knowledge of *whakapapa* for supporting future generations.

Riria: *[In developing our whānau strategy] we looked at the language health, our physical health, and where we’re going to. So it’s almost like the 3 W’s: whakapapa, whenua, and waiata as the devices to guide you. Faces, places, and traces, that’s kind of how I would describe the journey.* (Advanced)

Consistent with other Māori authors, health and wellbeing were viewed as intertwined with culturally significant concepts of *whakapapa*, *whenua* and *waiata* (Durie, 2001; Ngata, 2014). Furthermore, Riria’s perspective indicated that not having access to *whakapapa* relationships had detrimental effects for individuals who may have been left without a sense of belonging to a wider group.

Riria: *[Nō te whakapapa] he mōhio nō te tangata nō hea ia, nō wai ia, e haere ana ia ki hea<sup>13</sup>. [...] knowing where you are, knowing where you fit, belonging, and having a place. Koinā te tino raruraru o ngā mea taka ki te hē. Kore mōhio nō hea, nō wai, ay. Ērā āhuatanga<sup>14</sup>.* (Advanced)

13 [Whakapapa provides] a person with understanding about where they’re from, who they came from, and where they’re going

14 *That’s a serious issue for those who have fallen by the wayside. No knowledge of where they’re from, or who they come from. Those types of things*

*Theme 2: The impact of 'others' on Māori identity development.*

Theme two explores how Māori identities interact with their social environments. The choice of being categorised as Māori comes from both an individual choice, but also from others' recognition. The following subthemes describe why individuals may adopt a variety of identity positions as Māori.

*Subtheme 1: Developing a Māori identity in the face of racism*

Māori identity is likely to be developed in a range of social environments, some of which are discriminatory. As explored in the previous theme, *whakapapa whānau* provided some Māori with a positive group level identity. Reaching a place where Māori want to identify as Māori may be difficult for some who are coping with discrimination based on their Māori ethnic identity. Māori who are choosing to engage with their culture may do so despite the experiences of racism.

Kura: *There are a lot of times when I'm in a Pākehā situation, like sporting for instance, me and my sister [name], we're sort of the only Māori in our crew. Especially I find in older generations, not so much in our generation but there's still sort of this racist undertone. Like they don't mean to be outwardly racist, but just sort of comments like "those Maorees".* (Undergraduate)

Aotea: *I felt a lot of positive and negative vibes being a Māori in the [state organisation that I worked for]. [...] I was [working] here in Wellington through the 80s and 90s through some pretty harsh times for Māori who were um, I mean the culture wasn't represented in any way, other than [negative social] statistics.* (Undergraduate)

The impact of developing a Māori identity in a discriminatory environment may be that some individuals choose to assimilate, reduce the number of visible or behavioural markers of Māori identity in order to protect the self from discrimination. Some may choose not to participate or contribute to the collective.

Issues of authenticity are commonly barriers experienced by Māori who may have chosen to identify as Māori. The prolific extent to which Māori tend to need to justify their

identity for authenticity based reasons led to the inclusion of an 'authenticity beliefs' subscale in Houkamau and Sibley (Houkamau & Sibley, 2010) Multi-Dimensional Model of Māori Identity and Cultural Engagement (MMM-ICE). Many Māori may desire to be considered authentic ingroup members and achieving a level of *te reo* Māori, or strengthening *whakapapa* ties may contribute to providing justification for Māori identity claims.

With this said, there are likely to be a number of individuals who may not view being 'inauthentic' Māori as detrimental to their identity, particularly when the ingroup is not viewed as holding high social value (Pratto, Sidanius, & Levin, 2006). When Māori are surrounded by discrimination, distancing oneself from the people who were being discriminated against acted to protect the self, which is consistent with self-categorisation theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987).

Ana: *You come from intermediate, and high school and stuff and you've been labeled plastic Māori and you don't really care about it, because Māori's not a cool thing to be anyway.* (Undergraduate)

Although some Māori have the choice of 'passing', this is not always an option for Māori with physically Māori characteristics.

Puawai: *I can remember when I was a child growing up in [predominantly Pākehā region] I was a Māori firstly because of my skin, because of my lips, my nose.* (Advanced)

Māori who were physically/racially distinguishable as Māori reported long-term exposure to racism and discrimination. For those who were forced into such identity positions, being a member of a wider *whakapapa* group, as well as having cultural and linguistic knowledge provided strength to assert a Māori identity in the face of discrimination.

Mahinaarangi: *[I experience racism] all the time, no, actually I was only a kid then, I came up with more racism than that, yeah a bit different. I still get it sometimes. Not here so much, Wellington's pretty good [laugh]. But I always get "[name pronounced incorrectly]", "oh I thought it would be*

*one of those names". What?! But I really don't react to it, until afterwards, it's like oh fuck 'n hell. I guess my Māori identity comes from tōku ingoa, nō taku kuia taku ingoa, he ingoa hoki nō te kāinga. He ingoa whakapapa nei a Mahinaarangi<sup>15</sup>. Um, and āe, ko taku reo me ngā tikanga<sup>16</sup>.* (Advanced)

As mentioned in the above quote, the characteristics of the town often had an impact on the extent to which Māori experienced racism. Wellington, in particular, is a region where Māori hold a higher level of income than other regions (Statistics New Zealand, 2006), which could be attributed to some degree in lower rates of discrimination by the participant above.

*Subtheme 2: Factors that support claims to a Māori identity*

Results indicated that for Māori who choose to be classed as Māori by others, there were a number of ways in which this could be achieved. As described by a number of authors (T. Kāretu, 1993; Mead, 2003; Walker, 1989), Māori identity markers commonly included knowledge of *te reo* Māori, and *whakapapa*.

Puawai: *A Māori identity is what you make of it, it's a way of life. If you want to be a Māori and call yourself a Māori then you can, however, you need to be prepared for people to call you on it, and be able to back yourself.*

Int: *What would you need to back yourself?*

Puawai: *Te reo.*

Int: *Whakapapa?*

Puawai: *Absolutely. [...] Whakapapa is important, dare I say, one of the most important things you need to have in order to have a Māori identity.* (Advanced)

Consistent with self-categorisation theory (Turner et al., 1987), Puawai explained that although one may make a claim to an identity, the wider community must support the preferred identity. Two ways in which such a claim could be upheld is through *te reo* Māori, and through *whakapapa*. Notably, the interviewer prompted *whakapapa* as a concept for identity claims making.

<sup>15</sup> my name, my name comes from/belongs to my grandmother, it's also a name from home. Mahinaarangi is an ancestral name  
<sup>16</sup> Yes, my language and customs

Therefore, it is not clear whether that a *whakapapa*-based identity was assumed knowledge, or whether *whakapapa* may have been an after thought. Given that Māori language learners were the target participant group, this may have promoted *te reo* as a central aspect of identity.

Similarly, the participants below demonstrate the point that claiming a Māori identity is based on others' agreement consistent with findings from research in other relational cultures (Heine & Lehman, 1999). *Te reo* Māori and knowledge of the culture provided some beginner level HL2 participants with greater capacity to gain recognition for their ingroup membership.

Ana: *If I speak te reo then it will be much more easy for me to blend straight away [...] rather than just be this one that shows up, I might have the blood but don't know any of the culture.* (Undergraduate)

Those who have experienced being outsiders within their culture noted that there was a difference between having *whakapapa* Māori and being recognised as Māori, particularly when they were not regularly in contact with their *haukāinga*<sup>17</sup>. *Te reo* Māori provided a bridge for creating greater feelings of ingroup membership.

Sam: *I guess, it's just the whole combination of factors, the cultural knowledge, te reo, that contributes to a Māori identity, but also being recognised by others, particularly being recognised by the haukāinga*<sup>18</sup>. (Undergraduate)

Being recognised as being a valued member of a cultural group by other ingroup members is possibly more testing for individuals who have experienced some form of misunderstanding about their position as Māori by others.

Sam: *I think my experiences have always been quite positive in [terms of recognition], so if you say you're Māori and you can demonstrate some of the values or connections through, Māori are generally accepting of people, perhaps that's because we're in an urban environment, I'm not sure*

<sup>17</sup> The sense of the word here refers to the people who they share ancestral connections with who continue to participate regularly in marae affairs

<sup>18</sup> Literally translates to 'home' (Williams, 2010). However, the participant's use of the term appears to mean the people who are involved with the daily affairs of the *marae*

*if that works in other areas. But um, so, I have kind of found that people are accepting of if you say you're Māori, they respect that you have that Māori identity.* (Undergraduate)

It is possible that regions vary in the extent to which they adhere to fixed definitions about who can claim ingroup membership. In some regions, Māori who may not appear visibly Māori may assert their identity based on their *whakapapa*.

For some Māori participants who had knowledge of and access to their *whakapapa* connections, being able to rely on these relationships as a foundation for their claim to a Māori identity meant that *te reo* Māori was not a necessary pre-requisite prior to learning *te reo*.

Hēni: *I could rely on having, up until that point I was definitely Māori and my mother was Māori, I could recite my genealogy back to Ranginui*<sup>19</sup>. *I could give you the paper, here we go. I didn't need to speak Māori, I didn't need to be able to do anything. I could validate being Māori solely on the basis of.* [those aspects previously mentioned] (Advanced)

Although there was a shared acknowledgement by all participants that *te reo* Māori was of significant cultural value, there was also an awareness that *te reo* Māori was not always strictly necessary in order to identify as Māori. Individuals who were not racially distinguishable as Māori, or did not have a strong grasp of *te reo* Māori were able to rely on other aspects of the self, such as behaviour and understanding of Māori cultural values, to provide themselves with a secure ingroup Māori identity.

Sam: *I think behaving Māori is actually a lot more important in terms of perception instead of being able to speak Māori. Because [...] I'm not very good at speaking Māori, [but] because I believe in those values of manaakitanga, and whanaungatanga, and then when I go into a Māori context, such as a marae, then you get in there and you do the work, and that sort of thing. People accept you as Māori. I think even if you don't have te reo, but you still behave Māori, a lot of people will respect that.*

<sup>19</sup> Moorefield describes Ranginui as "atua of the sky and husband of Papa-tū-ā-nuku, from which union originate all living things." (Moorefield, Te Aka online Māori-English, English-Māori dictionary, retrieved, 8 June, 2015)

(Undergraduate)

Many participants were uncomfortable with nonnegotiable definitions of Māori identity and preferred inclusivity over exclusivity. Where participants acknowledged that there are instances where Māori were unable to speak *te reo* Māori, *whakapapa* was emphasised.

Pānia: *Māori identity, hmmm. whakapapa. Whakapapa is for me one word answer. Kei roto i te toto o te tangata*<sup>20</sup>. (Advanced)

Te Rina: *I'd just go whakapapa every time.* (Undergraduate)

The position of *whakapapa* allows individuals to claim a Māori identity irrespective of their language skills. Identity based on *whakapapa* also gives Māori a position of belonging within a wider *whānau* without other pre-requisites. Te Rina's view of identity was one of inclusivity. She explains why she chose *whakapapa* as being central to Māori identity over other descriptions:

Te Rina: *I don't think you have to kōrero Māori and understand it to identify as Māori, but if I come back to your feeling confident and comfortable in [Māori] spaces, then I think te reo does help, because I don't have that fear that somebody's going to come and speak to me and I'm going to look like a dickhead sitting there "playing Māori".* (Undergraduate)

The level of comfort that newly proficient Māori language speakers experienced in Māori language governed domain was a shared experience among participants.

Te Aowhītiki: *I think your avenues [open] up and you just feel a lot more comfortable doing Māori events and Māori hui rather per se, if you came in just being Māori. I'm not saying you can't just be Māori (and not a Māori speaker) and go to hui, but for me, I feel a lot more at ease and more comfortable in a Māori context where able to, if ever needed to, speak te reo and I can.* (Undergraduate)

Due to the impacts of colonisation on Māori (Waitangi Tribunal, 1986, 2011), some participants indicated that it was not appropriate to suggest a Māori person was not Māori based on cultural knowledge. However, on the one hand, Māori can be categorically or ethnically Māori because of their *whakapapa*, but on the other hand, they can become more culturally Māori by learning more about their culture and language.

<sup>20</sup> in a person's blood

When comparing differing perspectives, some individuals saw the place of *te reo* Māori as more central to being able to claiming a Māori identity than others. In particular, *te reo* Māori was viewed by some as being a central mediator between the depth of cultural understanding that was achievable.

Hoani: *He whakautu i tua atu i [te reo], ko tō toto. Mehemea he toto Māori, he Māori koe. Engari, mēnā e kōrero tātou e pā ana ki te tuakiritanga he aha ngā āhukatanga e whakaatu ana ki tō tuakiritanga, māku tonu e kī atu, ki ōku ake nei wheako āe, ko tō reo. Ko tō reo, me ngā āhukatanga Māori, pērā rawa i ngā tikanga me te kawa, me te tapu<sup>21</sup>...* (Advanced)

Others viewed the link between *whakapapa* and *te reo* Māori as intrinsically intertwined. The participant below described that he viewed *whakapapa* as a concept as uniquely Māori. Some participants considered Māori knowledge and use of *te reo* Māori as being an obligation arising from having *whakapapa* Māori.

Timothy: *Whakapapa is Māori identity, but in my view, to strengthen your whakapapa and that, you need te reo Māori. [...] You sort of honour your whakapapa, where as you see some other iwi<sup>22</sup>, you see some non-Māori, they don't have the honour in their genealogy, that's how I see it.* (Undergraduate)

Although some of the concepts discussed above were unique to this participant, the participant acknowledges the cultural importance that Māori traditionally placed on *whakapapa* and views *te reo* Māori as an interconnected feature in need of maintaining cultural distinctiveness.

*Theme 3: Differing levels of access to extended whakapapa relationships*

Similar to the forced identity position described by McIntosh (2005), some participants were unable to access their *whakapapa* connections, which was a barrier to feeling justified to claim their Māori identity. As connected to the views

above, Māori participants generally preferred to view Māori identities as inclusive over exclusive. Those who had less access to relationships with their *whakapapa whānau* found ways of achieving a Māori identity through exploring *te reo* Māori and expanding their cultural knowledge and relationships with *kaupapa whānau*, which were founded within Māori culturally affirming environments. Relationships with Māori HL2 learners support Māori to develop positive Māori identities.

Despite that some Māori participants experienced high levels of interconnection with their *whakapapa whānau*, it was also acknowledged that some Māori were unable to access such relationships as readily.

Hēni: *[Whakapapa is] tied with history. Because [...] I think whakapapa is critical, but it's also marginalising to people who haven't had access to understanding um, you know where they come from, or, yeah where they come from and what sort of whakapapa they might have. I think a route via the language and cultural practice will more likely assist somebody on a whakapapa journey than the other way around. I don't think having a whakapapa journey is necessarily going to have a language and a cultural practice yeah, I think people can have whakapapa and that's where it starts and stops. Whereas I think people without it embarking on a journey of language and cultural practice is definitely a step to whakapapa. So I think it's tied in with histories, where we come from I guess yeah. So I think I prefer history [...], which is inclusive of whakapapa but not exclusive which whakapapa might be.*

For some Māori, access to family connections was not as readily available. Durie's (2006) Māori wellbeing model indicates that *whānau* are a crucial contributor to Māori wellbeing. Māori who felt isolated from their *whakapapa whānau* indicated that this lack of access left them with fewer claims to their Māori identity. This point is reified in the following excerpts.

Sam: *I've always found it difficult to have an iwi identity because we were always a bit disconnected from the iwi. I mean, we live 10 minutes away from our marae, but we only went*

*back for hui<sup>23</sup> or tangi<sup>24</sup> or that sort of thing. So we did grow up a little bit disconnected from our iwi identity, so I think I'm focusing on my Māori identity, but I do think eventually I do want to go back and live in [home town] and I think that will be the point where I strengthen that iwi identity.* (Undergraduate)

Hēni: *[My associate] struggled with his whakapapa, having been raised outside of his traditional boundaries, so he really sought the language, and that's facilitated his re-routing back to various hapū and that for him.* (Advanced)

The barriers that Māori experience may be a result of physical access to their *marae*, but also for Māori raised geographically close to their *tūrangawaewae<sup>25</sup>*, there may be issues related to internal *whānau* histories that prevent younger generations from gaining access.

Being engaged with a Māori HL2 community that values *whakapapa* relationships may prompt Māori HL2 learners to invest more in re-engaging with their *whakapapa* relationships at a later date than if they were surrounded by a social ingroup that did not value such concepts.

Bubbles: *Kāore e kore ka mea atu au, he Māori ahau<sup>26</sup>. I love the language, I love the culture, yeah I pretty much love everything about it. [...] a big part [of Māori identity] is having your whānau, your iwi, ērā momo mea<sup>27</sup>, you know... my parents aren't really for that. The only time we ever go to a marae, [is when] someone dies, and that's it. They don't really push us to get to know our whānau. So koinei te take kāore au i te tino<sup>28</sup>...* (Undergraduate)

Further on in the discussion with Bubbles she noted that “[having access to extended whānau/whakapapa relations has] never been a problem for me until 23 gatherings 24 grief ceremonies 25 A place where individuals can claim belonging through whakapapa ties 26 There's no doubt I would say to others I am Māori 27 those types of things 28 that's the reason I don't really... (The participant fades off here, however, it can be assumed perhaps she meant the she didn't feel as strongly comfortable saying that she had a strong Māori identity without having secure whakapapa relationships)

21 An answer other than the language is your blood. If you have Māori blood, you are Māori. However, if we are talking about identity, the types of things that identify your identity, then I would still have to say, from my own experiences, it is the language. The language, and the aspects of the Māori culture, for instance, the protocols, and customs, those things sacred  
22 The use of the term 'iwi' here could be referring to groups of people or cultures



like now.” Similar to Yashima’s (2009) research, individuals who become fully immersed in the learning of a second language tend to adopt cultural values of the target language group. Being surrounded by Māori language speakers who may view cultural concepts, such as *whakapapa*, in high regard, may make Māori HL2 learners own *whakapapa* relationships more salient than before they had become immersed in a Māori HL2 community.

Ana: *Now that I’m learning te reo and I can see, along with the language I’m learning the culture and how my whānau and my whakapapa and all that sort of stuff you feel much more alright. [...] Now I feel like, not only do I have this blood in me but I’m learning about what it means and I also want to help, it develops, learning te reo Māori here at university has developed my confidence in that area, [...] it shows me what’s out there and it sort of reveals, you know, it brings out of the shadows the Māori identity, that I didn’t really know. And the more I learn about it, the more I discuss it with people and you know, what karakias mean, and why we do certain things, and why there’s tapu this, and like you know, I felt much more confident learning te reo.*

The quote above perhaps illustrates that there are a number of overlapping elements between identity markers that are relevant for Māori HL2 learners. *Whakapapa*, *te reo* Māori and the support systems that are developed within each of these culturally affirming groups may act to promote the desire to accentuate aspects of the self that promote a Māori identity.

## Discussion

This study aimed to explore how Māori identities are negotiated in contemporary times, particularly, through the experiences of Māori HL2 learners. Results indicated that many Māori may be exploring their identity through a variety of avenues, of which relationships play a central role. The act of claiming a Māori identity appears to interact with the wider social group and community. Consistent with other research, findings from this study demonstrated that Māori are constantly negotiating their identity position, often in situations clouded by discrimination. Having a support

network, and sense of belonging provides some Māori with resources that are needed in order to cope with being Māori in discriminatory societies. Furthermore, feeling good about being Māori within Māori contexts may enhance individuals feelings of belonging which in turn have a positive impact on health and wellbeing.

Building on findings from other Māori researchers (Borell, 2005; Rata, 2012), Māori who have become disaffiliated from their *iwi* relationships through processes of colonisation, are likely to seek other avenues to achieve a positive collective Māori identity. While Māori in Borell’s study (which included Māori youth in South Auckland) preferred to make salient their geographical location of residence (South-sider identity), and more-so their ethnic identity, Māori HL2 learners in this study chose to invest in relationships with other learners of *te reo* Māori to enhance their collective identity as Māori.

Findings indicated that *te reo* Māori acted as a tool for building relationships within their HL2 *kaupapa whānau*. The ability to create relationships is central for cultures that value interdependence (Markus & Kitayama, 1990). Furthermore, being surrounded by other Māori who were culturally affirming of Māori cultural values, including the value of *whakapapa* relationships, promoted the culture and language as something that was worth investing in. Relationships with both the *kaupapa whānau* and *whakapapa whānau* may be especially important for Māori who are seeking affirmation of their Māori cultural identity.

This research suggests that while there are multiple identity positions that Māori occupy prior to engaging in *te reo* Māori acquisition, there is a tendency towards relational values as they progress in their language studies. Māori cultural values traditionally favour personalised relational collectivism (Durie, 2001) over individualism or depersonalised group collectivism (Brewer & Chen, 2007).

Related to Brewer and Chen’s (2007) relational self-construal, Heine and Lehman (Heine & Lehman, 1999) indicated that in collectivist cultures (i.e. those cultures that prioritise personalised relationships) feeling good about oneself

has less to do with “an individual’s personal feelings and self-evaluations” and “more to do with the feelings and evaluations of others” (p. 916). For Māori who are seeking ingroup belongingness, feeling positive about their Māori identity largely relies on the agreement and support of significant others instead of self-proclamations of ingroup membership.

### *Challenges: Discrimination as a barrier to accentuating a Māori identity*

For some Māori who have experienced repeated exposure to racism and discrimination, it may be a long process before they even want to consider being identified as Māori. Living in an oppressive society has an influence on how indigenous people feel about claiming their identity and, for some, it is simpler just to dis-identify and assimilate into the mainstream (Phinney, Horenczyk, Liebkind & Vedder, 2001). Given the fact that many Māori identify as being both Māori and Pākehā (Kukutai & Callister, 2009), those who can ‘pass’ as Pākehā may choose to do so to avoid discrimination (Tajfel, 1987).

Māori who participated in this study had all made the first step to learn *te reo* Māori, and some had achieved very high/near native levels of Māori language fluency. Therefore the identity positions of this group perhaps do not reflect Māori who have not begun engaging with their heritage language or do not have high levels of access to aspects of Māori culture. Despite these limitations, the collective experiences of this group provide perspectives that are not currently widely articulated in psychology literature.

### *Challenges: Essentialist/ Authenticity beliefs*

Authenticity beliefs tended to be both implicitly and explicitly referred to within the results of this study. Authenticity beliefs tend to act to restrict the number of Māori who feel comfortable claiming a Māori identity, as claiming an ‘authentic’ identity requires the individual to meet a set of pre-defined criteria. These results were consistent with observations from Vedder and Virta (2005) whose research indicated that when a culture views the language as

central to its identity, the language gains importance as a qualifying factor for ingroup membership.

Durie (2001, p.83) acknowledges that “*mana tangata refers to the authority which comes from communities and their people... Collective responsibility, rather than individual brilliance is the norm.*” As a cultural group, it is necessary to take collective responsibility to ensure that all members feel that they have the right to being Māori. Māori within this study were largely supportive of definitions that are inclusive of varying realities as opposed to viewing Māori identities as strict.

A *marae* is able to gain *mana* as a result of extending hospitality, and also by “*maintaining a noticeably high level of activity at the marae*” (Department, n.d) as expressed in multiple *whakataukī*, including, for instance, “*he tangata takahi manuhiri, he marae puehu, he whare pungawerewere*”<sup>29</sup>. A *marae puehu* can be interpreted as a *marae* at which only dust remains (ie without people or interactions), which is a disadvantage to the *haukāinga* on a number of levels. In contemporary contexts, if Māori do not feel that they are able to confidently engage with a space that they have ancestral connections to, due to perceived cultural or linguistic inexperience or inadequacies, such spaces are endangered of being “*marae puehu*”. The outcome of such disconnection could result in negative wellbeing (through a loss of *mana*) for both parties

Furthermore, Māori who view either *te reo* Māori or close relationships with *whakapapa* connections as strict criteria for ingroup membership, but do not have such language skills or access to relationships, may experience detrimental health and wellbeing outcomes. Māori generally already experience discrimination at a rate higher than any other ethnic group in the country, which Māori are indigenous to. For Māori who experience marginalisation in the mainstream, feeling that they are unable to participate in Māori contexts due to processes of colonisation may only enhance such experiences of marginalisation.

The difficulty that Māori language

<sup>29</sup> A *marae* that does not adequately host its guests is likely to become dusty, a house for spiders

speaking communities have is that authenticity beliefs that linked knowledge of *te reo* Māori with being Māori were entrenched since the 1920s after Māori began speaking English in homes (Kāretu, 1991). Authenticity beliefs appear to act as a threat to future generations who may not see the language or culture as worth investing in (King, 2007). From a behavioural perspective, authenticity beliefs use negative reinforcement as a warning to Māori who are non-Māori speakers of the danger of linguistic or cultural assimilation.

There are a number of challenges that lie ahead. From the perspective of linguistic survival, Māori language needs more language speakers and also, Māori need to feel comfortable identifying as Māori without cultural or linguistic pre-requisites given New Zealand’s colonial history. There appears to be a two-pronged approach that is necessary. Māori language speakers appear to hold the power position in Māori dominant environments, therefore, due to the position of power, it is necessary that they are welcoming of non-Māori speakers in such environments. On the other hand, non-Māori speakers must accept that Māori language speaking domains need to be protected in order for the goal of language revitalisation to be achieved, and as such, it must be agreed that there will be times that this group are unable to understand what is being said in Māori language speaking spaces.

Although this study does not assume to generalise the experiences of Māori HL2 learners for other indigenous populations, there are perhaps similarities that could be drawn from this research. Indigenous languages globally are under threat (Fishman, 1996; Simons & Lewis, 2013). For cultures who view language as a central marker of ingroup identity, it is necessary to understand how identity may enhance language learner motivations.

### Conclusion

This study confirmed that Māori identities are dynamic and continue to evolve throughout various life phases. Māori who are engaging with their culture through heritage language learning develop a set of relationships with the others who are culturally affirming. For Māori language to survive and thrive,

it is important that we understand how current language learners are encouraged to sustain their language behaviours. Positive affirmation for their identity as Māori is likely to come from environments that are supportive of a range of Māori identity profiles inclusive of those with perhaps little knowledge of the culture and or language.

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# Normative data for older New Zealanders on the Addenbrooke's Cognitive Examination-Revised

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The purpose of cognitive screening tests is to specify the likelihood of actual cognitive impairment, inferred from the association of the person's score to reference norms. New Zealand is following the trend of developing test norms for cognitive tests for use with older people. The Addenbrooke's Cognitive Examination-Revised (ACE-R) has been a widely used cognitive screening test in New Zealand. Since the withdrawal of the ACE-R due to copyright issues a validation study of the subsequent ACE-III has shown equivalence with the ACE-R. While awaiting development and validation of a 'Kiwi' ACE-III, the present study provides normative data, obtained from a nationwide (population based) sample of 1005 New Zealanders, 45 to 85 years of age, for the ACE-R. The norms are presented for different age groups, sex, New Zealand European and Māori ethnicity and educational bands.

**Keywords:** older adults, cognitive assessment, population norms

To best understand data derived from assessments, a reference point to what constitutes 'normal' performance is required. This frame of reference is provided by normative data which gives the empirical context and represents the range of performances on a particular test. Normative reference groups are considered the 'gold standard' against which an individual's test performance is compared and contrasted (Feigin & Barker-Collo, 2007).

Unfortunately, many tests which are used have a limited range of norms, often excluding those age groups where cognitive decline may begin to occur (Siegert & Cavana, 1997). Lezak (1987) reviewed the ten most commonly used American tests and found that adequate age norms for older people were virtually non-existent. More recently, there has been a concerted effort to collect population-based test norms for older people. For example, the Mayo clinic (Mayo's Older American Normative Studies, MOANS) has developed normative data for Americans aged 55-97 for fifteen different neuropsychological tests measuring many different cognitive functions (Roberts et al., 2009). There have been attempts to develop age appropriate norms suitable for older New Zealanders on neuropsychological tests

with norms developed for: the Rivermead Behavioural Memory Test (Fraser, Glass, & Leathem, 1999), Trail Making Test (Siegert & Cavana, 1997), Rey Auditory Verbal Learning Test (Newlove, 1992), Controlled Oral Word Association Test, Graded Naming Test and the Recognition Memory Test (Harvey & Siegert, 1999). These norms are appropriate for a wide range of older age groups and specific to the New Zealand population.

Results become even more meaningful and accurate when compared to others with as many similar characteristics as possible, (e.g., cultural background, education, age, sex etc). For example, more variance in cognitive assessment scores is found within older age groups; i.e., the older people get, the more heterogeneous their scores become (Hanninen et al., 1996). Education level also impacts on cognitive ability in tests. For example, higher education levels have been associated with reduced variability in cognitive scores over time and a decreased risk in developing cognitive impairments (Christensen et al., 1999). Some cognitive tests take this into consideration by offering a conversion score that takes years of education into account, (e.g., the Montreal Cognitive Assessment, Nasreddine et al., 2005). There are a number of mechanisms that

may explain lower rates of cognitive decline in older people with higher levels of education. First, people with lower education may be at more risk of central nervous system damage (e.g., through illness, poor living conditions or dietary deficiency), (Leibovici, Ritchie, Ledésert, & Touchon, 1996); second, people with higher education may have greater neuronal reserve capacity or integrity and/or reduced risk of neuronal damage (Christensen, 2001; Valenzuela & Sachdev, 2006); thirdly, people with higher levels of education may be better able to generate compensatory strategies (Leibovici et al., 1996) and finally, it is possible that people with higher levels of education may be better at doing paper and pen tests which affords them a higher chance of performing well. Research amongst these hypotheses is limited. However, one study found that people with higher levels of education appear to show greater resistance to change on tests with a high learned component (e.g., tests of language and secondary memory) and that "cognitive functions such as attention, implicit memory and visual-spatial analysis, (which might be postulated to have a higher 'nature' rather than 'nurture' component), are relatively unaffected by level of education" (Leibovici et al., 1996, p. 396). However the more recent Maastricht Aging Study suggests that higher education in general is not a protective factor against normal ageing (Van Dijk et al., 2008). These findings highlight the need to have tests that show sub-domain skills (rather than a global score) due to the possibility that deterioration in other domains may be masked by higher verbal and memory skills.

These demographic issues raise concerns about normative data developed in other countries. For example, the National Adult Reading Test (NART) is based on word pronunciation and was originally developed and standardized on a British population (Nelson, 1991).

Scores on this test are based on British pronunciation and familiarity with words such as “drachm”<sup>1</sup>. This represents a challenge to people unfamiliar with British language and may unduly influence a person’s score (Harvey & Siegert, 1999). Western-based tests used across different cultures may not meet the requirement for a standardised assessment, with those of other cultures possibly being unfairly disadvantaged and over-diagnosed (e.g., false-positives).

Interpretation of assessment results from New Zealanders, using non-New Zealand norms, may be an inaccurate representation of that person’s ability. For example, by virtue of residing in this country, older people have been exposed to different cultural and life experiences, health care, political and social welfare systems to people in other countries. According to the 2008 Dementia Manifesto (Alzheimers New Zealand, 2008), the on-going collection of population-based data is necessary in order to maximise cross-cultural validity. New Zealand has a diverse population comprised of many ethnicities and cultures and as such differs on many socio-demographic, cultural and societal factors compared to normative reference groups from other western countries (Guenole, Englert, & Taylor, 2003; Ogden & McFarlane-Nathan, 1997). Using cognitive assessments without appropriate culturally relevant adaptations, and applying norms derived largely from the western population, has resulted in the overestimation of cognitive impairment in the local populations of developing regions (Mathuranath, Cherian, Mathew et al., 2007) and New Zealand groups (Harvey & Siegert, 1999).

To illustrate the substantial cross-country differences can have on cognitive scores, Table 1 summarises mean scores of the Addenbrooke’s Cognitive Examination-Revised, (ACE-R, Mioshi, Dawson, Mitchell et al., 2006) when used in different countries. The ACE-R has been a commonly used cognitive screening test in New Zealand (Strauss, Leathem, Humphries & Podd, 2012). The studies shown compare a clinical sample to a control group – the non-impaired norm.

1 Drachm is a unit of weight formerly used by apothecaries, equivalent to 60 grains or one eighth of an ounce

Table 1.

*Cross-country ACE-R score difference in control group participants.*

Country	Control Group (N)	ACE-R Mean score	Mean Age (SD)	Education (years)
UK	63	93.7 (4.3)	64.4 (5.7)	12.7 (2.1)
Greece	60	89.1 (7.5)	66.0 (8.9)	10.6 (4.2)
India	135	83.4 (7.2)	68.5 (7.1)	7.90 (5.4)
Japan	62	88.1 (4.3)	66.7 (10.1)	12.3 (3.6)
Spain	32	79.9 (7.6)	74.5 (5.4)	10.9 (1.4)
Korea	84	80.7 (6.0)	67.8 (9.3)	10.1 (4.1)

*Note:* United Kingdom, (Mioshi et al., 2006), Greece Konstantinopoulou et al. (2010), India (Mathuranath, Cherian, Mathew, George & Sarama, 2006), Japan (Slawek, Derejko, & Lass, 2005), Spain (Garcia-Caballero et al., 2006), Korea (Banerjee, Smith, Lamping et al., 2006).

According to one of the cut-off scores proposed in the original ACE-R article (88: sensitivity 0.94, specificity 0.98) (Mioshi et al., 2006), four of these countries’ ‘normative’ samples, (i.e., control groups) would meet criteria for cognitive impairment, including dementia. These findings show the importance of developing specific country norms and cut-offs for screening for cognitive impairment which take into account cultural differences and language barriers between countries. It is also possible that these differences exist within the same country. For example, in Auckland, New Zealand, 56.5 percent of its population identify with the European ethnic group, 18.9 percent with the Asian ethnic group, 14.4 percent with the Pacific peoples ethnic group, and 11.1 percent with the Māori ethnic group (Statistics New Zealand, 2012). Ethnicity is a measure of cultural affiliation and thus reflects the diverse range of cultures and backgrounds in New Zealand. Another factor that may have influenced the differences between samples in Table 1 is educational level. The control group from the original article (Mioshi et al., 2006) was highly educated compared to most other samples. These studies highlight the need for assessments to use appropriately normed reference groups when interpreting individual test scores. Ideally, norms should be developed that match for age, education and ethnicity.

The influence of cultural variation has received little attention in the literature in terms of the validity of psychometric testing, even though researchers agree that validity can be compromised when this is not taken into account and that ethnicity and culture do affect test

scores (Lezak, Howieson, & Loring, 2004; Rosselli & Ardila, 2003). Efforts to examine the influence of culture on cognitive functioning scores have found that New Zealand samples perform lower than normative data would anticipate. For example, the California Verbal Learning Test norms (based on USA samples) placed healthy New Zealand participants, (aged 17 to 81 years) in the 16th percentile (Barker-Collo, Clarkson, Cribb, & Grogan, 2002). In a naming test, (Boston Naming Test) university students based in New Zealand made up to 60% more errors than the American normed population; errors were made on naming items such as pretzel, beaver, globe, funnel and tripod (Barker-Collo, 2001). In an unpublished study of community based New Zealander’s, (aged from 25 to 65+ years), participants had significantly lower scores on the Montreal Cognitive Assessment compared to the original population (Sothieson, 2010). Results of these studies suggest that New Zealanders would obtain lower scores on the ACE-R as well.

Lower scores in comparison to normative samples are likely to result in a larger proportion of New Zealanders being spuriously identified as having deficits (Feigin & Barker-Collo, 2007). One option to counteract these differences is to develop assessments that are more sensitive to our unique population and culture. For example, in the study cited above (Barker-Collo, 2001), New Zealander’s improved their scores considerably when using a New Zealand adapted measure of verbal fluency. Differences in cognitive functioning scores across countries emphasises the need to increase the validity of

assessment by using measures that are appropriate to the context and population they are being used with.

In New Zealand ethnic differences in access to, and quality of, health care, structural change in New Zealand society during the last 20 years and epidemiological risk factors have adversely impacted on Māori (Ajwani, Blakely, Robson, Tobias, & Bonne, 2003; Cunningham & Durie, 1999; Hackwell & Howell, 2002; Sutherland & Alexander, 2002; Tobias & Howden-Chapman, 2000; Tukuitonga & Bindman, 2002; Westbrooke, Baxter, & Hogan, 2001). It is highly plausible that the widening social inequalities between ethnic groups have in turn led to widening health inequalities; with performance in cognitive functioning tests being one potential consequence of these inequalities. In fact, ethnic variation is found within New Zealand on performance in neuropsychological tests; with Māori participants performing significantly lower than European participants (Ogden & McFarlane-Nathan, 1997). A person of Māori descent who sustains a head injury, and is assessed with neuropsychology tests developed and normed in the UK or the USA, can show impairments that are more to do with cultural bias of the tests than any effects of brain damage (Ogden, 2001). This is not surprising, given that most standard measures are based on Western schooling and assumptions that favour those from “Western” backgrounds (Rosselli & Ardila, 2003). Dudley, Wilson and Barker-Collo (2014) found Māori clients reported a need for cultural responsiveness from clinicians and cited the failure of the predominant Euro-western paradigm in recognising Māori identity within the therapeutic environment. When cognitive assessments have been translated into Te Reo for Māori speakers, Māori participants show performances that are equal or better than European participants (Ogden & McFarlane-Nathan, 1997). This emphasizes the need for New Zealand-based norms in order to create valid assessment and accurate diagnosis for unique population groups.

### Summary

When making decisions about an individual’s cognitive abilities it is vital

to compare them to a similarly matched reference group to avoid biases impacting on interpretation of scores. Research generally shows that there are significant differences in scores cross-country and cross-culturally. To improve validity of assessment, these measures need to be appropriate to the context and population they are being used with, (Barker-Collo, 2001; Barker-Collo et al., 2002; Feigin & Barker-Collo, 2007). The inclusion in longitudinal large scale health studies of valid and reliable cognitive assessment tools, that have been normed specifically for New Zealand older adults, will provide more accurate assessment and more valid interpretation of test results.

The aim of this paper is to we provide normative data for the ACE-R from a population-based sample of older New Zealanders for the whole sample as well as those for four age groups, education, ethnicity and gender.

## Method

### Participants

The current sample of 1005 participants was drawn from a population sample collected as part of the New Zealand Longitudinal Study of Ageing (NZLSA). NZLSA expands on the earlier Health, Work and Retirement study (HWR) which recruited a representative sample of older New Zealanders from the New Zealand electoral roll in 2006 aged 55 to 70 years. In 2010 the sample was expanded to include younger and older age groups (ranging from 45-84) and became the New Zealand Longitudinal Study of Ageing (NZLSA); a population-level study. The specific aims of NZLSA are to make observations and test hypotheses about the contributions to ageing people’s quality of life within four broad areas: economic participation (e.g. meaning of work, employment, retirement); social participation (e.g. social support, social capital, civic participation); intergenerational transfers (e.g. family care, income, wealth); resilience and health (e.g. physical, emotional, cognitive). Ethics approval for the research was obtained by the Massey University Human Ethics Committee: Southern B, Application 10/23.

A total pool of 4,339 older New Zealanders were invited to participate

in the first NZLSA postal data collection wave in 2010, and comprised (1) HWR participants who participated in the 2008 data collection wave, (2) HWR participants from 2006 who consented to re-enter the study, (3) participants from a related cross-sectional study of retirement planning at Massey University, (4) participants from a pilot study conducted on the NZLSA survey questionnaire, and (5) New Zealanders randomly selected from the New Zealand Electoral Roll to increase the numbers of respondents at the younger (i.e., 45-54) and older (i.e., 70-84) age groups. These groups were sampled from the New Zealand Electoral Roll using the same sampling framework. Māori over-sampling was specifically undertaken during participant selection for NZLSA. A total of 3,312 (76%) from the pool completed NZLSA Wave 1 questionnaires (2010). For more details of the original sampling procedure see Alpass et al., (2007).

The current sample was recruited through the NZLSA database from people who volunteered to have face to face interviews. The present sample study is comprised of 1005 participants; 47.6% male and 52.4% female. Age ranged from 48-83<sup>2</sup> years with a mean age of 61.9 (SD 7.79). Participants were grouped into four age brackets for normative purposes. Those above 75 years and over (n= 81), those aged from 65 to 74 years (n=340), those aged from 55 to 64 years (n=430) and those aged below 55 years (n=152). A large percentage were well educated, having either tertiary education (n= 222, 22.1%) or at least post-secondary or trade qualifications (n=366, 36.4%). Over half the sample were married (n=630, 62.6%) and the majority of the sample described themselves as New Zealand European (n=883, 87.8%). Table 2 compares the participants’ demographic data with that of the census data from 2006.

<sup>2</sup> The sampling frame was designed to recruit 50 to 84 year olds. Due to the nature of the New Zealand electoral roll which only includes year of birth and not date of birth, and the date of recruitment (May 2010), a number of participants aged less than 50 years were also included in the sample.

Table 2.

Characteristics of NZLSA weighted face to face study population compared to general population using census data from 2006.

	% NZLSA sample aged 48-84, N=1005	% General population (2006) aged 45-84, N=1,453,194,
<b>Sex</b>		
Male	45.6	47.6
Female	54.1	52.3
<b>Age</b>		
45-54	29.7	38.4
55-64	36.8	30.0
65-74	22.9	19.4
75-84	10.6	12.2
<b>Primary Ethnic Group</b>		
<b>Affiliation</b>		
Pakeha/New Zealander or European	86.2	71.1
Māori	7.6	7.6
Pacific Island	0.6	3.2
Asian	1.9	5.5
Other	3.7	12.6
<b>Marital Status</b>		
Married	63.4	59.9
Civil Union/De facto	6.9	.*
Same Sex Civil Union/De Facto	1.5	.*
Divorced/Separated	11.1	14.9
Widow or Widower	11.0	11.7
Single	5.7	7.2
Missing	-	6.3
<b>Highest Qualification</b>		
No Qualifications	17.4	37.2
Secondary School	22.4	27.9
Post-Secondary /trade	36.4	25.4
University Degree	22.1	10.0

\*Data not available by age group

The current sample represents 0.05% of the total New Zealand population aged over 45 years. HWR and NZLSA over-sampled for Māori and a post-stratified weighting variable was calculated to account for known discrepancies between the sample and the population. Compared to the general population aged over 45, the current sample were more highly educated, under-sampled in the 45-54 age group and 75+ age group and had a greater proportion of people in the 55-64 and 65-74 age groups. Pacific Peoples and Asian ethnic groups were under represented.

### Procedure

Face-to-face interviews were conducted nationwide with a voluntary subset of the 2010 postal survey responders (N=1005) who resided independently in the community. Participants were interviewed in their own home. Interviewers were given specific training in administering questionnaires and tests, with adherence to test manual instructions. The authors were not interviewers. Participants were re-interviewed and assessed in 2012 (N=875).

### Materials

Participants completed the 'Kiwi' ACE-R as part of a battery of scales and items used in both face-to-face interviews. Other measures included questions relating to demographics, income and assets, future housing intentions, depression symptoms and anxiety symptoms. Interviews took around one hour to complete. For the purposes of the present study, only demographic and cognitive functioning measures are described.

### Addenbrooke's Cognitive Examination Revised (ACE-R, Mioshi et al., 2006).

The ACE-R is a cognitive screening measure for dementia. It was developed originally in 2000 (Mathuranath, Nestor, Berrios, Rakowicz & Hodges., 2000), and revised in 2006 (Mioshi et al., 2006), as an improvement on the Mini Mental State Examination (MMSE, Folstein, Folstein & McHugh, 1975) with lower ceiling effects (expanding the points available), improved sensitivity, and assessment of more cognitive domains, particularly



components for memory and frontal/executive functioning (Mathuranath et al., 2000). The ACE-R includes the MMSE within it, but has extra non-MMSE items which improve estimates of cognitive ability by 16% compared to the MMSE (Law, Connelly, Randall et al., 2012). The ACE-R was developed and normed in the United Kingdom and includes norms for clinical and non-clinical populations. The ACE-R has good psychometric properties, with very good internal consistency, ( $\alpha=0.80$ ) and significant concurrent validity, (as measured by the correlation coefficient between the ACE-R and the Clinical Dementia Rating Scale,  $-0.32$ ). No significant age or education effect on scores were found (Mioshi et al., 2006).

The measure includes items assessing the cognitive domains of: attention and orientation (e.g., what is the date?), fluency (e.g., naming words beginning with F), language (e.g., writing sentences and repeating words), visual-spatial (e.g., copying a pentagon and drawing a clock face) and memory (e.g., short term, long term, anterograde and retrograde tasks). There are a total of 100 points available across the five domains and it takes 10-15 minutes to administer.

In the past decade the ACE-R has been cited as a potentially useful screening tool in guideline documents by the National Institute for Health and Clinical Excellence (2006). It has been used in one community-based longitudinal study, (Larner, 2009) with adults (aged 24 to 85 years) who were recruited from a cognitive function clinic in the United Kingdom. The ACE-R showed value in repeat testing over a 6-46 month period and was sensitive to cognitive decline, stability and improvement. It was deemed a good measure for cross-sectional and longitudinal assessment of cognitive disorders. Community norms have also been developed in a cross-sectional study with healthy adult volunteers (aged 50-85 years), residing in Brazil, (Amaral-Carvalho & Caramelli, 2012). The study found that years of education affected all ACE-R sub-scores and age influenced the verbal fluency sub-score and the ACE-R total score. Sex affected the attention and orientation and MMSE sub-scores, but not the ACE-R total

score. These studies suggest that the Addenbrooke scale has potential use in large community based and longitudinal studies and that age, education and sex need to be considered in the analysis of results.

The ACE-R has been modified for use with New Zealanders, (the 'Kiwi' ACE-R; Taylor, 2008) and permission was obtained from the developers to use the modified version in the NZLSA face-to-face interviews. In accordance with suggestions from the developers, more site specific anterograde, retrograde and delayed recall memory components were modified to make the ACE-R more culturally acceptable. For example, using a New Zealand address in memory tasks and recalling the current New Zealand Prime Minister rather than the United States of America President. Other countries have followed these suggested guideline changes and have found little change to the psychometric properties of the measure (Alexopoulos, Mioshi, Greim & Kurz., 2007; Garcia-Caballero Garcia-Lado, Gonzalez-Hermida et al., 2006; Konstantinopoulou, Kosmidis, Kiosseoglou, Karacostas & Taskos, 2010). In the present study alternate versions were used in 2010 and 2012. The same cut-off scores are used as developed for the original ACE-R (82: sensitivity=0.84, specificity=1.00; and 88: sensitivity=0.94, specificity=0.98) (Mioshi et al., 2006).

### *Supplementary Cognitive Measures.*

To allow for cross-country comparisons, further cognitive measures used in a large representative longitudinal study in the United States, the Health and Retirement Study (HRS), were included in the NZLSA face-to-face interviews in 2010. The questions include items from existing measures, the Wechsler Intelligence Scale-Revised (WAIS-R, Wechsler, 1981) and the Telephone Interview for Cognitive Status (TICS, Brandt, Spencer & Folstein, 1988). They include items that assess memory, (e.g., immediate, delayed and working), mental status, (e.g., knowledge, language and orientation), abstract reasoning, (e.g., similarities subtest), vocabulary, (e.g., definitions) and numeracy, (e.g., maths problems). Results from the HRS sample are publicly available and

allow for cross-nation comparisons of cognitive ability on these items.

## **Results**

### *Data Analyses*

All statistical analyses were conducted using the Statistical Package for Social Sciences, SPSS (version 20.0, Chicago, IL). Pearson's correlations were used to assess the direction and strength between variables. Student T-tests and Analysis of Variance (ANOVA) were used to test for differences between groups, and where significant, post-hoc analyses were used to explore differences between sub groups. Effect sizes were calculated using  $\eta^2$  or Cohen's  $d$ .

'Kiwi' ACE-R scores.

Scores on the 'Kiwi' ACE-R ranged from 56-100 at Time 1. The mean was 93.65 and the standard deviation (SD) was 5.10. The total ACE-R score in this sample did not differ significantly from the original normed sample ( $M=93.7$ ,  $SD=4.30$ ),  $t(1066) = -0.07$ ,  $p<0.94$ , or on any of the sub-domains. Table 3 shows a summary of the ACE-R total score and sub-domain scores at Time 1 and Time 2. There was a slight drop in mean ACE-R total scores between Time 1 and Time 2 and a paired sample t-test showed this change was significant,  $p<.001$ . Attention/orientation, memory and visual-spatial subscales also demonstrated significantly lower means at Time 2. Just over half those who were retested had a decrease in ACE-R score between waves (474, 54.4%), while 34% improved. Around a quarter of those whose scores declined (102) did so by only one point (23%). A further 250 (52.7%) declined between 2 and 5 points, 93 (20%) between 6 and 10 points, and 23 participants (4.8%) declined by over 11 points. Comparing those who declined to those who stayed the same or improved, decliners were older (mean difference 1.24 years,  $p<.05$ ) and were more likely to rate their memory as poorer now (2012) than it had been at Time 1 ( $p<.001$ ).

### *Normality.*

'Kiwi' ACE-R scores, for the current sample, approximate a normal distribution curve. The data was highly

Table 3.

'Kiwi' ACE-R Total and sub-domain scores (n=1005 at T1, n=875 at T2).

Domain (points available)		Min.	Max.	Mean(sd)	p
ACE-R total (100)	T1	56	100	93.65 (5.10)	<.001
	T2	52	100	92.15 (6.36)	
Attention/Orientation (18)	T1	12	18	17.85 (0.52)	<.05
	T2	13	18	17.76 (0.65)	
Memory (26)	T1	5	26	23.89 (2.46)	<.001
	T2	5	26	23.25 (3.05)	
Verbal Fluency (14)	T1	0	14	11.55 (2.06)	ns
	T2	0	14	11.38 (2.21)	
Language (26)	T1	14	26	24.95 (1.57)	ns
	T2	10	29	24.84 (1.74)	
Visual-spatial (16)	T1	10	16	15.39 (0.97)	<.001
	T2	8	16	14.91 (1.26)	

**Reliability and validity.**

The Chronbach's alpha measuring internal consistency was  $\alpha = 0.70$ . Alpha was derived from totals of sub-domain items (n=26). Total 'Kiwi' ACE-R score correlated highly with all of the sub-domains; Pearson correlations are shown in Table 4.

'Kiwi' ACE-R), Free Recall ( $r=0.50$ ,  $p<0.001$ ) (TICS), Delayed Recall ( $r=0.52$ ,  $p<0.001$ ) (TICS), Numeracy ( $r=0.37$ ,  $p<0.001$ ) (adapted from Lipkus, Samsa, and Rimer [2001], see Ofstedal et al., 2005 for more detail), Word Similarity ( $r=0.46$ ,  $p<0.001$ ) (WAIS-R) and Word Meaning ( $r=0.47$ ,  $p<0.001$ )

Table 4.

Pearson's correlations (R) of the 'Kiwi' ACE-R total and sub-domain scores.

	'Kiwi' ACE-R	Attention/Orientation	Memory	Verbal Fluency	Language	Visual-spatial
ACE-R	1	0.38**	0.77**	0.70**	0.71**	0.44**
Attention/Orientation		1	0.21**	0.17**	0.28**	0.10**
Memory			1	0.28**	0.40**	0.19**
Verbal Fluency				1	0.35**	0.20**
Language					1	0.22**
Visual-spatial						1

\*\* Correlation is significant at  $p<0.00$

Concurrent validity was assessed through Pearson correlations with other cognitive tasks included in the interviews. Total 'Kiwi' ACE-R scores in this sample correlated significantly with most other cognitive tasks: MMSE ( $r=0.67$ ,  $p<0.001$ ) (embedded in the

(WAIS-R). These results are suggestive of good concurrent validity. No other studies have researched the association of the 'Kiwi' ACE-R with non-dementia related cognitive scales. The correlation between Time 1 and Time 2 ACE-R total scores was  $r=.73$ ,  $p<.001$ , suggesting

good test-retest reliability.

**Normative data stratified by significant demographic variables.**

The 'Kiwi' ACE-R showed significant associations with the demographic variables, age, education, ethnicity and sex. Thus norms are provided for each of these demographic parameters.

**Age.** One way ANOVA showed a main effect for age on 'Kiwi' ACE-R scores,  $F(3, 951) = 36.58$ ;  $p<.00$ ,  $\eta^2 = 0.10$ , (medium effect). Post hoc comparisons using the Tamahane's 2 (unequal variances) test indicated that older age groups had significantly lower scores than younger age groups. The largest mean difference was  $-5.12$  which was between the two age groups  $<55$  and  $75+$ . Significant differences between the age groups also occurred within the sub-domains when the age gap was at least ten years (except in the attention/orientation domain). The mean scores for the four different age groups are given in Table 5. Age remained significant when education, gender and ethnicity were controlled, [ $F(6, 932) = 33.13$ ,  $p<.00$ ,  $\eta^2 = 0.17$ ], suggesting it would be appropriate to provide norms by age group.

**Education.** Analysis of variance showed a significant main effect for education level on 'Kiwi' ACE-R score,  $F(3, 937) = 31.28$ ,  $p<.00$ ,  $\eta^2 = 0.09$  (medium effect). Post hoc analyses using Tamahane's 2 (unequal variances) test showed that people with tertiary qualifications had significantly higher 'Kiwi' ACE-R scores ( $M=95.3$ ,  $SD=4.8$ ) than all other levels of education; post-secondary/trade ( $M=94.1$ ,  $SD=4.3$ ), secondary school ( $M=93.5$ ,  $SD=4.6$ ) and no qualifications ( $M=90.0$ ,  $SD=6.0$ ). The largest mean difference was between tertiary and no qualifications (Mean difference=  $4.64$ ). No significant differences were found between post-secondary/trade qualifications and secondary school qualifications. When age, ethnicity and sex were controlled for education remained significant [ $F(6, 932) = 32.16$ ,  $p<.00$ ,  $\eta^2 = 0.17$ ]. Table 6 shows the mean and standard deviation for each education group, across 'Kiwi' ACE-R domains.

**Table 5.** Weighted mean scores (standard deviation) on total 'Kiwi' ACE-R and 5 domain sub-scales across our age groups.

Age Group	N <sup>1</sup>	'Kiwi' ACE-R	Attention/Orientation	Memory	Verbal Fluency	Language	Visual-spatial
(confidence interval)							
45-85	1001 <sup>2</sup>	93.65 (5.10)	17.85 (0.52)	23.89 (2.46)	11.55 (2.06)	24.95 (1.57)	15.39 (0.97)
95% CI		93.33-93.96	17.82-17.88	23.74-24.04	11.42-11.67	24.85-25.04	15.33-15.45
<55	298	95.01 (4.02)	17.91 (0.35)	24.19 (2.10)	12.10 (1.84)	25.27 (1.31)	15.59 (0.83)
95% CI		94.53-95.48	17.87-17.95	23.91-24.39	11.89-12.30	25.10-25.40	15.48-15.67
55-64	368	94.42 (4.27)	17.87 (0.36)	24.30 (2.21)	11.70 (1.90)	25.11 (1.36)	15.50 (0.82)
95% CI		93.99-94.86	17.84-17.91	24.04-24.49	11.50-11.89	24.94-25.23	15.40-15.57
65-74	230	92.34 (6.04)	17.76 (0.81)	23.53 (2.81)	11.08 (2.27)	24.79 (1.55)	15.15 (1.14)
95% CI		91.55-93.12	17.65-17.87	23.17-23.89	10.79-11.39	24.56-25.98	15.02-15.32
75+	105	90.12 (5.67)	17.85 (0.38)	22.59 (2.81)	10.43 (1.96)	24.09 (2.02)	14.97 (1.19)
95% CI		89.03-91.21	17.77-17.93	22.14-23.22	10.06-10.86	23.75-24.49	14.76-15.22

<sup>1</sup> Weighted Ns  
<sup>2</sup> Lower N is due to missing data for age group (i.e., data for participant age is missing for four participants).

**Table 6:** Weighted means (standard deviations) for 'Kiwi' ACE-R score by highest qualification attained and by age group.

Education Level	N <sup>1</sup>	'Kiwi' ACE-R	Attention/Orientation	Memory	Verbal Fluency	Language	Visual-spatial
<b>No qualifications</b>							
45-85	175	90.92 (6.13)	17.69 (0.71)	23.02 (2.95)	10.68 (2.21)	24.35 (2.05)	15.16 (1.21)
95% CI		90.01-91.83	17.58-17.80	22.58-23.46	10.35-11.01	24.04-24.65	14.98-15.34
<55	34	93.54 (5.74)	17.74 (0.61)	23.76 (2.05)	11.59 (2.29)	24.69 (2.35)	15.76 (0.43)
55-64	61	92.54 (1.56)	17.81 (0.46)	23.35 (3.19)	11.15 (1.59)	24.71 (1.46)	15.49 (0.89)
65-74	56	88.91 (6.63)	17.61 (0.95)	22.55 (3.01)	9.77 (2.58)	24.29 (1.85)	14.68 (0.19)
75+	23	88.05 (6.59)	17.56 (0.73)	22.26 (3.19)	10.19 (1.70)	23.52 (2.59)	14.49 (1.37)
<b>Secondary school</b>							
45-85	225	93.61 (4.97)	17.88 (0.37)	23.97 (2.45)	11.42 (2.02)	24.93 (1.75)	15.39 (0.92)
95% CI		92.96-94.26	17.83-17.93	23.65-24.29	11.15-11.68	24.70-25.15	15.27-15.51
<55	69	93.54 (5.74)	17.91 (0.33)	24.82 (1.51)	11.81 (2.19)	25.35 (1.32)	15.59 (0.78)
55-64	78	92.98 (5.43)	17.85 (0.39)	23.90 (2.32)	11.18 (2.20)	24.64 (2.18)	15.36 (0.98)
65-74	57	93.65 (4.09)	17.87 (0.41)	23.83 (2.76)	11.57 (1.54)	25.06 (1.14)	15.31 (0.89)
75+	22	89.84 (5.50)	17.91 (0.28)	21.83 (3.07)	10.67 (1.68)	24.29 (2.23)	15.13 (1.11)
<b>Post-secondary /trade</b>							
45-85							
95% CI	336	94.15 (4.11)	17.90 (0.37)	24.11 (2.25)	11.64 (1.96)	25.07 (1.25)	15.41 (0.91)
		93.73-94.57	17.86-17.94	23.88-24.34	11.43-11.84	24.94-25.20	15.31-15.50
<55							
55-64	95	94.38 (4.11)	17.94 (0.22)	24.06 (2.55)	11.79 (1.52)	25.14 (1.32)	15.58 (0.67)
65-74	162	94.92 (3.52)	17.88 (0.40)	24.49 (1.84)	11.82 (1.91)	25.23 (1.08)	15.46 (0.79)
75+	74	93.38 (4.71)	17.87 (0.49)	23.86 (2.39)	11.39 (2.31)	24.97 (1.27)	15.26 (1.08)
	35	91.58 (4.17)	17.56 (0.73)	23.48 (2.60)	10.86 (2.24)	24.33 (1.54)	14.99 (1.33)
<b>Tertiary</b>							
45-85	222	95.55 (4.52)	17.86 (0.64)	24.32 (2.15)	12.42 (1.63)	25.36 (1.19)	15.57 (0.91)
95% CI		94.96-96.15	17.78-17.95	24.03-24.60	12.21-12.63	25.21-25.52	15.45-15.69
<55	101	95.73 (3.47)	17.92 (0.35)	24.06 (2.03)	12.74 (1.38)	25.48 (0.71)	15.50 (1.07)
55-64	68	96.54 (2.66)	17.90 (0.29)	24.90 (1.51)	12.45 (1.51)	25.59 (0.68)	15.68 (0.67)
65-74	41	93.34 (7.87)	17.60 (1.34)	23.92 (3.13)	11.67 (2.20)	24.63 (2.23)	15.50 (0.86)
75+	12	95.88 (3.16)	17.90 (0.30)	24.55 (1.64)	12.05 (1.21)	25.55 (0.67)	15.72 (0.71)

*Ethnicity.* Analysis of variance showed a significant main effect for ethnicity,  $F(4, 952) = 3.33, p < .00, \eta^2 = 0.01$  (small effect). When age, education and sex were controlled for this main effect increased in significance,  $[F(7, 932) = 31.67, p < .00, \eta^2 = 0.19]$ . Post-hoc Bonferroni analyses showed that New Zealand Europeans ( $M = 93.84, SD = 4.7$ ) scored significantly higher than Māori ( $M = 92.07, SD = 6.29$ , mean difference = 1.77) and Pacific Peoples ( $M = 87.6, SD = 18.64$ , mean difference = 6.22). There were no significant differences between Māori and New Zealand European scores on the 'Kiwi' ACE-R domain scores. Table 7 shows the 'Kiwi' ACE-R mean scores (standard deviations) and 95% confidence intervals broken down by two ethnic groups (New Zealand European and Māori) and across the four different age groups. Sample sizes for other ethnic groups were too small to warrant subsample analysis (e.g., by age).

*Gender.* When examining the sample as a whole, there was a significant gender difference. A two-tailed t-test of independent means showed that females scored significantly higher on the ACE-R ( $M = 94.58, SD = 4.65$ ), than males ( $M = 92.70, SD = 5.36$ ),  $t(944) = -5.91, p < .00, d = -0.37$  (medium effect). Levene's test indicated unequal variances ( $F = 13.82, p = 0.001$ ), so degrees of freedom were adjusted. This effect remained significant and increased when age, education and ethnicity were controlled for  $[F(4, 932) = 46.40, p < .001, \eta^2 = 0.16]$ . Women performed significantly better in the domains of fluency, language and memory and also were better at free recall and delayed recall of word lists. Table 8 shows the 'Kiwi' ACE-R means (standard deviations) and 95% confidence intervals for males and females for the sample as a whole and across the four age groups.

**Explaining the variance.**

Age, education, ethnicity (Māori and New Zealand European) and sex individually explained 9-19% of the variance in 'Kiwi' ACE-R score. When

these variables were entered as predictors into a linear regression model, controlling for the covariance effects, together they explained 19.8% of the variance [F (4, 919) = 57.66, p<.00]. This suggests that there is a large interaction between the variables, [F (4, 870) = 2.53, p<.04].

**Outliers.**

Exploratory data analyses were conducted to identify outliers in the distributions of scores for the 'Kiwi' ACE-R. Statistical analysis of the sample was suggestive that participants who scored equal to, or less than 84 (N=50), were considered outliers (at or below the 5th percentile), suggesting an inability to understand instructions, difficulty with performance due to sensory or motor disorder, or cognitive decline due to degenerative neurological disorder. It is possible that the sample contained cases of undiagnosed mild cognitive impairment or early stage degenerative dementia. Compared to the sample that scored >84, the 5th percentile group were more likely to have no qualifications (40.2% vs. 16.2%), be male (63.7% vs. 46.5%) and older 75+, (29.4% vs. 9.5%). Māori participants made up 16.5% of the 5th percentile group compared to only 7.1% of the higher scoring group. Outliers were maintained in this data set as it is a normative sample, and as such, top and bottom scorers are included.

Table 7.

Weighted 'Kiwi' ACE-R and sub-domain means, (standard deviations) and 95% confidence intervals for New Zealand European and Māori by age group.

Age Group	N <sup>1</sup>	'Kiwi' ACE-R	Attention/ orientation	Memory	Verbal Fluency	Language	Visual-spatial
<b>New Zealand European</b>							
45-85	862	93.84 (4.73)	17.86 (0.47)	24.01 (2.25)	11.55 (2.03)	24.99 (1.48)	15.41 (0.95)
95% CI		93.53-94.1	17.84-17.89	23.86-24.16	11.41-11.68	24.89- 25.09	15.35-15.47
<55	247	95.45 (3.47)	17.93 (0.29)	24.32 (1.93)	12.14 (1.73)	25.38 (1.10)	15.62 (0.71)
55-64	315	94.6 (3.93)	17.87 (0.37)	24.38 (1.93)	11.69 (1.91)	25.12 (1.39)	15.52 (0.82)
65-74	202	92.5 (5.39)	17.78 (0.76)	23.67 (2.61)	11.13 (2.27)	24.82 (1.43)	15.21 (1.13)
75+	98	90.01 (5.55)	17.88 (0.32)	22.79 (2.66)	10.46 (2.05)	24.08 (1.94)	14.96 (1.20)
<b>Māori</b>							
45-85	76	92.07 (6.29)	17.77 (0.65)	23.22 (3.25)	11.50 (2.32)	24.52 (2.07)	15.48 (0.85)
95% CI		90.63-93.50	17.62-17.92	22.48- 23.96	10.53-11.58	24.05-24.99	15.29-15.68
<55	32	92.93 (6.4)	17.70 (0.69)	23.89 (2.22)	11.27 (2.48)	24.40 (2.44)	15.62 (0.57)
55-64	30	92.08 (6.48)	17.87 (0.46)	23.03 (4.02)	10.99 (2.13)	24.61 (1.82)	15.35 (1.00)
65-74	10	91.25 (4.78)	17.81 (0.75)	22.38 (3.00)	10.56 (2.31)	24.83 (1.52)	15.55 (0.88)
75+	4	89.29 (9.91)	17.50 (1.27)	21.49 (4.37)	11.05 (3.03)	24.04 (2.29)	15.19 (1.46)

<sup>1</sup> Weighted Ns

Table 8.

Weighted means (standard deviations) and 95% confidence interval for 'Kiwi' ACE-R scores across sex and age group.

Age Group	N <sup>1</sup>	'Kiwi' ACE-R	Attention/ Orientation	Memory	Verbal Fluency	Language	Visual-spatial
<b>Male</b>							
45-85	475	92.69 (5.35)	17.86 (0.42)	23.41 (2.67)	11.21 (2.15)	24.78 (1.67)	15.41 (0.97)
95% CI		92.21-93.17	17.83-17.90	23.17-23.65	11.01-11.40	24.63-24.93	15.33-15.50
>55	134	93.49 (4.87)	17.88 (0.41)	23.52 (2.50)	11.74 (1.82)	24.79 (1.69)	15.54 (0.96)
55-64	177	93.67 (4.88)	17.88 (0.33)	23.93 (2.47)	11.33 (2.06)	24.95 (1.69)	15.56 (0.78)
65-74	117	92.24 (5.30)	17.81 (0.53)	23.35 (2.78)	10.92 (2.43)	24.90 (1.32)	15.24 (1.09)
75+	47	87.87 (5.92)	17.89 (0.41)	21.28 (2.63)	9.90 (1.96)	23.85 (2.03)	14.94 (1.16)
<b>Female</b>							
45-85	524	94.58 (4.64)	17.85 (0.58)	24.34 (2.15)	11.86 (1.93)	25.14 (1.38)	15.37 (0.97)
95% CI		94.18-94.97	17.80-17.90	24.16-24.53	11.69-12.02	25.02-25.26	15.29- 15.46
>55	164	96.24 (2.95)	17.93 (0.30)	24.67 (1.61)	12.39 (1.74)	25.63 (0.77)	15.61 (0.71)
55-64	191	95.12 (3.49)	17.87 (0.40)	24.57 (1.92)	12.02 (1.70)	25.22 (1.14)	15.42 (0.88)
65-74	111	92.57 (6.65)	17.71 (1.04)	23.76 (2.83)	11.28 (2.17)	24.69 (1.82)	15.12 (1.18)
75+	58	91.95 (4.78)	17.82 (0.43)	23.81 (2.44)	10.92 (2.04)	24.34 (1.84)	15.04 (1.23)

<sup>1</sup> Weighted Ns

**Cognitive Impairment.**

Based on the lower suggested ACE-R cut-off score for cognitive impairment in the original development paper, (82: sensitivity = 0.84, specificity = 1.0), 33 people (3.29%) would be classified as cognitively impaired. Impairment generally increased across age groups. Percentage of participants that scored below the cut-off for each age group are: <55 (3.35%), 56-64 (1.35%), 65-74 (4.78%), 75+ (6.66%). Using a cut-off score of 76.5 (sensitivity 84.5% and specificity 79.6%), derived from a clinical group of older New Zealanders (aged 75 years +) (Strauss et al., 2012 ), 1.1% of this current community based nationwide sample would be classified as cognitively impaired. Using a more widely accepted cut-off for suspected dementia (>2 standard deviations below a standardized norm mean, ACE-R score of <83.2), then 4.2% of this sample may show signs of cognitive impairment (and possibly dementia). This latter prevalence rate is similar to other community samples such as the HRS study which estimated an impairment rate of 6% of those aged 70+ living in the community (Suthers et al., 2003). It is possible that the lower rate in this

New Zealand sample is an illustration of sampling from a variety of age groups as opposed to just over 70 year olds.

## Discussion

The aim of this study was to assess cognitive functioning in older community dwelling New Zealanders and provide demographically stratified national norms for the 'Kiwi' ACE-R.

As expected, the 'Kiwi' ACE-R score was highly correlated with the MMSE and other measures of cognitive ability (comprehension, abstract reasoning and free/delayed memory recall). This suggests that the ACE-R shows good concurrent validity. The alpha coefficient for the 'Kiwi' ACE-R was acceptable based on the recommendation of alpha 0.70 (Chronbach, 1951). Other research using the ACE and the ACE-R report alpha levels ranging from 0.80-0.92 (Garcia-Caballero et al., 2006; Konstantinopoulou et al., 2010; Lerner, 2007; Mathuranath et al., 2007; Mioshi et al., 2006) or are unknown, (Alexopoulos et al., 2007; Chade, Roca, Torralva et al., 2008; Jones, Franczak, & Antuono, 2008; Law, Connelly, Randall et al., 2012; Tarek & Gaber, 2008). It is possible that the current study had a lower alpha level compared to other research because the 'Kiwi' ACE-R was being used with a non-clinical sample, and therefore the items in the test created less variance and there was more chance of ceiling effects.

On a number of items all participants scored the maximum points available, (e.g., fragmented letters) or very high in domains, (e.g., 98% scored top points in the attention/orientation domain). This suggests that some items show ceiling effects and are not as good at differentiating between cognitively intact participants and cognitively impaired participants. This will likely impact evidence of cognitive improvement in future testing. For example, if participants score the highest possible points, any improvements that may occur in their cognitive functioning ability will not show within these items or sub-domains. The addition of more difficult items should be explored to address potential ceiling effects in non-clinical populations.

Results suggest that scores on the 'Kiwi' ACE-R do not significantly differ

from the original normed control group (Mioshi et al., 2006). The original group were highly educated, (like the present sample) and had a similar mean age. Matching on these two domains likely increased the chances that scores would be similar. These scores suggest that this New Zealand community sample show similar cognitive functioning levels as the United Kingdom group and that the changes made to the 'Kiwi' ACE-R to make it more culturally acceptable did not affect the integrity of the assessment.

The finding that age impacts on 'Kiwi' ACE-R scores reflects previous research that shows cognitive ability declines with age (Albert, Jones, Savage et al., 1993; Christensen et al., 1999; Cullum, Huppert, McGee et al., 2000; Salthouse, 2002) and supports the use of 'Kiwi' ACE-R score age stratified norms (Mioshi et al., 2006). In the future it may be useful, (if sample size permits) to categorise the older age groups into smaller age ranges due to the increased heterogeneity in older age group samples on cognitive testing (Mungas, Beckett, Harvey et al., 2010).

The education effect on 'Kiwi' ACE-R score was significant in this study, showing that people with higher qualifications perform better on the 'Kiwi' ACE-R. Other studies have reported mixed results on the impact of education. In the original normed sample education had little effect on scores; however, the control sample was matched in age to the clinical samples which effectively controlled for educational level (Mioshi et al., 2006). In a Spanish validation study education was dichotomised into less than or greater than 14 years. Significantly different mean original ACE-R scores were found for the two groups and this prompted the development of different cut-off scores for impairment (Garcia-Caballero et al., 2006). Furthermore, a Malayan validation study found education level was the only demographic parameter that affected the original ACE and thus education-stratified cut-off scores were developed (Mathuranath et al., 2000). More recently, a study found that performance of healthy middle-aged and older individuals on the ACE-R was strongly influenced by education and, to a lesser extent, by age (Amaral-Carvalho & Caramelli, 2012). It is possible

that the high level of education in the present sample enhanced participants' performances through greater familiarity and comfort with formal assessment, improved maintenance of cognitive skills (Cullum et al., 2000), delay of clinical symptoms (Tuokko, Frerichs, Graham et al., 2003) or provided a surrogate for environmental influences (Powell & Whitliah, 1994). The results in this study highlight the importance of using the qualification level stratified norms, particularly due to the large heterogeneity in education levels that is seen within the New Zealand population.

In this study ethnicity had an impact on 'Kiwi' ACE-R scores. Due to small numbers for a number of different ethnic groups, outliers tended to impact the mean scores quite significantly and thus only New Zealand European and Māori ethnicities were presented in norm groups.

It has been suggested that education and age may have been significant factors in accounting for cultural differences that have been found (Barker-Collo et al., 2002). For example, Barnfield and Leathem (1998) found that Māori performed lower on items that required formal Western education and concepts (e.g., verbal memory). As noted by, Rosselli & Ardila (2003) the effects of culture on neuropsychological assessment may be ameliorated by successful education within the educational system of the dominant culture. Analysis showed that differences on 'Kiwi' ACE-R scores between the two ethnicities were only significant in the no qualification group; New Zealand European ( $M=91.48$ ,  $SD=5.78$ ) scored significantly higher than Māori ( $87.71$ ,  $SD=7.17$ ) with a mean difference of 3.77 points. When age and education were controlled for in this study, significant differences in 'Kiwi' ACE-R score persist, suggesting that differences between Māori and New Zealand European 'Kiwi' ACE-R scores were present irrespective of education level (despite the difference only being significant in the no qualifications group) and age. Māori were over-represented in the no qualification category. Significant differences between Māori and New Zealand European groups with no qualifications were found in sub-domains of Language (comprehending instructions, repetition of a sentence,

naming and language comprehension), Memory (3 item recall, anterograde and recall/recognition) and Fluency (animals).

Another study looking at ethnic differences in cognitive tests found that healthy Māori students with no qualifications (aged 16-30) perform significantly below similarly matched New Zealand Europeans in tasks of vocabulary, speed of comprehension, cognitive switching and immediate/delayed recall of contextual information (Ogden, Cooper, & Dudley, 2003). When looking at similar cognitive tasks in this study (vocabulary and immediate/delayed word lists), Māori performed significantly lower on these tasks as well (when education and age were controlled for).

There is very little research into why ethnic differences in performance on cognitive tasks occurs. It has been suggested that tasks involving Western concepts may be more difficult for Māori participants to score highly on (Barker-Collo, 2001; Barnfield & Leathem, 1998). While other researchers suggest that bilingual speakers produce greater variability in responses (Kohnert, Hernandez & Bates, 1998), potentially due to a difficulty in suppressing activation of their first language (Hermans, Bongaerts, De Bot & Schreuder, 1998). In further assessments it may be beneficial to ascertain the primary language spoken of participants, but it is unlikely that in this sample Te Reo, (Māori language) was a common first language.

Despite the knowledge of cultural bias, most researchers acknowledge that test content and administration procedures are invariably culturally bound (Haitana, Pitama, & Rucklidge, 2010). Test developers acknowledge the need to consider the impact of test content, test materials and test conditions on the reliability and validity of a test in an attempt to minimise the effects of cultural bias. Ogden and McFarlane-Nathan (1997) and Shepherd and Leathem (1999) noted that Māori individuals may find clinical assessment environments particularly uncomfortable and thus perform at lower levels. Ultimately, these results illustrate the importance of using appropriate norms for different ethnic groups and ensuring participants feel as comfortable as possible in the testing

environment (e.g., assessment in their own home).

Explanatory value can be given to the structural inequalities that exist between ethnicities within New Zealand. Given the multiple risk factors for poorer cognitive functioning, such as physical activity, lower education, (often a surrogate for environmental experiences that can impact on cognition, e.g., illness, health, socio-economic status and better access to medical care) and physical health (e.g., cardiovascular attacks increases risk of cognitive decline) it is plausible that ethnic disparities at a structural level can explain the differences shown in cognitive functioning performance.

Women performed significantly better on the ACE-R than men when controlling for other demographic variables. They also performed better in the domains of fluency, language and memory and were also better on free recall and delayed recall of word lists. Previous research has found significant but small gender differences in cognitive abilities in test situations. The literature indicates that women tend to perform better than men on learning and recall trials, and use semantic clustering strategies to aid retrieval more than males (Kramer, Delis, & Daniel, 2006). Men tend to have higher scores on spatial orientation tasks and women lower scores on episodic memory, perceptual speed, and digit span (Aartsen, Martin & Zimprich, 2004; Oksuzyan, Crimmins, Saito, O'Rand, Vaupel & Christensen, 2010).

### Limitations

There are a number of limitations to this study which may impact on the interpretation of findings. One of the most well researched cognitive domains and one that is affected first by the consequences of ageing is processing speed (Salthouse, 1996). Unfortunately the ACE-R does not include this as a domain. This cognitive domain would need to be clinically judged based on the performance of the person and used as qualitative information or tested independently of the ACE-R.

A further limitation is the lack of participants from minority ethnicities such as Pacific Peoples and Asian groups. New Zealand is a multicultural and ageing society and as such cognitive

screening tests will need to be developed appropriately to meet the anticipated demand for accurate assessment across different ethnic groups. There is a need to have studies that over-sample these groups in the future.

Although, significant differences were found on the ACE-R across demographic groups, the actual differences in scores were generally small (with the exception of age, particularly for those in the older age group). The clinical significance in some circumstances for such differences would possibly be negligible. However, the ACE-R is just one tool in the diagnosis of dementia or cognitive impairment used primarily as a screen for further investigation. Providing norms for this tool enables clinicians to compare those with difficulties rather than to diagnose.

The present study did not specifically assess subjective cognitive difficulties or whether participants had any existing diagnoses of cognitive impairment. This limits the research into participant's insight into difficulties, as well as the ability to control for cognitive impairment (subjective and objective) in this sample.

### Future Directions

In 2012 it became illegal to use the ACE-R due to the recently copyrighted MMSE embedded within it and the ACE-R has since been withdrawn. The ACE-III (a version with no MMSE items) has been validated with total scores on the ACE-III highly correlated to the ACE-R, with similar sensitivity and specificity values for the same cut offs (Hsieh, Schubert, Hoon, Mioshi & Hodges, 2013). There is also a working group developing 'Kiwi' ACE-III. Once this is released a validation study could be instigated to examine any significant differences to 'Kiwi' ACE-R scores.

Due to the lack of a standardized definition of cognitive impairment (Busse, Bischof, Riedel-Heller, & Angermeyer, 2003; Petersen, Smith, Waring et al., 1999; Winblad, Palmer, Kivipetlo et al., 2004), rates of impairment are difficult to estimate in the community. As noted in the results section rates of cognitive impairment differ depending on what cut-off score on a particular test is assumed to be the most accurate in differentiating between intact cognitive

functioning and impaired cognitive functioning. The large variability in options for cut-off scores for the ACE-R suggests that more research is needed to identify and validate appropriate cut-off scores for the ACE-III in New Zealand clinical and community populations.

## Conclusion

The data presented in this study provides a basis for interpreting scores from older people assessed with the 'Kiwi' ACE-R. This study confirmed the usefulness and acceptability of this measure in New Zealand and also highlighted the need for specific Māori and New Zealand European norms. The representative, population based sample of older New Zealanders allows for the monitoring of cognition in older adults and provides appropriate reference for comparison. Furthermore, the inclusion of ethnically stratified scores is the first known attempt at providing an appropriate comparison point for older Māori New Zealanders. This research has highlighted the need for different norms for cognitive assessment tools amongst ethnicities, education levels, gender and age groups in New Zealand.

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