Speaking in tongues: Bilingualism and public health service advocacy

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Abstract

Using Hofstede's cultural values of collectivism, individualism and power distance, this research investigates an individual's compliance to the healthcare scenario they are presented with. Research has shown that a bilingual's values are triggered through the use of one of their languages. Chinese/English and Spanish/English bilingual individuals from Singapore and the United States respectively, are recruited using an online panel to gauge their compliance to healthcare initiatives. This empirical research uses data from online panel responses from individuals who are female and aged 18-60. ANOVA was used to ascertain differences in the key variables, following this, differences in compliance were sought by repeated t-tests. Repeated t-tests yielded significant differences between cultural groups in collectivism, individualism and high power distance. The statistically significant results across these values show that aligning language and cultural values increases the persuasiveness, in the case of this research increased the respondents' compliance to the healthcare scenarios. This research could be slightly limited through the use of a quasi-experiment because it eliminates the use of a control condition, however participants were randomly assigned to the scenarios pertaining to their bilingual languages. This research reveals important implications for healthcare, including communicating with and to patients from the perspective of not only the Government but also the Ministry of Health and healthcare professionals. This research has opened many avenues of future research, in terms of communication with different cultural entities, not only within the health sector, but across Government initiatives and even marketing and advertising communications. To develop a clearer picture of bilingualism this research should extend into different countries and continents.

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Attestation of authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

BStafford-Bush

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Chapter 1. Introduction

This research examines bilingualism in the healthcare setting. Past academic research has shown that the cultural values of a bilingual individual are triggered through the use of one of their languages. In a service delivery situation, such as that in healthcare, values are critical to the individual's perception of the service and ultimately their overall satisfaction with the delivery (Holmqvist & Grönroos, 2012). Consumers also show a preference towards using their native language in service encounters which they perceive to be of higher risk, such as intangible services like healthcare (Schiffman & Kanuk, 2006).

Academics have previously explored bilingualism, however advances in technology, globalisation and the ease of interaction and travel of individuals have seen the re-emergence of the topic. Bilingualism is becoming increasingly common worldwide, especially in developing markets. The segmentation and persuasion implications of consumers' bilingualism have become more obvious to business in general, and to marketers in particular (Luna, Peracchio, & de Juan, 2003; Redondo-Bellon, 1999).

New Zealand's diversifying culture has inspired this research. Many immigrants arrive in the country with varying levels of English proficiency and are marketed to in a language with its corresponding values, which the immigrants are unfamiliar with, or differ from their own culture. This notion extends to any product or service that one may encounter such as food items, consumer products or healthcare. Symbolic meanings are communicated to consumers through language and products. Society members transfer meaning via language from their culture to various objects; therefore their social attitudes will often reflect their language attitudes (Appel & Muysken, 1987).

This research extends a nod towards the medical field, where four healthcare scenarios are presented to bilinguals. Research suggests that bilinguals are also bicultural, in that their languages are the expression of their cultures. That is, when a cultural heuristic is triggered by use of an appropriate language, then the bilingual message recipient will respond in a way totally congruent with the culture the language elicits. Half of the scenarios align cultural values with language triggers to

ascertain the respondent's compliance to the scenario. The other half of the scenarios features a mismatch between culture values and language triggers to compare compliance.

By understanding the cultural values of New Zealand immigrant's yields implications that are vital to healthcare and the overall wellbeing of the nation. Establishing the values that are important to the varying cultures present in this country allows an in-depth understanding between patient and healthcare professional. Attaching language triggers to cultural values creates a more persuasive message that can be utilised to implement health initiatives or used by marketers segment the market and promote their products.

Chapter 2. Review of Literature

Persuasion and decision making- The Elaboration Likelihood Model

The persuasion field and its influence on the formation of consumer attitudes was characterised by methodological deficiencies and conceptual ambiguities before the formation of the Elaboration Likelihood Model (ELM). Figure 1 illustrates the ELM. From this emerged two distinct paths, suggesting that persuasion resulted from either heuristic cues or consideration of "issue-relevant arguments" (Kitchen et al., 2014, pg 2034).

There are two ways individuals make decisions, and thus are persuaded. Petty and Cacioppo (1981) introduced the ELM as a method to describe how individuals process stimuli and how this changes their overall attitudes (Kitchen, Kerr, Schultz, McColl & Pals, 2014). Simply put, the ELM is a theory pertaining to the thinking processes that could transpire through the use of communication in endeavouring to change one's attitude and the effects that different persuasion variables play within this process (Petty, Rucker, Blizer & Cacioppo, 2004).

At the core of the ELM is the assumption that individuals are different in terms of the care and extent of thought that they dedicate to a message and the behaviour, object or position that it advocates. The extent of elaboration one gives a message can range from very little, to a lot. The amount of thought an individual dedicates to a message can aid in explaining how they can be persuaded (Wagner & Petty, 2011).

The thought an individual gives a message can be determined by establishing one's ability and motivation in processing the message. Ability concerns the individual's need for skills and resources required for understanding the message. Actual or perceived knowledge (a person is likely to respond to messages where they already have existing knowledge structures), time available or the external environment (a noisy environment may affect the ability to respond or elaborate to message stimuli) are all factors that influence this ability. An individual's motivation can be influenced by variable such as personal responsibility of message processing, enjoyment of thinking or personal relevance to the issue (Rucker & Petty, 2006; Wagner & Petty, 2011).

The ELM offers two distinct routes to persuasion; the central and the peripheral route. The central route will see persuasion result from the careful and thoughtful consideration on behalf of the individual of the information presented. Elevated levels of message elaboration occur in the central route, occupying in-depth thought of the arguments that occur when one receives the message. As a result, the attitude change is predictive of one's behaviour (Petty & Cacioppo, 1984). When an individual is motivated and is capable of devoting their attention, the central route to decision making is taking through the use of conscious and logical thinking. As a result, permanent change can occur in one's attitude as the arguments of the speaker are adopted and elaborated upon.

The peripheral route sees an individual's persuasion occur from the associations they make with negative or positive cues present in the stimulus, or inferring the merits of what is advocated through the message. The individual receives cues that are often unrelated to the quality of rationale of the stimulus. An individual's ability and motivation determines the evaluation of the presented argument. In the peripheral route, one is swayed by the superficial characteristics, this concerns liking of the speaker, instead of the persuasive arguments. Only temporary change is experienced in this route (Petty & Cacioppo, 1986).

The most successful method for motivation is to utilise the central route in increasing one's personal relevance of the message – essentially providing a strong argument for either attitude formation or change. The central route requires the consideration of both sides of an argument, meaning that the choice is a result of careful consideration.

This idea, that attitude is formed in the mind of a message recipient through an internal, cognitive, process of argument and counter-argument, provides a foundation for this thesis. As discussed below, in this research the strength of a persuasive communication to bilinguals is manipulated through matching the values attached to a language with the values contained in the message (in this case, a scenario). The resulting persuasion should, according to Petty and Cacioppo's theory, should be accordingly stronger.

Figure 1: Petty & Cacioppo's Elaboration Likelihood Model of Persuasion

Persuasive Communication

Motivated to Process?
Issue involvement, commitment, relevance, arousal, dissonance, cognition need...

Yes / No

Temporary attitude shift — Yes

Ability to process?
Distraction, fear, arousal, message comprehensibility, familiarity with issue...

No →

Persuasion cue present?
Source characteristics, demand characteristics, evaluation apprehension...

No

Yes

Nature of cognitive processing
(initial attitude, argument quality etc)

Favourable thoughts predominate	Unfavourable thoughts predominate	Neither or neutral thoughts predominate

Yes / Yes

Retain or regain initial attitude

Cognitive structure change?
Are new cognitions developed and stored in memory?

No

Enduring positive attitude change (Persuasion)	Enduring negative attitude change (Boomerang)

Adapted from: (Petty & Cacioppo, 1983, pg.6).

Bilingualism

Bilingualism is a concept that has appeared many times in academic literature; moreover it is one that has been examined by a wealth of different academic areas including linguists, psychologists and sociologists e.g. (Bates, McNew, MacWhinney, Devescovi, & Smith, 1982). However, while the list of definitions for bilingualism is extensive, most reference an individual being competent in more than one language.

Research into bilingualism has been prompted by its emergence in many societies the world over, as it is not uncommon for individuals to speak more than one language, especially in developing markets (Grossjean, 1982; Hoffman, 1991, Luna & Peracchio, 2001). The emerging presence of Hispanics in the United States, lends itself to Spanish/ English bilingualism being commonplace throughout the country. The use of English or Mandarin Chinese in addition to a local language is becoming increasingly prevalent throughout Asia and thus is attracting business and intellectual attention.

Only in the past decade or so has bilingualism been examined from a business and marketing viewpoint, as there are implications for both the segmentation and persuasion of bilingual consumers (Luna, Peracchio, & de Juan, 2003; Redondo-Bellon, 1999).

In a marketing research context, symbolic meanings are communicated to a consumer through both product and language. As a result, meaning is transferred from an individual's culture to various objects through language. Therefore language attitudes often reflect social attitudes towards an object or product as well (Appel & Muysken, 1987).

For example, researchers have extended the ideas of ethnic affirmation posed by Yang and Boyd (1980) who elucidate that Chinese bilinguals respond in a more "Chinese" direction when answering a questionnaire in English, this shows that when answering questions in their native language, bilinguals additionally exhibit more emotional intensity (Puntoni, de Langhe & van Osselaer, 2009).

True bilinguals are also bi-cultural, in that their languages are the expression of their cultures. That is, when a cultural heuristic is triggered by use of an appropriate language, then the bilingual message recipient will respond in a way that is completely congruent with the culture that the language elicits. There is a sparse amount of

literature concerning the use of language to trigger a cultural heuristic in a bilingual individual.

Cultural Values

Tylor, in 1871, devised one of the early definitions of culture, which was then quoted by Soares, Farhangmehr and Shoham (2007), whereby culture can be considered as the complex whole; which includes art, beliefs, customs, knowledge, morals and any other capabilities and habits that an individual possesses as a member of society. A more contemporary view of culture defines it as an interactive collection of common characteristics that the population of a nation shares (Clark, 1990; Hofstede, 1980, 2001; Steenkamp, 2001). Hsu, Woodside & Marshall (2013) believe that cultural impacts should be studied as arrangements, or as they put forth, *recipes*, of antecedent conditions of human behaviour, rather than the influence of individual dimensions of culture.

Relevant literature also houses some critiques on the concept of national culture. Critics believe that more than one culture exists in a nation at any one time, thus using a nation as a unit for analysis may not be the best choice. Furthermore, development in communication technology and also with globalisation, individuals hailing from dissimilar cultural backgrounds are able to travel and interact much more freely thus leading to the notion that there is continuous "contamination" and change to one's original culture (Craig & Douglas, 2006; Douglas & Craig, 1997, 2006; McSweeney, 2002).

Conversely, scholars such as Clark (1990), Dawar & Parker (1994), Hofstede (2002) Schwartz (2006) and Steenkamp (2001), recognize the considerable relevance of using national cultural theories to explicate the behaviour of a person (Hsu et al., 2013). The aforementioned scholars are quick to point out that nation is a significant proxy for culture, as strong commonalities as well as differences do exist (Dawar & Parker, 1994; Schwartz, 2006; Steenkamp, 2001).

Hsu et al. (2013) noted further that culture has roots that are centuries old and therefore changes very gradually. This suggests again that it is valid to study culture from the vantage point of a nation.

Nevertheless, in terms of academic opinions, culture is a fuzzy subject, where the style of every human society is distinctive in terms of thinking and determining the priorities of values (Gupta & De, 2007; Spencer-Oatey, 2000).

Geert Hofstede

Hofstede (1980, 2001) can be considered as the founding father of cultural value dimensions. He devised the renowned theory of cultural dimensions hailing from data that he acquired from 116,000 respondents, originating from over 70 countries, in 20 different languages. The data were collected from two surveys between 1967 and 1973, as part of IBM's "international employee attitude survey." The initial analysis by Hofstede was limited to only 40 countries, as there featured a large amount of missing data (Hofstede & Bond, 1984). However in 1982, the list exceeded 50 in terms of country count and also featured three regions (Hofstede, 1980, 2001). Based on this research, Hofstede established a new paradigm to study and observe cultural differences. This paradigm encapsulated a multi-dimensional model of national data, which Hofstede later expanded resulting from an analysis of additional cross-cultural data. The work by Hofstede (1980) identifies and shapes the framework for cultural dimensions of work related values at the national level, including, individualism versus collectivism, power distance and uncertainty avoidance among others (Hsu et al., 2013; Migliore, 2011).

Hofstede's model cemented itself as a cornerstone in cultural research, allowing academics from a number of different disciplines a method to study cultural differences (Minkov & Hofstede, 2011). Hofstede's influence is not confined only to cross-cultural studies, in social science he is one of the most cited authors. In the four decades since its conception, Hofstede's cultural dimensions have received constant attention and extension propositions from academics, evidencing that Hofstede's ideas are of unflagging interest (Minkov & Hofstede, 2011). Hofstede's model not only enhanced the progress of cross-cultural analysis in multiple academic disciplines, it also inspired work based on its main elements (Minkov & Hofstede, 2011). Smith's analysis of the data file by Trompenaars (1993) (Smith, Dugan & Trompenaars, 1996) and the GLOBE model (House et al., 2004) explicitly state that Hofstede inspired their work (Minkov & Hofstede, 2011). To some academics, Hofstede's work was viewed as

a revelation, obtaining fervent reviews from leading sociologists and psychologists such as Eysenck (1981), Sorge (1983) and Triandis (1982).

However, Hofstede's works have received criticism over the years; Peterson (2003) described the work as both overused and undervalued. Some academics e.g. (Cooper, 1982; Roberts & Boyacigiller, 1984) scorned Hofstede's work and were not receptive to the new ideas he put forth; they were critical of his approach and consequently, overlooked the implications of the model (Minkov & Hofstede, 2011).

Several models pertaining to cultural differences, such as works by Schwartz & Bilsky (1987), Trompenaars (1993) and of course, the GLOBE model (House et al., 2004) have surfaced to date since Hofstede's first publication; however, Hofstede's model has been utilised the most (Mooji & Hofstede, 2010). Both models, GLOBE carried out by House et al (2004) and Hofstede's, have presented scholars with insights that are much needed in the dimension of national culture structure (Shi & Wang, 2011).

Prior to Hofstede's work, researchers in the cross-cultural domain regarded culture as a solitary variable. If a researcher discovered a statistical difference that could not be accounted for between two nation's populations, or different ethnic groups, it was simply explained as a "function of culture" (Minkov & Hofstede, pg.11). Intuitively, researchers believe that the phenomenon of culture was too complex to be treated singularly; however, the alternative of unpacking it was daunting. Hofstede demonstrated how culture could be unpacked into independent and separate dimensions.

The individualism versus collectivism cultural value will become the base for assessing the appropriateness of the message an individual receives regarding public health procedure advertising. Power distance will also be examined.

Individualism and Collectivism

It has been well documented that countries and, more specifically, the cultures within them, vary in terms of the degree to which they are considered individualist or collectivist (Ahmed, 2001). Hofstede (1980) used the idiom individualism/collectivism to express the nature of the relationships between an individual and the group to which they are a part of (Bochner, 1994). Individualism and collectivism are located at separate ends of a continuum, at one end is (Western) individualism; the other is

collectivist, where there is a blurred distinction between an individual and a member of the group (Bochner, 1994).

The individualism/collectivism model has Self Theory implications, regarding how one's perception of self develops in differing cultures (Bochner, 1994). In a broad sense, the individualism/collectivism model suggests that people who belong to individualist cultures will have self-cognitions, thus referring to themselves as autonomous, independent, self-contained and belonging to distinct units. However, in contrast, collectivist persons will have an identity that is socio-centric or interdependent; as their definition of themselves and personal interests are situated within their group attachment (Markus & Kitayama, 1991).

Western cultures, hailing from countries such as the United States, England, Australia and New Zealand, among many others, are described as being individualistic (Bellah, 1985; Hofstede, 1983; Hong, Muderrisoglu & Zinkhan, 1987).

Academics such as Bellah (1985) and Hofstede (1983) have discovered and made note of the behaviours that individualistic cultures possess. Individualism measures the independence a country has in terms of the way citizens work. Countries that score highly on the individualism index are populated with individuals who have a high level of independence. Individualists are separate entities, which can be clearly distinguished from their social milieus (Bochner, 1994). Brewer & Venaik (2011) remark that individualistic societies have loose ties between individuals, Ahmed (2001) adds that the belief of an individual having and exerting control and responsibility over their own life is emphasised, only the immediate family of an individualist is looked after (Brewer & Venaik, 2011). Hofstede & Hofstede (2005) add that it is the extent to which individuals are supposed take care of themselves.

Collectivism differs from individualism in a number of ways. Collectivist cultures are generally found in Eastern societies such as China, Mexico and Russia. The focus of collectivism is society, in which from birth onwards, people are assimilated into strong and cohesive groups, which in the duration of a person's lifetime "protect them in exchange for unquestioning loyalty," (Hofstede, 2001 pg. 225). People are regarded as an extension of the social systems to which they belong (Bochner, 1994).

In contrast to individualists, collectivists consider themselves as less differentiated from, whilst being more connected with other people, particularly those whom they look upon as significant and thus they will place more value on creating and sustaining harmonious interpersonal relationships. Collectivists are more sensitive to requirements pertaining to their social context, whilst being more responsive to the needs they assume of others. There is an avoidance of displaying and expressing their emotions, especially those that could disturb harmony such as anger (Bochner, 1994). As a result, collectivists could be less persistent on engaging in steps to achieving personal goals that could jeopardize relationships (Bond & Hwang, 1986).

Power Distance

Power distance essentially pertains to the fact that not all individuals within society are equal. Power distance is the extent to which the less powerful members of institutions, such as family, and organisations accept and expect that the distribution of power (Hofstede & Bond, 1988) is spread unequally (Naumov & Puffer, 2000). Power distance expresses the culture's attitude towards the inequalities that exists amongst its members.

Nations with high power distance are more autocratic and individuals are more willing to accept differences in wealth and power. High power distance societies believe that it is acceptable that inequalities amongst individuals exist. This includes nations such as France, Mexico, China and India (Matusitz & Musambira, 2013).

Low power distance nations place importance on equality among individuals, encouraging participation in the democratic form. Low power distance nations include Australia and the United States (Rinne, Steel & Fairweather, 2012).

The power distance dimension encompasses divisions such as autocracy, influence and paternalism of the subordinate-superior relationship (Armstrong, 1996). Autocracy level is indicated by the importance that society places upon hierarchical relationships that exist in social units like family, political institutions and social class (Clark, 1990). Thus the theoretical concept of Hofstede's (1984) power distance places emphasis on ideological perspectives on authority and behaviours and general attitudes in relation to authority such as observation and reliance (Singh, 1990). According to Armstrong (1996) and Frazier and Summers (1984, 1986), paternalism plays an important role in

power distance. Matusitz and Musambira (2013) define paternalism as the extent to which family responsibilities are transferred to the state. This also includes protecting societies' less privileged members from exploitation by more privileged society members (Ryan et al., 1999).

Western cultures that have low power distance (and low paternalism levels), the parent's withdraw their role of protecting their children upon maturation into adulthood, thus children become extricated from their families (Matusitz & Musambira, 2013). In contrast, in Eastern countries and cultures, often many generations live together in one household. The social system of a high power distance country leads individuals to adhere to paternalism. Furthermore, the dimension of power distance concentrates on the prevalence of conformity versus autonomy. Low power distance societies see individuals following their own will and less likely to follow norms (Hofstede, 1984). High power distance societies are less independent and more likely to conform (Matusitz & Musambira, 2013).

Bilingualism in Service Marketing

Research into service acknowledges the importance of the participation on the customer's behalf in the service itself (Holmqvist & Gronroos, 2012). The participation of the consumer has been noted for many years in service research (Eiglier & Lanegard 1976; Gronroos 1978; Shostack 1977). Many researchers e.g. (Bitner et al. 1997; Grönroos 1978; Zeithaml, Berry & Parasuraman 1996) have gone so far to say that consumer participation and communication is at the heart of the service encounter, thus the emphasis placed on communication in a service encounter. Parasuraman, Zeithaml & Berry (1985) define communication as a means of informing consumers in a language that they understand. The role of language, however, surpasses the means of conversation alone (Holmqvist and Gronroos, 2012). Puntoni et al. (2009) note that consumers prefer using their own language and even those who are bilingual prefer speaking in their native tongue. Holmqvist (2011) adds that the perception of a service provider can be improved through the use of an individual's native language; such findings reinforce the relevance of language in service encounters (Holmqvist & Grönroos, 2012). However there is a cavern in research as to how language can influence service encounters or outlines situations in which problems may be caused in interaction (Holmqvist & Grönroos, 2012).

The service encounter constitutes an interaction between consumer and company involving the communication exchange between parties (Holmqvist & Grönroos, 2012). However it appears that language use has not been considered in service marketing according to Holmqvist and Grönroos (2012).

Holmqvist and Grönroos (2012) state that language is a huge influencer on an individual's perception of service, service quality and also their overall satisfaction. Thus it is imperative for impact of language to be understood by marketers, service researchers and service providers. They go on to argue the crucial role language plays in service contexts, especially in consumer interaction (Holmqvist &Grönroos, 2012). Service's interactive nature makes the study of language both necessary and difficult. In addition, research in the sociolinguistic field entails that there cannot be just one single language used in an international context, Holmqvist and Grönroos (2012) believe that one single language may not even be enough in a national context. As international markets become increasingly more independent from national boundaries, it can no longer be assumed that companies and consumers speak the same language (Holmqvist &Grönroos, 2012).

Languages and more specifically, language use, has strong ties to culture, in particular, nationalist feelings that have an influence of the perception that the consumer has (Dunn 1976; Redondo-Bellon 1999). According to Gopinath and Glassman (2008), the choice that a consumer makes can be influenced by feelings towards their own language, or even a foreign language. These feelings pertain to a key characteristic in sociolinguistic tradition (Holmqvist &Grönroos, 2012). Spolsky and Cooper (1991) reported that in Jerusalem's multilingual setting, customers who speak either Arabic or Hebrew select or even deselect companies, for emotional reasons, when they see the language that company used in their advertising. Puntoni et al. (2009) adds that consumers in multilingual markets like Belgium, Canada and Finland (Holmqvist, 2011) also show preferences for their native language.

A consumer's perceived risk when interacting with a company also impacts on their behaviour (Conchar et al., 2004). Essentially, perceived risk pertains to the level of

uncertainty that a consumer faces when the consequences of their purchase decision are unforeseeable, such as those in intangible services such as healthcare (Schiffman & Kanuk, 2006). In the field of healthcare, there is often a high perceived risk (McDougal & Levesque, 2000) thus hospital patients convey a preference for use of their native language (John- Baptiste et al., 2004). Consumers consider the importance of using their native language in high risk services essential (Holmqvist, 2011). Predicting the outcomes of a service may be further complicated if the service provider and consumer do not share a common language (Holmqvist & Grönroos, 2012). This leads to the proposal by Holmqvist & Grönroos (2012) that the perceived risk level affects the importance of native language use for consumers.

Marketers should consider that language has influences over how well consumers communicate with service providers and also their willingness to do so. In general, consumers display an emotional preference towards their native language, even if they are bilinguals (Puntoni et al., 2009). Thus bilingual consumers connect advertising directed at them in their native language, rather than their second language, to feelings pertaining to their friends and family, as was demonstrated with Spanish speakers residing in the United States, which underlines the emotional appeal that native language use has (Noriega & Blair, 2008). Emotional attachments are also present in sociolinguistic research, demonstrating that language influences the stores that consumers choose to patronize (Spolsky & Cooper, 1991). Fluent bilinguals still believe that their native language is more strongly connected to their identity (Brala, 2007; Pavlenko, 2006).

Koslow, Shamdasani and Touchstone (1994) examined the role of language in advertising through the application of a sociolinguistic approach to ascertain the perceived marketer's sensitivity to Bilingual Hispanic's culture. Furthermore, a psycholinguistic approach was employed by Schmitt, Pan and Tavassoli (1994) and Schmitt and Zhang (1998) to examine how language differences between Chinese and English affect the manner in which information is processed. The aforementioned studies delved deeper in the understanding of the link between a consumer's cognitive structures and language, representing a substantial step in linguistic theory's application to advertising (Luna & Peracchio, 2001).

The Role of Language in Advertising

Relatively little attention has been devoted to the information processing of bilinguals, instead, academics have opted for research into how individuals who solely speak one language (monolinguals) process information (Usunier, 1996).

Linguistic scholars such as Searle (1969, 1971) and Vestergaard & Kim (1985) believe that language is able to perform multiple functions. Language in its expressive function or speech has a primary focus on the 'addressor' and their attitudes, feelings and wishes (Ahmed, 2001).

Levitt (1983) believes that because the world continues to grow closer, it can be thought of, and treated, as one giant marketplace, with only value differences. Scholars like Levitt (1983) believe that the same values can be drawn upon to convince individuals to consumer or purchase a product. However, it is argued that although basic needs are the same, the way that they are met and fulfilled varies by culture (Gupta & De, 2007). Bell (2001) declares that advertising and marketing campaigns endeavour to reflect the economic conditions, habits and lifestyles of the locals, in order to portray an effective message. Academic researchers have supplemented this debate, examining advertising in terms of information content and strategies (Lin, 1993; Ramaprasad & Hasegawa, 1992; Zandpour, Chang & Catalano, 1992), 'Americanisation' (Muller 1992; Wiles, Wiles & Tjernlund, 1996) and through lifestyle (Gilly 1998; Tansey, Hyman & Zinkham 1990). Advertising appeals are used to resonate with the target consumer's values (Chan & Cheng, 2002). The attempt of advertising is to appeal to the values that the target group or society holds (Gupta & De, 2007). If the advertising appeals are not congruent with the target group, there is a possibility of alienation, therefore the target group cannot identify with the product or service. As a result, advertising often reflects the prevailing cultural values in society (Gupta & De, 2007).

The need for bilingualism in healthcare

In a number of European and North American countries, a significant minority of the population has limited proficiency in the nation's dominant language. The Hispanic population is the second largest ethnic minority in the United States, comprising of nearly 17% of the population. This is projected to increase to over one-

fifth of the entire population of the United States by 2030 (Euromonitor International, 2013). According to (John-Baptiste et al., 2004), nearly 20% of Americans speak a non-English language in their homes; almost half of these individuals cannot speak English very well. Canada and the United Kingdom have reported comparable trends. Although there is an increase in multilingualism in the aforementioned regions, there has still been little attention directed toward the effect that limited English proficiency has on healthcare outcomes (John-Baptiste et al., 2004).

Academics have long lamented the lack of bilingualism in healthcare, outlining the disadvantages that patients may experiences as a result. Numerous studies have been conducted in clinical settings where "minority patients" are treated. Said patients are classified so, as they do not speak, or have limited knowledge of the language spoken by the healthcare staff and individuals native to that country. This is especially the case in the United States where the Latino population is increasing at a rapid rate, especially in states such as California (Morales, Cunningham, Brown, Liu & Hays, 1999).

Racial and ethnic healthcare disparities have been in the spotlight in academic literature for over a decade. The persistence of disparities in healthcare can result in a number of different problems according to Brach and Fraser (2002); however the deliverance of high-quality care to populations that are becoming increasingly diverse is difficult. Research over the past twenty years states that quality healthcare entails attention to cultural differences, the integrated pattern of people's behaviour, including actions, beliefs, thoughts and values of a ethnic, racial, religious or social group (Cross et al., 1989). Ethnic minorities, especially those who immigrated to the country they now reside in present unique and at times, complex cultural and linguistic needs that healthcare staff struggle to cater for if they do not belong to the same culture or share the same language (Lavizzo- Mourey & Mackenzie, 1996; Molina, Zambrana & Aguirre-Molina, 1997; Morales et al 1999; Woolley, Kane, Hughes & Wright, 1978;)

It is estimated that one in five Americans experiences trouble communicating with physicians and other healthcare professionals, this percentage increases to 27% among Asian Americans and one third of Hispanics (Brach & Fraser, 2002). Individuals who

face language barriers or have limited proficiency in the native language of the country, face many disadvantages. It has been well documented that these individuals have fewer visits to the physician, as language barriers can reduce their access to care (Kalist, 2005). Growing patient diversity also increases the occurrence of possible diagnostic errors; Ruiz (2002) in a review of Hispanic patients found that there was a higher prevalence of misdiagnosis of schizophrenia and psychopathologies. Sarver and Baker (2000) suggest that patients facing language barriers were less likely to schedule or attend follow up visits. In their study, Waxman and Levitt (2000) concluded that patients with limited English received care that they considered inefficient (John-Baptiste et al., 2004), such as over-utilization of diagnostic tests. Furthermore, it has also been suggested that minority patients are less likely to adhere to the recommendations of their treatment, either through a lack of linguistic comprehension of prescription instructions or lack of effort on the behalf of the healthcare profession in explaining the treatment guidelines (Apter, Reisine, Affleck, Barrows & ZuWallack, 1998; Kalist, 2005; Karter, Ferrara, Darbinian, Ackerton & Selby, 2000).

Cultural incompetence can be improved, Brach and Fraser (2002) suggest, this can be achieved through increased education of culture and linguistics of minority populations. Thus cultural competence extends beyond just language to incorporate attitudes, congruent behaviours and policies together in one system or amongst healthcare professionals for effective application in cross-cultural situations (Adams 1995; Brach & Fraser 2002).

The Research Question

The research question addressed in this thesis draws from the various literatures discussed above, and fills a gap in it. Petty and Cacioppo's model suggests very clearly that attitude, persuasion, relies on a process of argument and counter-argument that takes place in a message recipient's head after reading the persuasive communication. The stronger the argument then the more effective it becomes in persuading. The question, then, is if a language with a set of values attached is matched to a scenario where the persuasion utilizes the same set of values, will the message strength become enhanced and result in greater compliance with the argument or advocacy achieved?

In the following Chapter, hypotheses are developed to allow statistical testing of a set of data collected for the purpose. Following this, the research method is discussed in detail.

Chapter 3. Hypothesis Development

As mentioned before, the cultural values of a bilingual individual are triggered through the use of one of their languages. This means that in a hospital setting a patient may be the object of a persuasion attempt to, maybe, gain compliance to a hospital routine, to take a course of prescribed medicine, to adopt some health practice and so on. When the language of persuasion matches the message frame, in terms of values, then I believe persuasion will be enhanced.

Figure 2a)

Research design for Singaporean bilingual Respondents,

Individualism and Collectivism
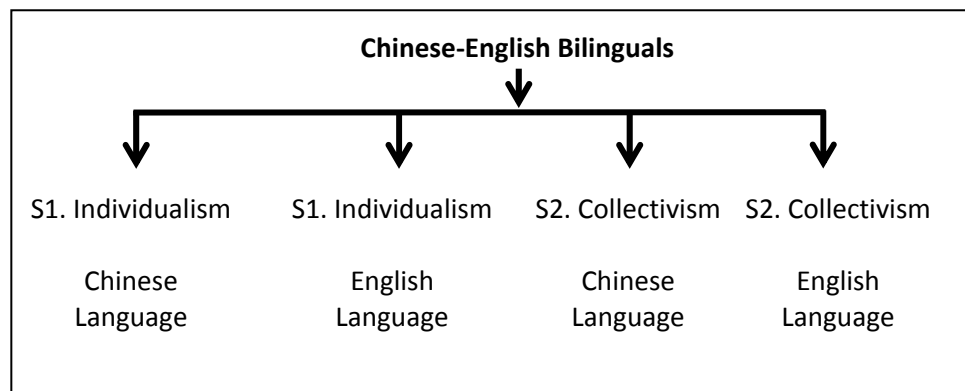
For example, Scenario one (S1) focuses on individualistic values in terms of healthcare, revolving around one's choice to vaccinate himself or herself against a strain of the influenza virus. The individualistic scenario focuses on the inconvenience and discomfort caused as a result of contracting the influenza virus. It is hypothesised that there will be incongruence between the Chinese language version and the values of individualism. On the contrary, the English language version of the individualistic should match in terms of values, and so persuasion should be enhanced. Thus, Hypothesis 1:

H1: There will be lower levels of compliance to the Chinese language version of the individualism-based scenario and higher compliance to the English version.

Scenario two expresses the values that a collectivist individual would encompass, such as family, friends and the wider community. The scenario focuses on the vaccination against a strain of the influenza virus, and the same pattern of enhanced persuasion under congruent value situations should emerge.

H2: There will be higher levels of compliance to the Chinese language version of the collectivist-based scenario and lower compliance to the English version.

Figure 2b)

Research design for Singaporean bilingual Respondents,

High and Low Power distance

Scenario three targets influenza vaccination from the vantage-point that the individual's doctor has told them to get vaccinated and that this initiative has also received Government funding, meaning that the higher powers support this movement.

Scenario four focuses on the low power distance values in terms of influenza vaccination. In this scenario, the individual's friends recommend getting the vaccination.

The relevant hypotheses are as follows:

H3: There will be higher levels of compliance to the Chinese language version of the high power distance-based scenario and lower compliance to the English version.

H4: There will be lower levels of compliance to the Chinese language version of the low power distance-based scenario and higher compliance to the English version.

Figure 2c)

Research design for American bilingual Respondents,

Individualism and Collectivism

Chinese-Spanish Bilinguals			
S5. Individualism	S5. Individualism	S6. Collectivism	S6. Collectivism
Spanish Language	English Language	Spanish Language	English Language
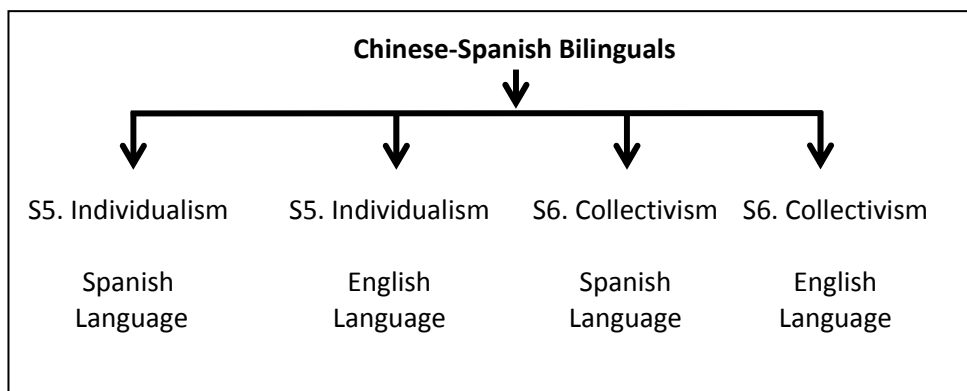
Figure 2d)

Research design for American bilingual Respondents,

High and Low Power distance

Spanish-English Bilinguals			
S7. High Power distance	S7. High Power distance	S8. Low Power distance	S8. Low Power distance
Spanish Language	English Language	Spanish Language	English Language
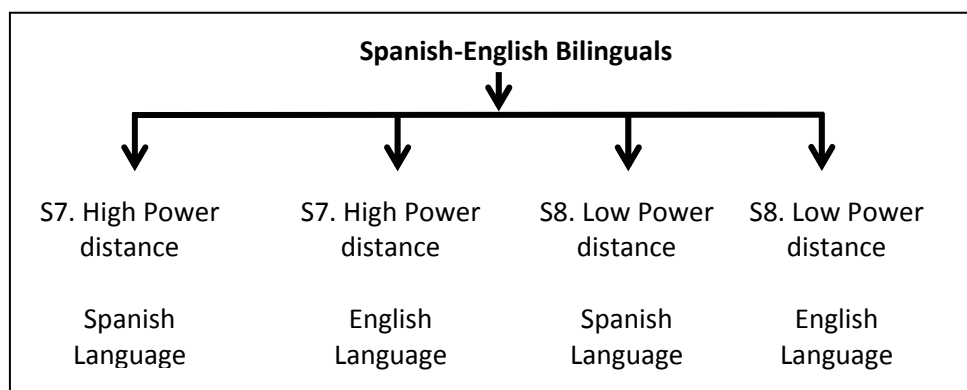
Hypotheses 5 to 8 merely repeat the first four hypotheses, except this time the languages concerned are Spanish-English rather than Chinese-English.

H5: There will be lower levels of compliance to the Spanish language version of the individualism-based scenario and higher compliance to the English version.
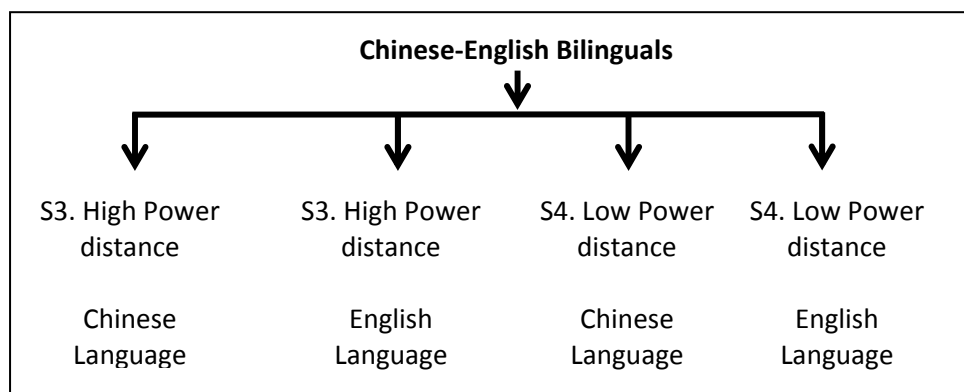
H6: There will be higher levels of compliance to the Spanish language version of the collectivist-based scenario and lower compliance to the English version.

H7: There will be higher levels of compliance to the Spanish language version of the high power distance-based scenario **7a)** lower compliance to the English version of the high power distance scenario

H8: Lower levels of compliance to the Spanish language version of the low power distance-based scenario and higher compliance to the English version.

To address these hypotheses and obtain an answer to the research question, the next chapter gives details of the research design.

Chapter 4. Research Method

The basic outline of the scenarios is shown in Figure 2a, b, c and d detailed above. The cultural values of individualism, collectivism, high power distance and low power distance are separated into four scenarios pertaining to healthcare service situations and are assessed in terms of English, Chinese and Spanish languages.

The research participants were separated into sixteen groups; one group for each language version of the four scenarios, as Figure 2 illustrates – this is a between-group quasi-experiment. Each participant is given a scenario, either in English, Chinese or Spanish and is asked to answer questions regarding their willingness to receive the vaccine, which will measure their compliance to the scenario and the persuasiveness of the healthcare message.

General Approach

A quasi-experiment is used in this research, where data is collected from an online panel service. This research is deemed a quasi-experiment as there is no control condition used. This research utilises a quasi-experiment to ascertain the compliance of the participants for each of the healthcare scenarios. A quasi-experiment allows the researcher to examine the causal impact that an intervention has on the target population. The quasi-experiment allows the researcher's control of the assignment to the treatment conditions based on criterion other than random assignment. According to Bagley Thompson and Panacek (2006), quasi-experiments have a moderate level of validity, where there is control or manipulation demonstrated, but not randomisation.

Quasi-experiments use pre post-testing, which are tests that are carried out before data collection to ascertain whether participants display certain tendencies or confounds. Quasi-experiments are commonly used in public health and social sciences, where it is not rational or practical to randomise participants to the treatment condition (DeRue, Nahrgang, Hollenbeck & Workman, 2012).

Sample

The sample for this research requires respondents to be either Chinese/English or Spanish/English bilinguals, hailing from Singapore and the United States respectively. These two nations were chosen as Singapore is a collectivist country that

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has many individuals who speak English fluently (English is one of the National
languages and used in schools, universities courts and public offices) and this will allow
a control over culture. Singapore has a population of close to six million. The 2010
Singapore census claims that just under half of the population speak Chinese and one
third speak English as their first language. The same report goes on to note that only
20% of Singaporeans are unable to speak English.

The United States was selected due to the high population of Hispanic residents,
especially in California; these residents have a command of both English and Spanish.
Both the Singaporean and Mexican cultures have collectivist and high power distance
values, which allows an effective comparison with individualistic/low power distance
countries such as The United States and New Zealand.

Each cell consists of 30 females, aged 18-60. This gender was chosen for convenience,
because online panel services have a higher number of female respondents, and to
offer more between-group control. The age group of 18-60 was selected as it can be
assumed that these females have been in the workforce and thus will be able to
answer the questions, especially in the power distance section, pertaining to the
workplace. The cells have been kept as similar as possible so that the desired cultural
effect is isolated and the differences between groups will occur as a result of culture,
not other variables. The overall experimental conditions for each scenario are featured
in Table 1 below.

Table 1: Experimental conditions for Scenarios One to Four across both Singaporean
and United States cultures

	Scenario One	Scenario Two	Scenario Three	Scenario Four
Singaporean Chinese	32	30	30	30
Singaporean English	33	30	30	30
United States Hispanic	31	35	31	26
United States English	31	31	31	29

Power distance was selected as a measure of culture as Singapore (and Mexico) display preferences towards authority and power, with an emphasis placed on compliance, which are common place in their cultures. In comparison, England and ex colonies and the United States have lower levels of power distance, pertaining to more informal communication and less hierarchical structures within the workplace. Power distance is displayed in scenarios three, where the Government or the general practitioner promotes the vaccination and four, where the friends or co-workers explain the benefits of getting the particular vaccination (The Hofstede Centre, n.d)

A masculine society represents one where an emphasis towards achievement is preferred. Material rewards are expected as a result of success. Masculinity was not chosen as one of the cultural values, Mexico, the United States and both England and NZ all rank as masculine societies with scores roughly around 60 or above, which would eliminate the cultural effect that is sought. Singapore on the other hand, scores 48 on the masculinity scale, which puts it in the middle, with a slight nod towards a feminine society (The Hofstede Centre, n.d).

Uncertainty avoidance is another of Hofstede's cultural values, measuring the degree to which members of society experience discomfort towards ambiguity and uncertainty. Countries scoring high in uncertainty avoidance display rigid codes of behaviours and beliefs, usually intolerant of behaviours and ideas that are considered to be unorthodox. In contrast, nations that display low uncertainty avoidance are more relaxed and comfortable with not knowing what the future holds. Uncertainty avoidance was also not chosen as England and Singapore score low in uncertainty avoidance, whereas Mexico displays very high uncertainty avoidance. With a score of 46, the United States is relatively indifferent. The value of uncertainty avoidance would eliminate the cultural effect that is sought due to Mexico and Singapore displaying opposing preferences towards uncertainty avoidance.

Materials

The scenarios for this research were developed to ascertain how to make a public healthcare message persuasive, mainly to the intended individuals. Although

this research can have global implications, the idea was generated in New Zealand that, not unlike many other advanced countries, features a diverse population of individuals coming from a multiplicity of cultures. For a large number of these individuals, English is not their first language and, as a result, the public healthcare messages that this country has may not be persuasive as they do not appeal to or trigger the cultural values of many immigrants.

The scenarios used in this research were developed around present healthcare initiatives that are active in the New Zealand healthcare system. Immunisation of oneself and one's family against a multitude of viruses has been a target for the Ministry of Health since 2007. The New Zealand Government showed its commitment towards immunisation by making it one of six nationwide health targets (Ministry of Health, 2011).

The four scenarios each focus around immunisation, but are shaped to appeal to the cultural values of individualism, collectivism, high power distance and low power distance. The four scenarios are professionally translated into Chinese and Spanish (and back-translated into English to ensure accuracy) as well as being kept in the original English form.

The first scenario has individualist cultural triggers, pertaining to how the individual will be off work if the influenza virus affects them, and gives details of the inconvenience and discomfort caused are also outlined.

Scenario 1

You are among the first people in your community to be offered a free vaccination against the potential threat of a new Influenza virus that has been spreading in the region. The benefits to you are significant because, if contracted, the virus could cause much inconvenience and would necessitate time quarantined at home, and the symptoms (sore throat, neck and throat rash, temperature and headache) are very undesirable. The vaccine has been tested and approved for use, and although there can be some side effects their incidence is reportedly small.

Scenario two is shaped to trigger collectivist cultural values. Thus the focus of this scenario is the impact that having the flu can have on the participant's family and friends; as not only will the participant be ill but there is a high likelihood that this may be passed onto others as well.

Scenario 2

You are among the first people in your community to be offered a free vaccination against the potential threat of a new Influenza virus that has been spreading in the region. If you do become infected then there is a strong possibility that you would pass the virus on to many others in your family, in your circle of friends and in the wider community. The vaccine has been tested and approved for use, and although there can be some side effects their incidence is reportedly small.

High power distance cultural values are used in scenario three, where the participant's doctor relays the immunisation information, with the immunisation receiving support and funding from the Government.

Scenario 3

You are visiting your doctor for a regular check up when they tell you about a free vaccination that will provide immunity against the latest strain of influenza. This health initiative has received support and funding from the Government and has been fully tested and approved for use, and although the side effects can be significant, the incidence of such side effects is reportedly small.

Scenario four focuses on low power distance, where it is the participant's friend's that mention that they are going to get immunised against influenza. This scenario should trigger the cultural values of a low power distance individual, when read and answered in English.

Scenario 4

You are talking to your co-workers and they mention that they are getting a vaccine against the latest strain of influenza. This vaccine has been fully

tested and approved for use, and although the side effects can be

significant, the incidence of such side effects is reportedly small.

The questions pertaining to the participant's collectivism and individualism that scenario one and two focus around, are based on a scale by Singelis, Triandis, Bhawuk and Gelfand (1995). This scale (see Appendix 6) was adapted and placed on a 9-point Likert scale anchored by 'disagree strongly' and 'agree strongly.'

The power-distance scale was adapted from the model of value priorities and scale identifying dominant values (Schwartz & Boehnke, 2004). The values on Schwartz's (2005) scale were used to form power distance questions for scenarios three and four. This scale (see Appendix 7) was adapted and placed on a 9-point Likert scale anchored by 'disagree strongly' and 'agree strongly.'

Procedure

The online panel service, CINT was used to recruit participants who are Chinese/ English and Spanish/ English bilinguals. The individuals were selected to participate if they were bilingual, female and aged 18-60. Respondents were directed to the research instrument that was constructed using the Internet survey package, Qualtrics®. This package features additional metadata, or paradata, that provides several advantages, such as survey completion time (to allow screening of hurried responses), respondent IP address (to screen out multiple submissions).

Other data screening includes having the opening page of the questionnaire reconfirm the demographic information of the participant, checking that they were indeed female and aged between 18 and 60 (see appendix two-five). All that remains to clean the data is to discard responses that are frivolous (e.g., all "9"s).

The participants were then randomly assigned a scenario to read and answer questions to measure their compliance and also their individualism, collectivism or power distance. The random assignment of the survey participants into the sixteen cells increases internal validity.

After inspection and checking the scales, the data was initially analysed using ANOVA to seek differences among group means. ANOVA is effective in testing whether statistical significance exists between three or more means (Field, 2013). The results of

the ANOVA determine the viability of further analysis to seek differences between specific cases.

Chapter 5. Data Analysis

Scales

The dependent variable in the analysis that follows is the extent to which respondents reading this scenario agreed that they should have an inoculation; this variable is called "Compliance." There were six items that potentially formed this scale; they can be seen in the full research instrument in Appendix eight.

Firstly a factor analysis was conducted, using SPSS version 22. All six items form a single factor with an eigenvalue of 5.1 explaining 84.5% of the variation in the dataset. Reliability analysis reveals, not unexpectedly, that the scale is highly reliable (Cronbach's Alpha = .96) with every item contributing toward the scale reliability. Consequently, the single-item variable, "Compliance" was formed.

The independent variables in the analysis are actually formed within the scenarios, which are either written in English or Chinese, or in English and Spanish. English language is spoken in England, some ex-colonies of England, and North America; it is reasonable to consider, then, that a bilingual using this language will adopt at least some of the high individualistic, low collectivism, low power-distance values of these cultures, as discussed earlier. As each scenario contains a persuasion story framed either in individualistic, collectivistic, or high or low power-distance, which can then be hypothesised that there will be a match between the appropriate languages and scenarios, such that persuasion will be higher in these situations than in unmatched language-scenario contexts. The scenario conditions are shown in Table 2 below.

Table 2: Scenarios for analysis across both Singaporean and the United States cultures for individualism, collectivism and power distance

Scenario	Country	Language	Scenario type
1	Singapore	Chinese	Individualistic
2	Singapore	Chinese	Collectivistic
3	Singapore	Chinese	High Power distance
4	Singapore	Chinese	Low Power distance

5	Singapore	English	Individualistic
6	Singapore	English	Collectivistic
7	Singapore	English	High Power distance
8	Singapore	English	Low Power distance
9	USA	Spanish	Individualistic
10	USA	Spanish	Collectivistic
11	USA	Spanish	High Power distance
12	USA	Spanish	Low Power distance
13	USA	English	Individualistic
14	USA	English	Collectivistic
15	USA	English	High Power distance
16	USA	English	Low Power distance

Although not strictly necessary in order to address the research hypotheses, data was collected on the basic value orientation of respondents, just to check that when respondents are answering in English the bilingual respondents espouse more individualistic, less collective and lower power-distance values. Although not necessary to show anything but compliance, a shift in values induced by language might provide a manifest mechanism for any effect found. Thus, the scales need to be formed first; following this a between-scenario t-test can be applied.

Horizontal Individualism

A Promax non-orthogonal rotation is used for the factor analysis in this instance, as it is possible that there are correlated facets within the scale, even though it is a single scale. In fact a Promax rotation is used on all the following factor analyses for the same reason. In this instance, the eight Horizontal Individualism items form a single factor, (eigenvalue 4.7, explaining 58% of the variation). A Cronbach's Alpha score of 0.9, with all variables contributing to it, indicates high reliability. As this is a well-validated scale the result does not surprise.

Horizontal Collectivism

Again, a single factor emerges from the factor analysis of eight items (eigenvalue 5.01, explaining 63.6% of the variation). Cronbach's Alpha is 0.92 and, again, all items contribute to the reliability score.

Power-distance

Analysis here reveals a different picture, as three factors (eigenvalues 4.2, 1.3 and 1.1) emerge from the factor analysis. The factors explain 66% of the variation. There is much cross-loading, though, and there is no obvious pattern to the factor

loadings. This is not necessarily a problem, as these are complex, cultural, multi-faceted concepts. Using Cronbach's Alpha to determine the scale's reliability index, returned a score of 0.84, this is satisfactory, especially as if any single item is removed from the analysis the overall reliability score drops. Thus the three factors observed do not invalidate the scale.

Preliminary analysis

Firstly a check of the supposition that individualism will be enhanced when using English and collectivism enhanced when using Chinese or Spanish (and similarly for collectivism and power-distance) was conducted. To do this a new variable, English or Chinese/Spanish to represent the language used was formed. Then a simple t-test comparing the mean scores of Individualism, Collectivism and Power distance between the two language-use groups was performed. There are no significant differences, however. The implication of this result is considered later, in the discussion chapter.

In addition, an analysis of variance (ANOVA) will show that there is variation between the key variables over all the scenarios, and will indicate whether or not differences in compliance should be sought by repeated t-tests. The high significance of the F values in Table 3 suggests that this type of analysis will be fruitful.

Table 3 illustrates the ANOVA results for the compliance variable across individualism, collectivism and power distance.

Table 3: Analysis of Variance results, for Compliance over all scenarios

		Sum of Squares	df	Mean Square	F	Sig.
Individualism	Between Groups	283.752	66	4.299	3.217	<.001
	Within Groups	243.238	182	1.336		
	Total	526.990	248			
Collectivism	Between Groups	301.654	66	4.571	3.534	<.001
	Within Groups	235.401	182	1.293		
	Total	537.055	248			
Power distance	Between Groups	190.375	67	2.841	2.314	<.001
	Within Groups	208.722	170	1.228		

Total	399.097 237

Main T-Test Analysis

As Table 3 above yielded highly significant *F* values, multiple t-tests were conducted to ascertain the compliance to receiving a vaccination based on the cultural values of individualism, collectivism and high and low power distance. These results are shown in Table four below and are used to discuss the compliance to the healthcare scenarios, ultimately addressing whether the hypotheses are supported. Figure 3 and Figure 4 follow this, showing the means between both the Chinese and English and Spanish and English versions of the scenarios.

<div align="center">Table 4: T-test results for compliance over all scenarios</div>

	Scenario	*N*	Mean	T Value	*p*
Singapore					
Individualism	S1- Chinese	31	4.8	2.95	.005
	S5- English	33	6.1		
Collectivism	S2- Chinese	30	6.03	3.1	.003
	S6- English	29	4.5		
High Power Distance	S3- Chinese	30	5.5	2.9	.004
	S7- English	30	4.1		
Low Power Distance	S4- Chinese	30	4.6	.01	.992
	S8- English	30	4.5		
United States					
Individualism	S9- Spanish	30	6.0	2.1	.039
	S13- English	31	7.2		
Collectivism	S10- Spanish	34	6.3	2.0	.05
	S14- English	31	5.0		
High Power Distance	S11- Spanish	32	6.4	3.03	.004
	S15- English	31	4.6		
Low Power Distance	S12- Spanish	26	5.3	1.5	.132
	S16- English	29	6.4		

Table 4 above shows the t-test results for compliance across both Singaporean and United States cultures for individualism, collectivism and power distance.

Figure 3: Compliance means for each scenario, Chinese and English version
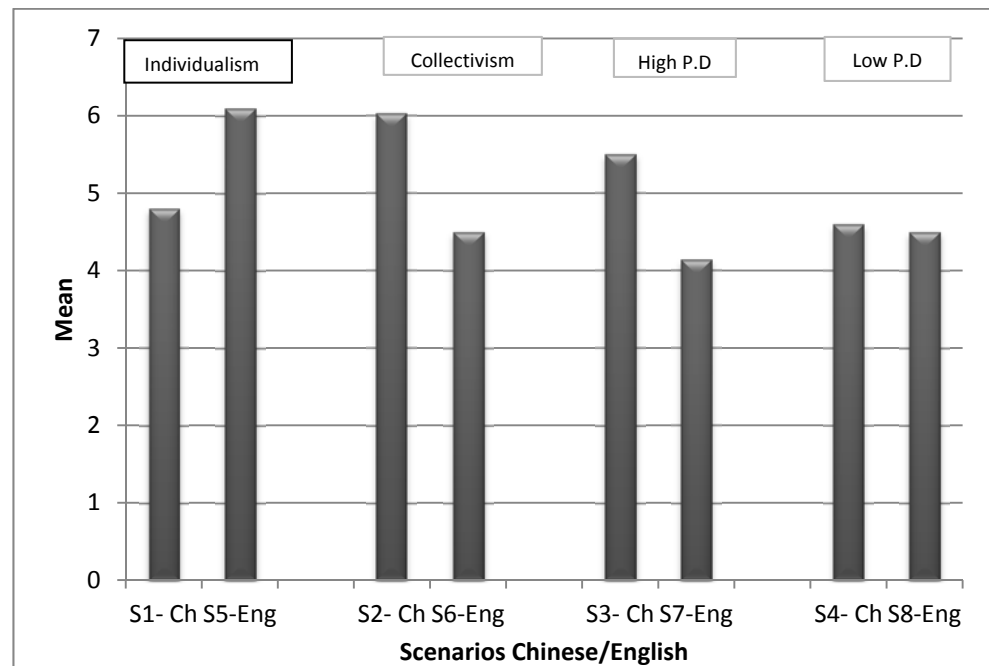

Figure 3 shows the means for compliance to each healthcare scenario. The Chinese language version of each scenario is on the left, whereas the English language version is on the right. The means for compliance for the Chinese language version of the scenario are highest, indicating a higher level of compliance for the scenarios featuring collectivist values and high power distance. The compliance mean in the Chinese language version is also higher than the English version by 0.1 for the low power distance scenario, this was an unexpected result and potential reasons for this result are discussed in the latter stages of the chapter. As expected, the mean for compliance is higher in the English language version of the individualism scenario; it was also hypothesised that the English version of the low power distance scenario would yield higher levels of compliance.

Figure 4: Compliance means for each scenario, Spanish and English version
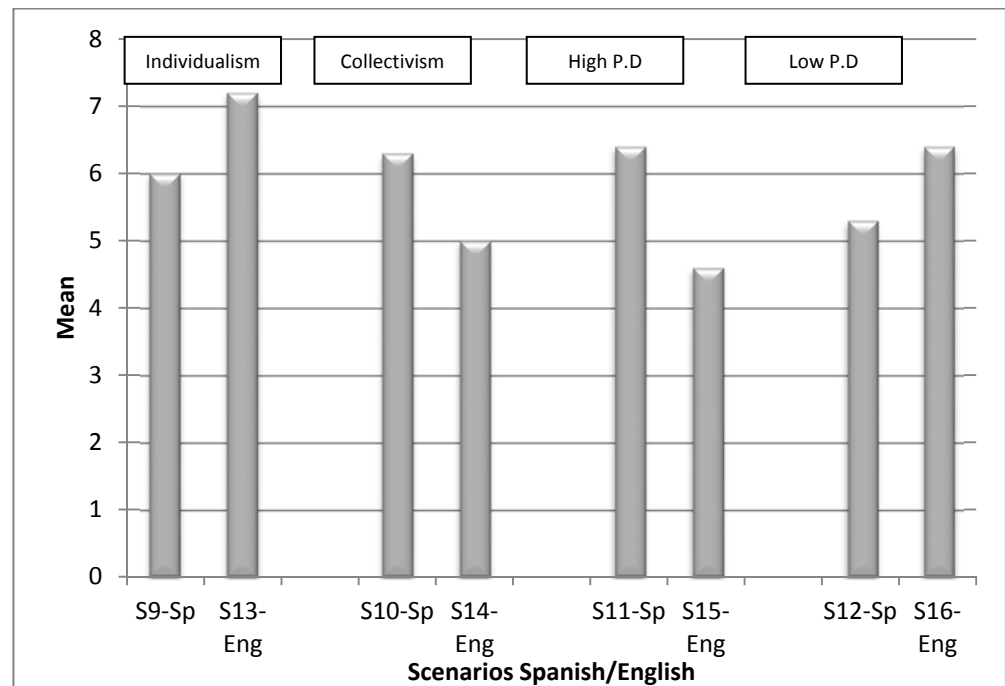
Figure 4 illustrates the means for compliance in the United States Hispanic and United States English scenarios. The Spanish versions of the questionnaire are the left column of each of the four groups, whereas the English version is the right column. Again, as expected the mean for compliance for the first scenario, individualism is much higher for the English version, in comparison to the Spanish version. The second group of columns feature the compliance mean for the collectivist scenario, where the compliance is also significantly higher for the Spanish version. The high power distance scenario saw higher compliance in the Spanish language version, as expected. The low power distance scenario, as for the Chinese-English language treatment also, returned a non-significant statistical difference.

Chapter 6. Discussion of results

Addressing the research hypotheses

The purpose of the research is to ascertain if matching language to persuasion frame results in greater persuasion. In general this appears to be supported in this research. The research hypotheses are addressed below.

Three out of four of the healthcare scenarios, in each Chinese/English and Spanish/English language versions yield statistically significant results, consequently supporting six from eight hypotheses in each language version, 12 out of 16 in total.

Scenario one featured individualism as the cultural value, it was hypothesised that the respondents who received the English version of the questionnaires would indicate their compliance at a higher level than the respondents who received scenario one in either Chinese or Spanish. Respondents were to indicate their level of compliance on a 9-point Likert scale from disagree strongly to agree strongly. The mean for the Chinese language version is 4.8, in comparison to the English version of 6.1. There is statistical significance between these two cells ($t = 2.95$, $p = .005$).

Similar to the Singaporean results, the Hispanic version of scenario one also featured lower levels of compliance, as predicted in hypothesis 5. The mean for the Hispanic version of the scenario is 6.0; the English version 7.2. There is again statistically significant difference between these two cells ($t = 2.1$, $p = .039$). Unsurprisingly, the English language respondents for both cultures indicated that they were more likely to comply to the public healthcare initiative that scenario one focussed around. As a result all hypotheses pertaining to compliance for the individualism cultural value featured statistically significant results, thus supporting hypotheses H1, and H5.

It was also hypothesised that the respondents who received scenario two and its accompanying questionnaire, in either Chinese or Spanish would display higher levels of compliance. This was hypothesised because both the Chinese and Spanish languages align with Hofstede's collectivism value, which scenario two was constructed around. As hypothesis two and six predicted, the respondents answering the Chinese and Hispanic versions indicated a higher level of compliance with means of 6.03 and 6.3 respectively. In contrast, the means for the English version of scenario two yields lower levels of compliance; 4.5 for the Singaporean respondents and 5.0 for the United

States respondents. Hypotheses H2 and H6 are thus supported as they yield statistically significant results of (t = 3.1, p = .003) for the Singaporean respondents and (t = 2.0, p = 0.5) between the United States Spanish- and English-speaking respondents.

Power distance was split into two scenarios, low and high. It was hypothesised that there would be greater compliance between the Chinese and Spanish versions of the high power distance scenario, as both cultures share the high power distance value. The aforementioned languages and the high power distance value should align to create a more persuasive healthcare message, which as hypothesised, should elicit higher levels of compliance. The Chinese language version of the scenario yielded a mean of 5.5, in comparison to the 4.1 from the English version. The Spanish version of the same scenario yielded similar results, with a mean of 6.4, whereas the English version is 4.6. This scenario produced a statistical significance for both cultures, (t = 2.9, p = .004) for Chinese and (t = 3.0, p = .004) for the Hispanic version, thus supporting the hypotheses H3, H7 and H7a.

The cultural value of low power distance pertains to how a nation handles the inequalities that exist between individuals. As the Singaporean and Hispanic cultures encompass high power distance values, it was hypothesised that the respondents who received the English version of scenario four would experience an alignment between the low power distance scenario and the English language and consequently indicates higher levels of compliance. However, most unexpectedly, no statistical significance was found between compliance and the language version of the scenario. The Singaporean result is (t = .01, p = .992), as a result H4 is not supported. Although there is an absolute difference in compliance levels to the healthcare scenarios in different languages, no statistical significance was found either for the English speaking and Spanish speaking low Power distance groups (t = 1.5, p = .132), therefore H8 is also not supported.

Pertaining to the values of collectivism, individualism and high power distance, statistically significant results are obtained for all, thus expectations are met and the research hypotheses are supported across both cultures. However the low power distance scenario did not yield statistically significant results. There could be a number of reasons that this occurred. First, this could be a result of a methodology mistake,

resulting in an order bias. The Respondents were not asked to complete the cultural values section until the end of the questionnaire, so they might have realised what the researcher was seeking at that point. The contents of the scenario story may simply not have been good enough. The use of the term "co-workers" in scenario four may not have been a strong enough trigger to elicit a low power distance response in either culture or, perhaps both cultures have similar feelings toward co-workers.

A more intriguing reason could have been that there may have been consciousness at play when the respondents were answering the questions about cultural value. A direct question was asked and the respondent would have to think about it and may have given a socially desirable answer. When reading the scenario the reader would not know what was being sought and so the decision to accept an inoculation or not may have been a more genuine one; less scripted and socially correct. This is speculation, as the answer cannot be drawn from the data available. The fact that English-language respondents show no significant difference in their level of individualism, collectivism and power distance but that they do show a difference on persuasion does also support the speculative reason, though.

These results do offer a clear indication that cultural values may be more strongly attached to the language used by bilinguals than previously thought, in bilingual communities at least. The fact that bilinguals not only select different values as important when cued by language, but their unconscious response bias is also elicited by language cues demonstrates very powerfully the strength of the value-language bonds in such societies.

Chapter 7. Conclusions

The purpose of this research was to ascertain the overall compliance of bilinguals to a scenario based on a public health initiative. Four scenarios were devised around Hofstede's cultural values of collectivism, individualism and power distance, one low, one high, with four conditions for each, two English (one for Chinese, one for Spanish bilinguals), one Chinese and one Spanish, forming 16 scenarios in total.

A review of literature revealed that perceived risk can be decreased in intangible services such as healthcare if an individual is able to communicate in their native language (John- Baptiste et al., 2004). Consumers consider the importance of using their native language in high-risk services essential (Holmqvist, 2011). Nothing about bilinguals' reaction to language cues was found, however.

This research returned results that have important implications for healthcare, especially. The results showed that there are statistically significant differences for both cultures in the collectivism, individualism and high power distance scenarios. This suggests that an alignment between language and cultural values increases the persuasive power of the message and consequent compliance to the healthcare advocacy.

As a result, the findings from this research demonstrate the most effective ways to communicate with and to patients, not just from the perspective of doctor-patient communication. It also provides insights on how the Government and the Ministry of Health can adapt their healthcare initiatives to educate and inform their chosen community and gain the participation of many of the cultural entities that exist within this country.

This research lends itself to persuading individuals to adopt initiatives that will benefit the community. However, the research extends beyond healthcare communication; there is also a commercial message at play here. Gaining compliance is applicable as much for advertising products and services to ethnic subsets of the community in areas other than public health. Leisure activities, housing options, food and beverages, even styles of clothing are culturally laden objects and consequently lend themselves

to greater persuasion if the language and message frame are designed to contain the same, relevant, cultural values.

To end where this research began, the empirical findings produced here do offer yet more support to the Elaboration Likelihood model of attitude formation/change. Academic literature has produced the notion that there are arguments and counter arguments occurring in one's brain; and that a stronger argument has an increased likelihood of forming, or changing, an attitude. This research did just that. The strength of the arguments contained in the scenarios was enhanced by matching a scenario frame to the appropriate language, such as collectivist values with the matching language (Chinese and Spanish). This was demonstrated empirically, that where the argument is strengthened, through matching values and language, the persuasion is also strengthened, forming a stronger attitude. This was supported with increased levels of compliance to the healthcare scenarios recorded when the frame and the language were in alignment

Implications

Business Implications

Practices of international business commonly demand marketing research in segments of the market described by factors besides those of national borders. This research demonstrates that wherever a significant subculture, or wherever bilingualism is prevalent, an element of care must be exercised to establish if the message is sensitive to language cues. There is a likelihood of some individuals being language sensitive in any cultural situation; therefore it becomes the responsibility for businesses and researchers to confirm this before making their communications. To overcome this problem, businesses should establish the dominant language in the situation. For instance, a company marketing running shoes into the United States could use an advertisement in English about winning races and personal development, whilst targeting the Spanish-speaking Hispanic ethnic sub-population with a Spanish-language advertisement showing that everyone else is using the shoes.

Healthcare Implications

In the broadest sense, the findings from this research can be extracted from a healthcare setting and applied into the consumer behaviour field, among many others. This research has proven that cultural values are attached to linguistics, especially in bilingual individuals. This then sets a basis for marketers to connect and communicate with their target audience.

According to John-Baptiste et al. (2004), a patient's English proficiency, (or proficiency in the dominant language of a nation), impacts upon the health outcomes that they experience. Limited language proficiency may result in the patient experiencing adverse health effects. Language discordance can be linked to decreased patient care, misdiagnosis, lengthier hospital stays, prescription of incorrect medication and overall dissatisfaction of both healthcare professional and patient. With the benefit of the current research findings, though, it may be that it is not only the patient's language proficiency that is in question, but the framing of the healthcare messages themselves that may be exacerbating the issue. If speaking English, use appropriate value statements, if Spanish or Chinese, then collectivistic, values will help gain compliance.

Based on notions by Kalist (2005), it would be worthwhile for Governments and health boards to investigate providing incentives for healthcare professionals, especially nurses, to learn a second language, or provide wage premiums or benefits for those who are bilingual. This is not enough, though, as training in cultural values is also needed. These values attach to a language only if the language is lived, and learned within context. Literary findings from Kalist (2005) have established that the market does not provide nurses with rewards such as higher wages for bilingualism, concluding that there is not a monetary incentive for healthcare professionals to become proficient in a second language or culture, even though it would benefit their professional practice.

Increased communication effectiveness, either through language proficiency or value understanding would have a flow on effect, with far-reaching results. Incidents of mis-diagnosis would decrease, improving both patient satisfaction and quality of care. This would then impact upon and reduce the length of time spent in the hospital, allowing the patient to return to their home environment and regular routine much sooner, permitting them to commence work sooner. A faster turnover in hospital stays would free up hospital beds for more at risk or ill patients, this would also reduce the cost on the patient in a health system like the United States, or to the tax-payer and Government in societies where hospital expenses are covered by the health system. The effective communication could also see a reduction in incidence rates as public health initiatives will be effectively targeting the desired demographic or cultural group resulting in the increased general health of the population.

Theoretical Implications

Research into bilingualism is burgeoning. It is clear that values attach to words and thus said values can be triggered by language. However what cannot be explained is the detailed psycholinguistic aspects of the phenomenon, but also the moderating factors. Chinese is a pictograph language, whereas English is not, the Chinese culture is also vastly different from the English, so it seems that the information processing paths and values triggered are distinct.

The mediating variables also need investigation. It is odd that here I found no difference on stated basic values when the bilinguals were speaking in different

tongues. Are there other mediating variables that can throw light on the interesting phenomenon that switching language to match copy affects compliance.

This research attempts to add to the theoretical knowledge body through illuminating the depth of cultural attachment to linguistic forms. The drive and focus of future work needs to be angled toward establishing general principles and understanding the processes, so that a set of guidelines can be instituted for business practitioners and international marketers. Wherever bilingualism exists, it is of great importance to establish language of the usage situation before communicating with potential customers or patients.

Future Research

This research can be extended and improved through the use of a within-subject design. All the respondents are subjected to every scenario in both English and their other bilingual language. Within subject participants reduce the errors that can arise from the natural variance that exists between individuals, by acting as their own control, which may yield statistically significant results for the low power distance scenario.

To prevent order bias, the questionnaire for low power distance should be randomised; the order of the scenario and questionnaire may have yielded different results if this was reversed.

To add to the literature on bilingualism, Hofstede's cultural values of masculinity and uncertainty avoidance should be examined. Masculinity refers to the factors that motivate the nation. Masculine societies are driven by competition and success. This value system is instilled when one is in school and this continues throughout one's life, in both leisure and occupational pursuits. A feminine society is the opposite, where the dominant society values focus on one's quality of life and taking care of others. Instead of financial status and achievement being a sign of success, feminine societies consider quality of life as the ultimate goal.

Uncertainty avoidance pertains to a nation's comfort in ambiguous situations and the institutions that have been established to avoid these. A country is either accepting of uncertainty or anxious of ambiguity. Countries that score highly on uncertainty avoidance have a strong need for life structure through the implementation of rules and regulations.

Both masculinity and uncertainty avoidance could add to the body of knowledge that has been provided by this research. Although masculinity and uncertainty avoidance would not have proved to be fruitful for this research as Mexico, the United States and England are all masculine societies. Uncertainty avoidance could have been performed for the Spanish/English scenarios as Mexico scores highly, whereas the United States is accepting of uncertainty.

To paint a clearer picture on how bilinguals think and how their values are triggered through language, it would be advantageous to extend this research across other cultures. French is an official language in many countries across several continents; many minorities also speak it. Examining French bilinguals such as French/Canadian would contribute to this research, presenting implications for the healthcare field and marketing communications of consumer products and services.

Canada and France both score highly in individualism, cultural differences between the two could be examined using Hofstede's values of masculinity, uncertainty avoidance and power distance. Canada is a masculine society, whereas France is more feminine, the scenario could focus around a healthcare scenario that involves competition or could have a feminine focus where the scenario could involve a healthcare situation that would improve one's quality of life. Uncertainty avoidance could also be examined between these two countries, France scores highly in uncertainty avoidance, in contrast, Canadians are accepting of uncertainty. A healthcare scenario for this value could focus on the respondent being part of a paid trial for a new drug, where the effects are not fully known. France is a high power distance nation, whereas Canada scores low on this dimension. With research error revelations in the low power distance scenario, analysing the cultural differences between these countries would provide an insight into low power distance and compliance; it may even reveal data that was not discovered in this research. Many African and European nations speak a multitude of languages, with each attached to a unique set of values. Of course this research into bilingualism should not stop here; the cultural values of many countries are still to be explored.

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Appendices

Appendix One- Healthcare scenarios and compliance measure
Scenario 1, Individualism

> *You are among the first people in your community to be offered a free vaccination against the potential threat of a new Influenza virus that has been spreading in the region. The benefits to you are significant because, if contracted, the virus could cause much inconvenience and would necessitate time quarantined at home, and the symptoms (sore throat, neck and throat rash, temperature and headache) are very undesirable. The vaccine has been tested and approved for use, and although the side effects can be significant, the incidence of such side effects is reportedly small.*

Scenario 2, Collectivism

> *You are among the first people in your community to be offered a free vaccination against the potential threat of a new Influenza virus that has been spreading in the region. If you do become infected then there is a strong possibility that you would pass the virus on to many others in your family, in your circle of friends and in the wider community. The vaccine has been tested and approved for use, and although the side effects can be significant, the incidence of such side effects is reportedly small.*

Scenario 3, High Power distance

> *You are visiting your doctor for a regular check up when they tell you about a free vaccination that will provide immunity against the latest strain of influenza. This health initiative has received support and funding from the Government and has been fully tested and approved for use, and although the side effects can be significant, the incidence of such side effects is reportedly small.*

Scenario 4, Low Power distance

> *You are talking to your friends and they mention that they are getting a vaccine against the latest strain of influenza. This vaccine has been fully*

tested and approved for use, and although the side effects can be

significant, the incidence of such side effects is reportedly small.

Compliance Measure

Questions, 9-point Likert scale anchored by "Disagree strongly" or "Agree strongly," answered in response to the following questions:

1) I would certainly become vaccinated as soon as possible

2) Accepting a vaccination shot is obviously the best thing for me

3) It is very important that I become vaccinated as soon as possible

4) Getting vaccinated is the right thing to do

5) It would be irresponsible of me not to get vaccinated

6) It is my duty to accept the vaccination

Appendix Two: Singaporean English Questionnaire

Introduction & Instructions

Research Topic

Speaking in Tongues: Bilingualism and Public Health Service Advocacy

Introduction

Thank you for completing this questionnaire. Please read the following healthcare-based scenario and answer the corresponding questions accordingly.

Please complete all question items in the following questionnaire. The questionnaire will take approximately 10 minutes to complete.

Confidentiality and Anonymity

All information you provide will be strictly anonymous. Your responses will be presented only in aggregate and no individual results will be highlighted. Results will not be released to any third-party. The demographic information that is asked of you to provide, at the end of the questionnaire, will be used for comparative purposes only. If at any time you wish to withdraw from the survey you will not be disadvantaged in any way.

Consent

Your consent to participate in this research will be indicated by commencing the following, electronic questionnaire.

Researcher Contact Details

Brie Stafford-Bush, qdw5242@aut.ac.nz

Project Supervisor Contact Details

Professor Roger Marshall, roger.marshall@aut.ac.nz, +64 9 921 9999 ext. 5478

Further Information - Participant Information Sheet

For further, more detailed information and contact details or if you have any questions or concerns about this research, please refer to the Participant Information Sheet, found here.

If you wish to receive a copy of the final, aggregated results of this study in the form of an Executive Summary, please email the researcher, Brie Stafford-Bush, at the email address listed, above, to register your interest.

Many thanks for your assistance with this research project - your input is very much appreciated.

Demographic

Section One

Please respond to the following demographic questions:

Are you:

○ Male
○ Female

Which of the following age groups do you fit into?

○ 18 - 24 years
○ 25 - 30 years
○ 31 - 40 years
○ 41 - 60 years
○ 61 years and over

Would you consider yourself of Chinese ethnicity?

○ Yes
○ No

Are you fluent in both English and Chinese languages?

◯ Yes
◯ No

Scenario One - Individualistic

Section Two

Please allow yourself to become immersed into the given scenario. Please consider this scenario when answering the following questions. Please answer the questions truthfully and to the best of your ability.

Please indicate the extent, to which you agree or disagree with the statements following the scenario by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree), below:

For the purpose of our study, please consider yourself in the following scenario:

You are among the first people in your community to be offered a free vaccination against the potential threat of a new Influenza virus that has been spreading in the region. The benefits to you are significant because, if contracted, the virus could cause much inconvenience and would necessitate time quarantined at home, and the symptoms (sore throat, neck and throat rash, temperature and headache) are very undesirable. The vaccine has been tested and approved for use, and although there can be some side effects their incidence is reportedly small.

I would certainly become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
◯	◯	◯	◯	◯	◯	◯	◯	◯

Accepting a vaccination shot is obviously the best thing for me:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
◯	◯	◯	◯	◯	◯	◯	◯	◯

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

When I succeed, it is usually because of my abilities:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

I enjoy being unique and different from others in many ways:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

The well-being of my group is important to me:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

If a member of my group gets a prize, I would feel proud:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

If a relative were in financial difficulty, I would help within my means:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9

○   ○   ○   ○   ○   ○   ○   ○   ○

It is important to maintain harmony within my group:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

○   ○   ○   ○   ○   ○   ○   ○   ○

I like sharing little things with my neighbours:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

○   ○   ○   ○   ○   ○   ○   ○   ○

I feel good when I cooperate with others:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

○   ○   ○   ○   ○   ○   ○   ○   ○

My happiness depends very much on the happiness of those around me:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

○   ○   ○   ○   ○   ○   ○   ○   ○

To me, pleasure is spending time with others:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

○   ○   ○   ○   ○   ○   ○   ○   ○

Scenario Two - Collectivistic

Section Two

Please allow yourself to become immersed into the given scenario. Please consider this scenario when answering the following questions. Please answer the questions truthfully and to the best of your ability.

Please indicate the extent, to which you agree or disagree with the statements following the scenario by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree), below:

For the purpose of our study, please consider yourself in the following scenario:

You are among the first people in your community to be offered a free vaccination against the potential threat of a new Influenza virus that has been spreading in the region. If you do become infected then there is a strong possibility that you would pass the virus on to many others in your family in your circle of friends and in the wider community. The vaccine has been tested and approved for use, and allthough there can be some side effects their incidenceis reportedly small.

I would certainly become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Accepting a vaccination shot is obviously the best thing for me:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is very important that I become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Getting vaccinated is the right thing to do:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It would be irresponsible of me not to get vaccinated:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is my duty to accept the vaccination:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Three - High Power Distance

Section Two

Please allow yourself to become immersed into the given scenario. Please consider this scenario when answering the following questions. Please answer the questions truthfully and to the best of your ability.

Please indicate the extent, to which you agree or disagree with the statements following the scenario by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree), below:

For the purpose of our study, please consider yourself in the following scenario:

You are visiting your doctor for a regular check up when they tell you about a free vaccination that will provide immunity against the latest strain of Influenza. This health initiative has received support and funding from the Government and has been fully tested and approved for use, and although the side effects can be significant, the incidence of such side effects is reportedly small.

I would certainly become vaccinated as soon as possible:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Accepting a vaccination shot is obviously the best thing for me:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is very important that I become vaccinated as soon as possible:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Getting vaccinated is the right thing to do:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It would be irresponsible of me not to get vaccinated:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

It is my duty to accept the vaccination:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

Power Distance

Section Three

Please indicate the extent to which you agree or disagree with the following statements, below and overleaf, by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree):

I believe everyone should have equal opportunities:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

Having social order in society is important:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

Authority figures should always be obeyed:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

It is important to reciprocate favours to others:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

I seek approval from others:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

Choosing my own goals in life is important:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

Informal communication within the workplace is acceptable:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

A person should not flaunt their wealth:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

In the workplace, subordinates should expect to be told, not consulted:

Strongly Disagree | | | | | | | | Strongly Agree
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9
○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○

The Government should be based on majority:

Strongly Disagree | | | | | | | | Strongly Agree
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9
○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○

Scenario Four - Low Power Distance

Section Two

Please allow yourself to become immersed into the given scenario. Please consider this scenario when answering the following questions. Please answer the questions truthfully and to the best of your ability.

Please indicate the extent, to which you agree or disagree with the statements following the scenario by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree), below:

For the purpose of our study, please consider yourself in the following scenario:

You are talking to your co-workers and they mention that they are getting a vaccine against the latest strain of Influenza. This vaccine has been fully tested and approved for use, and although the side effects can be significant, the incidence of such side effects is reportedly small.

I would certainly become vaccinated as soon as possible:

Strongly Disagree | | | | | | | | Strongly Agree
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9
○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○

Accepting a vaccination shot is obviously the best thing for me:

Strongly Disagree | | | | | | | | Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is very important that I become vaccinated as soon as possible:

Strongly Disagree | | | | | | | | Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Getting vaccinated is the right thing to do:

Strongly Disagree | | | | | | | | Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It would be irresponsible of me not to get vaccinated:

Strongly Disagree | | | | | | | | Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is my duty to accept the vaccination:

Strongly Disagree | | | | | | | | Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Appendix Three- Singaporean Chinese Questionnaire

介绍与说明

研究课题

说外语：倡导双语制与公共医疗服务

介绍

非常感谢您完成这份问卷调查。请阅读下列设定的医疗保教场景并回答相关问题。

请完成问卷中的所有问题，完成问卷大约需要占用您10分钟。

保密与匿名

本问卷调查中的将采用绝对匿名的方式提供。问卷将仅显示所有汇总结果，而不会突显个人选择。最终结果不会透露给任何第三方。问卷最后要求您填写的个人统计信息将仅作对比之用。您可随时退出问卷调查，不会给您带来任何不便。

知情同意

填写下方电子问卷调查表即表明您同意参与本研究调查。

研究者及联系方式

布里·斯塔福德—布什(Brie Stafford-Bush)
邮箱：qdw5242@aut.ac.nz

项目主管及联系方式

罗杰·马歇尔教授（Roger Marshall）
邮箱：roger.marshall@aut.ac.nz
电话：+64 9921 9999，分机号：5478

更多信息——参与者信息表欲了解更多详细信息和联系方式，或您对本研究有任何问题或担忧，请参阅此处所列的参与者信息表。

若您希望收到此调查最终结果的调查概要，请发邮件到上述邮箱给调查员布里·斯塔福德—布什。

非常感谢您协助我们完成这份问卷调查——感谢您填写本问卷

Demographic

第一部分

请回答下列个人统计问题：

您的性别：

○ 男
○ 女

下列哪一组是您所属的年龄层？

○ 18 - 24 岁
○ 25 - 30 岁
○ 31 - 40 岁
○ 41 - 60 岁
○ 61岁及以上

您是否是华裔？

○ 是
○ 不是

您是否可以流利地应用英语和中文？

○ 是

◯ 不是

Scenario One - Individualistic

场景介绍

请完全融入下列给出的场景。请结合场景如实回答下列问题。

请就下列陈述表明您同意或不同意的程度（1=极为反对；9=极为赞成）

为了实现研究目的，请结合下列场景进行思考：

您是您所在社区第一位免费接种疫苗的人士，以预防社区中扩散的新型流感病毒。此举于您而言意义重大，因为感染该病毒会给您带来诸多不便，您必须在家进行隔离，并伴随各种不适症状（喉咙痛、脖子及喉咙红疹、发烧和头痛）。该疫苗已通过测试并获批使用，尽管疫苗可能存在部分副作用，但发生的概率据说很小。

我一定会尽快接种疫苗：

极为反对								极为赞成
1	2	3	4	5	6	7	8	9
◯	◯	◯	◯	◯	◯	◯	◯	◯

很明显，于我而言，最好的事情就是接种疫苗：

极为反对								极为赞成
1	2	3	4	5	6	7	8	9
◯	◯	◯	◯	◯	◯	◯	◯	◯

我应该尽快接种疫苗，这非常重要：

极为反对								极为赞成
1	2	3	4	5	6	7	8	9
◯	◯	◯	◯	◯	◯	◯	◯	◯

接种疫苗是正确的：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

于我而言，不接种疫苗是不负责任的：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

接种疫苗是我的义务：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Collectivism & Individualism

第三节

请就下列陈述表明您同意或不同意的程度（1=极为反对；9=极为赞成）

我常常做"我自己的事情"：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

人应该独立生活，不依赖他人：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9

我喜欢拥有自己的隐私:

极为反对   极为赞成

1   2   3   4   5   6   7   8   9

我更倾向于以直截了当的方式与人进行讨论:

极为反对   极为赞成

1   2   3   4   5   6   7   8   9

我是独一无二的个体:

极为反对   极为赞成

1   2   3   4   5   6   7   8   9

我经历的事情是我自己的事情:

极为反对   极为赞成

1   2   3   4   5   6   7   8   9

获得成功时，通常是依赖我自己的能力:

极为反对   极为赞成

1   2   3   4   5   6   7   8   9

在许多方面，我更倾向于表现自己的独一无二、与众不同:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

我所在团体的福利于我而言很重要:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

如果我团队中的某名成员获奖，我会引以自豪:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

倘若某亲戚有财政困难，我会在能力所及范围内给予帮助:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

维护我所在团队的和睦很重要:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

我喜欢与邻居分享一些小事:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

与他人合作时让我感觉好适:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

我的快乐很大程度源于我周边人群的幸福感:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

于我而言，快乐就是与他人共度时光:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Two - Collectivistic

场景介绍

请完全融入下列给出的场景。请结合场景如实回答下列问题。

请就下列陈述表明您同意或不同意的程度（1=极为反对；9=极为赞成）

为了实现研究目的，请结合下列场景进行思考:

您是您所在社区第一位免费接种疫苗的人士，以预防社区中扩散的新型流感病毒。倘若感染病毒，您极有可能把病毒传给诸多人群，包括您的家人、朋友和其他社区的人。该疫苗已通过测试并获批使用，尽管疫苗可能存在部分副作用，但发生的概率据说很小。

我一定会尽快接种疫苗:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9

○　　　○　　　○　　　○　　　○　　　○　　　○　　　○　　　○

很明显，于我而言，最好的事情就是接种疫苗：

极为反对　　　　　　　　　　　　　　　　　　　　极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

我应该尽快接种疫苗，这非常重要：

极为反对　　　　　　　　　　　　　　　　　　　　极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

接种疫苗是正确的:

极为反对　　　　　　　　　　　　　　　　　　　　极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

于我而言，不接种疫苗是不负责任的:

极为反对　　　　　　　　　　　　　　　　　　　　极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

接种疫苗是我的义务:

极为反对　　　　　　　　　　　　　　　　　　　　极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Three - High Power Distance

场景介绍

请完全融入下列给出的场景。请结合场景如实回答下列问题。

请就下列陈述表明您同意或不同意的程度（1=极为反对；9=极为赞成）

为了我们研究的目的，请您设身处地地进行思考：

您去看医生进行定期检查，医生告知您现有一种免费的疫苗可以预防最新型的流感。政府已为该健康倡议提供支持及资金，并且该疫苗已经完全经过测试并获批使用。尽管疫苗可能存在部分副作用，但发生的概率据说很小。

我一定会尽快接种疫苗：

极为反对								极为赞成
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

很明显，于我而言，最好的事情就是接种疫苗：

极为反对								极为赞成
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

我应该尽快接种疫苗，这非常重要：

极为反对								极为赞成
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

接种疫苗是正确的：

极为反对								极为赞成
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

于我而言，不接种疫苗是不负责任的：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

接种疫苗是我的义务：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Power Distance

Section Three

Please indicate the extent to which you agree or disagree with the following statements, below and overleaf, by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree):

我认为人人都应拥有同等权利：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

社会上存在社会秩序很重要：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

应该服从权威人士的管理：

极为反对   极为赞成

1	2	3	4	5	6	7	8	9

○ ○ ○ ○ ○ ○ ○ ○ ○

回报他人的善举很重要:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

我会寻求他人的裁准:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

选择自己的人生目标很重要:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

可以接受工作场所的非正式交流:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

人不该炫富:

极为反对   极为赞成

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

在工作场所，上级应告诉下级而不是与下级商讨该做什么:

极为反对

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

极为赞成

政府应该代表大多数人：

极为反对

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

极为赞成

Scenario Four - Low Power Distance

场景介绍

请完全融入下列给出的场景。请结合场景如实回答下列问题。

请就下列陈述表明您同意或不同意的程度（1=极为反对；9=极为赞成）

为了实现研究目的，请结合下列场景进行思考：

和同事聊天时，您的同事谈及他们将去接种抗新型流感的疫苗。该疫苗已通过测试并获批使用，尽管可能存在部分副作用，但发生的概率据说很小。

我一定会尽快接种疫苗：

极为反对

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

极为赞成

很明显，于我而言，最好的事情就是接种疫苗：

极为反对

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

极为赞成

我应该尽快接种疫苗，这非常重要：

极为反对   极为赞成

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

接种疫苗是正确的:

极为反对   极为赞成

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

于我而言，不接种疫苗是不负责任的：

极为反对   极为赞成

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

接种疫苗是我的义务:

极为反对   极为赞成

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

我应该尽快接种疫苗，这非常重要：

Appendix Four: United States English questionnaire

Introduction & Instructions

Research Topic

Speaking in Tongues: Bilingualism and Public Health Service Advocacy

Introduction

Thank you for completing this questionnaire. Please read the following healthcare-based scenario and answer the corresponding questions accordingly.

Please complete all question items in the following questionnaire. The questionnaire will take approximately 10 minutes to complete.

Confidentiality and Anonymity

All information you provide will be strictly anonymous. Your responses will be presented only in aggregate and no individual results will be highlighted. Results will not be released to any third-party. The demographic information that is asked of you to provide, at the end of the questionnaire, will be used for comparative purposes only. If at any time you wish to withdraw from the survey you will not be disadvantaged in any way.

Consent

Your consent to participate in this research will be indicated by commencing the following, electronic questionnaire.

Researcher Contact Details

Brie Stafford-Bush, qdw5242@aut.ac.nz

Project Supervisor Contact Details

Professor Roger Marshall, roger.marshall@aut.ac.nz, +64 9 921 9999 ext. 5478

Further Information - Participant Information Sheet

For further, more detailed information and contact details or if you have any questions or concerns about this research, please refer to the Participant Information Sheet, found here.

If you wish to receive a copy of the final, aggregated results of this study in the form of an Executive Summary, please email the researcher, Brie Stafford-Bush, at the email address listed, above, to register your interest.

Many thanks for your assistance with this research project - your input is very much appreciated.

Demographic

Section One

Please respond to the following demographic questions:

Are you:

- ○ Male
- ○ Female

Which of the following age groups do you fit into?

- ○ 18 - 24 years
- ○ 25 - 30 years
- ○ 31 - 40 years
- ○ 41 - 60 years
- ○ 61 years and over

Would you consider yourself of Hispanic ethnicity?

- ○ Yes
- ○ No

Are you fluent in both English and Spanish languages?

○ Yes
○ No

Scenario One - Individualistic

Section Two

Please allow yourself to become immersed into the given scenario. Please consider this scenario when answering the following questions. Please answer the questions truthfully and to the best of your ability.

Please indicate the extent, to which you agree or disagree with the statements following the scenario by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree). below:

For the purpose of our study, please consider yourself in the following scenario:

You are among the first people in your community to be offered a free vaccination against the potential threat of a new Influenza virus that has been spreading in the region. The benefits to you are significant because, if contracted, the virus could cause much inconvenience and would necessitate time quarantined at home, and the symptoms (sore throat, neck and throat rash, temperature and headache) are very undesirable. The vaccine has been tested and approved for use, and although there can be some side effects their incidence is reportedly small.

I would certainly become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Accepting a vaccination shot is obviously the best thing for me:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is very important that I become vaccinated as soon as possible:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

Getting vaccinated is the right thing to do:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

It would be irresponsible of me not to get vaccinated:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

It is my duty to accept the vaccination:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

Collectivism & Individualism

Section Three

Please indicate the extent to which you agree or disagree with the following statements, below and overleaf, by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree):

I often "do my own thing":

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

One should live one's life independently of others:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

I like my privacy:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

I prefer to be direct and forthright when discussing with people:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

I am a unique individual:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

What happens to me is my own doing:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

When I succeed, it is usually because of my abilities:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

I enjoy being unique and different from others in many ways:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

The well-being of my group is important to me:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

If a member of my group gets a prize, I would feel proud:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

If a relative were in financial difficulty, I would help within my means:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9

○ ○ ○ ○ ○ ○ ○ ○ ○

It is important to maintain harmony within my group:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

I like sharing little things with my neighbours:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

I feel good when I cooperate with others:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

My happiness depends very much on the happiness of those around me:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

To me, pleasure is spending time with others:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Two - Collectivistic

Section Two

Please allow yourself to become immersed into the given scenario. Please consider this scenario when answering the following questions. Please answer the questions truthfully and to the best of your ability.

Please indicate the extent, to which you agree or disagree with the statements following the scenario by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree), below:

For the purpose of our study, please consider yourself in the following scenario:

You are among the first people in your community to be offered a free vaccination against the potential threat of a new Influenza virus that has been spreading in the region. If you do become infected then there is a strong possibility that you would pass the virus on to many others in your family in your circle of friends and in the wider community. The vaccine has been tested and approved for use, and allthough there can be some side effects their incidenceis reportedly small.

I would certainly become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Accepting a vaccination shot is obviously the best thing for me:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is very important that I become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Getting vaccinated is the right thing to do:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It would be irresponsible of me not to get vaccinated:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is my duty to accept the vaccination:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Three - High Power Distance

Section Two

Please allow yourself to become immersed into the given scenario. Please consider this scenario when answering the following questions. Please answer the questions truthfully and to the best of your ability.

Please indicate the extent, to which you agree or disagree with the statements following the scenario by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree), below:

For the purpose of our study, please consider yourself in the following scenario:

You are visiting your doctor for a regular check up when they tell you about a free vaccination that will provide immunity against the latest strain of Influenza. This health initiative has received support and funding from theGovernment and has been fully tested and approved for use, and although the side effects can be significant, the incidence of such side effects is reportedly small.

I would certainly become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Accepting a vaccination shot is obviously the best thing for me:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is very important that I become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Getting vaccinated is the right thing to do:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It would be irresponsible of me not to get vaccinated:

Strongly Disagree		Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is my duty to accept the vaccination:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Power Distance

Section Three

Please indicate the extent to which you agree or disagree with the following statements, below and overleaf, by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree):

I believe everyone should have equal opportunities:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Having social order in society is important:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Authority figures should always be obeyed:

Strongly Disagree   Strongly Agree

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is important to reciprocate favours to others:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

I seek approval from others:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

Choosing my own goals in life is important:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

Informal communication within the workplace is acceptable:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

A person should not flaunt their wealth:

Strongly
Disagree

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Strongly
Agree

In the workplace, subordinates should expect to be told, not consulted:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

The Government should be based on majority:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Four - Low Power Distance

Section Two

Please allow yourself to become immersed into the given scenario. Please consider this scenario when answering the following questions. Please answer the questions truthfully and to the best of your ability.

Please indicate the extent, to which you agree or disagree with the statements following the scenario by indicating your response using the scale (1 = strongly disagree; 9 = strongly agree), below:

For the purpose of our study, please consider yourself in the following scenario:

You are talking to your co-workers and they mention that they are getting a vaccine against the latest strain of Influenza. This vaccine has been fully tested and approved for use, and although the side effects can be significant, the incidence of such side effects is reportedly small.

I would certainly become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Accepting a vaccination shot is obviously the best thing for me:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is very important that I become vaccinated as soon as possible:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Getting vaccinated is the right thing to do:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It would be irresponsible of me not to get vaccinated:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

It is my duty to accept the vaccination:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Appendix Five: United States Hispanic questionnaire

Introducción e Instrucciones

Tema de Investigación

Hablar en Lenguas: Bilingüismo y Promoción del Servicio de Salud Pública

Introducción

Gracias por completar este cuestionario. Lea la siguiente situación basada en la salud y responda a las preguntas correspondientes pertinentemente.

Complete todas las preguntas del siguiente cuestionario. Completar el cuestionario le llevará aproximadamente 10 minutos.

Confidencialidad y anonimato

Toda la información que usted proporcione será estrictamente anónima. Sus respuestas se presentarán de manera conjunta y no se resaltarán los resultados individuales. Los resultados no se darán a conocer a terceras personas. La información demográfica que se le pide que facilite, al final del cuestionario, se utilizará únicamente con fines comparativos. Si en algún momento desea retirarse de la encuesta no le desfavorecerá de ninguna manera.

Consentimiento

Su consentimiento para participar en esta investigación será indicado nada más comenzar la siguiente cuestionario electrónico.

Datos de contacto del investigador

Brie Stafford-Bush, qdw5242@aut.ac.nz

Datos de contacto del supervisor del proyecto

Profesor Roger Marshall, roger.marshall@aut.ac.nz, +64 9 921 9999 ext. 5478

Información adicional: hoja de información del participantePara obtener información adicional y datos de contacto más detallados o si tiene alguna pregunta o inquietud acerca de esta investigación, consulte la hoja de información del participante.

Si desea recibir una copia de los resultados finales totales de este estudio en forma de resumen ejecutivo, por favor escriba al investigador, Brie Stafford-Bush, a la dirección de correo electrónico que aparece en la lista anterior para registrar su interés.

Muchas gracias por su ayuda en este proyecto de investigación; apreciamos mucho su aportación.

Demographic

Sección Uno

Responda a las siguientes preguntas demográficas:

Usted es:

- ○ Hombre
- ○ Mujer

¿A cuál de los siguientes grupos de edad pertenece?

- ○ 18 - 24 años
- ○ 25 - 30 años
- ○ 31 - 40 años
- ○ 41 - 60 años
- ○ Mayor de 61 años

¿Se considera de origen hispano?

- ○ Sí
- ○ No

¿Maneja los idiomas inglés y español?

○ Sí
○ No

Scenario One - Individualistic

Instrucciones de la situación

Permítase sumergirse en la situación dada. Considere esta situación al contestar a las siguientes preguntas. Por favor conteste las preguntas sinceramente y de la mejor manera posible.

Indique en qué medida está usted de acuerdo o en desacuerdo con las declaraciones siguiendo la situación indicando su respuesta utilizando la escala (1 = muy en desacuerdo; 9 = muy de acuerdo) siguiente:

A los efectos de nuestro estudio, por favor considérese a sí mismo en la siguiente situación:

Usted es una de las primeras personas de su comunidad a la que se le ofrecerá vacunarse gratuitamente contra la amenaza potencial de un nuevo virus de la gripe que se ha extendido en la región. Los beneficios que obtendrá son importantes ya que, si se contrae, el virus podría causar muchos inconvenientes y requeriría pasar un tiempo en casa en cuarentena, y los síntomas (dolor de garganta, erupción en el cuello y la garganta, fiebre y dolor de cabeza) no son nada deseables. La vacuna se ha probado y aprobado para su uso, y aunque puede provocar algunos efectos secundarios la probabilidad es muy baja.

Sin duda yo me vacunaría lo antes posible:

Muy en desacuerdo   Muy de acuerdo
1   2   3   4   5   6   7   8   9
○   ○   ○   ○   ○   ○   ○   ○   ○

Haber aceptado la vacuna obviamente es lo mejor para mí:

Muy en desacuerdo   Muy de acuerdo
1   2   3   4   5   6   7   8   9

○   ○   ○   ○   ○   ○   ○   ○   ○

Es muy importante vacunarse lo antes posible:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Lo que hay que hacer es vacunarse:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Sería irresponsable por mi parte no vacunarme:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Es mi deber aceptar la vacuna:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Collectivism & Individualism

Sección Tres

Indique en qué medida está usted de acuerdo o en desacuerdo con las declaraciones siguiendo la situación indicando su respuesta utilizando la escala (1 = muy en desacuerdo; 9 = muy de acuerdo) siguiente:

A menudo "voy a lo mío":

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

El bienestar de mi grupo es importante para mí:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Me gusta mi privacidad:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Prefiero ser directo y franco al hablar con la gente:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Soy un individuo único:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Lo que me pasa es cosa mía:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Cuando tengo éxito, por lo general es gracias a mis propias habilidades:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Prefiero ser único y diferente a los demás en muchos aspectos:

								Muy de acuerdo
Muy en desacuerdo 1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

El bienestar de mi grupo es importante para mí:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Si un miembro de mi grupo recibe un premio, me sentiría orgulloso:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Si un familiar se encuentra en una situación financiera difícil, le ayudo dentro de mis

posibilidades:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Es importante mantener la armonía dentro de mi grupo:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Me gusta compartir pequeñas cosas con mis vecinos:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Me siento bien cuando coopero con los demás:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Mi felicidad depende en gran medida de la felicidad de los que me rodean:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Para mí, el placer es pasar tiempo con los demás:

Muy en   Muy de

desacuerdo								acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Two - Collectivistic

Instrucciones de la situación

Permítase sumergirse en la situación dada. Considere esta situación al contestar a las siguientes preguntas. Por favor conteste las preguntas sinceramente y de la mejor manera posible.

Indique en qué medida está usted de acuerdo o en desacuerdo con las declaraciones siguiendo la situación indicando su respuesta utilizando la escala (1 = muy en desacuerdo; 9 = muy de acuerdo)siguiente:

A los efectos de nuestro estudio, por favor considérese a sí mismo en la siguiente situación:

Usted es una de las primeras personas de su comunidad a la que se le ofrecerá vacunarse gratuitamente contra la amenaza potencial de un nuevo virus de la gripe que se ha extendido en la región. Si se infecta, hay una gran posibilidad de que le contagie el virus a otros miembros de su familia, de su círculo de amigos o de la comunidad en general. La vacuna se ha probado y aprobado para su uso, y aunque puede provocar algunos efectos secundarios la probabilidad es muy baja.

Sin duda yo me vacunaría lo antes posible:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Haber aceptado la vacuna obviamente es lo mejor para mí:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Es muy importante vacunarse lo antes posible:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Lo que hay que hacer es vacunarse:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Sería irresponsable por mi parte no vacunarme:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Es mi deber aceptar la vacuna:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Three - High Power Distance

Instrucciones de la situación

Permítase sumergirse en la situación dada. Considere esta situación al contestar a las siguientes preguntas. Por favor conteste las preguntas sinceramente y de la mejor manera posible.

Indique en qué medida está usted de acuerdo o en desacuerdo con las declaraciones siguiendo la situación indicando su respuesta utilizando la escala (1 = muy en desacuerdo; 9 = muy de acuerdo)siguiente:

A los efectos de nuestro estudio, por favor considérese a sí mismo en la siguiente situación:

Usted va al médico para una revisión general cuando le hablan de una vacuna gratuita que proporcionará inmunidad frente a la última cepa de la gripe. Esta iniciativa de salud ha recibido el apoyo y la financiación del gobierno y se ha probado y aprobado completamente para su uso, y aunque pueda tener efectos secundarios importantes, la probabilidad de estos es mínima

Sin duda yo me vacunaría lo antes posible:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Haber aceptado la vacuna obviamente es lo mejor para mí:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Es muy importante vacunarse lo antes posible:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Lo que hay que hacer es vacunarse:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Sería irresponsable por mi parte no vacunarme:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Es mi deber aceptar la vacuna:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Power Distance

Sección Tres

Indique en qué medida está usted de acuerdo o en desacuerdo con las declaraciones siguiendo la situación indicando su respuesta utilizando la escala (1 = muy en desacuerdo; 9 = muy de acuerdo) siguiente:

Creo que todo el mundo debería tener las mismas oportunidades:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Tener un orden social en la sociedad es importante:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Hay que obedecer siempre a las figuras de autoridad:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

Es importante corresponder con favores a los demás:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

Busco la aprobación de los demás:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

La elección de mis propias metas en la vida es importante:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

La comunicación informal en el lugar de trabajo es aceptable:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
O	O	O	O	O	O	O	O	O

Una persona no debe hacer alarde de su riqueza:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9

○ ○ ○ ○ ○ ○ ○ ○ ○

En el lugar de trabajo, los subordinados deben esperar órdenes no consultas:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

El Gobierno debe basarse en la mayoría:

Muy en desacuerdo								Muy de acuerdo
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Scenario Four - Low Power Distance

Instrucciones de la situación

Permítase sumergirse en la situación dada. Considere esta situación al contestar a las siguientes preguntas. Por favor conteste las preguntas sinceramente y de la mejor manera posible.

Indique en qué medida está usted de acuerdo o en desacuerdo con las declaraciones siguiendo la situación indicando su respuesta utilizando la escala (1 = muy en desacuerdo; 9 = muy de acuerdo)siguiente:

A los efectos de nuestro estudio, por favor considérese a sí mismo en la siguiente situación:

Usted está hablando con sus compañeros de trabajo y se comenta que se han puesto la vacuna contra la última cepa de la gripe. Esta vacuna se ha probado y aprobado completamente para su uso, y aunque pueda tener efectos secundarios importantes, la probabilidad de estos es mínima

Sin duda yo me vacunaría lo antes posible:

Muy en desacuerdo								Muy de acuerdo

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Haber aceptado la vacuna obviamente es lo mejor para mí:

Muy en desacuerdo   Muy de acuerdo

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Es muy importante vacunarse lo antes posible:

Muy en desacuerdo   Muy de acuerdo

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Lo que hay que hacer es vacunarse:

Muy en desacuerdo   Muy de acuerdo

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Sería irresponsable por mi parte no vacunarme:

Muy en desacuerdo   Muy de acuerdo

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Es mi deber aceptar la vacuna:

Muy en desacuerdo   Muy de acuerdo

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Appendix Six- Scale for identifying measuring individualism and collectivism

9-point Likert scale anchored by "disagree strongly" or "agree strongly," answered in response to the following statements

I often do "my own thing"

The well-being of my group is important to me

One should live one's life independently of others

If a member of my group gets a prize, I would feel proud

I like my privacy

If a relative were in financial difficulty, I would help within my means

I prefer to be direct and forthright when discussing with people

It is important to maintain harmony within my group

I am a unique individual

I like sharing little things with my neighbours

What happens to me is my own doing

I feel good when I cooperate with others

When I succeed, it is usually because of my own abilities

My happiness depends very much on the happiness of those around me

I prefer being unique and different from others in many ways

To me, pleasure is spending time with others

Adapted from: (Singelis, Triandis, Bhawuk & Gelfand, 1995).

Appendix Seven- Scale for identifying and measuring power distance

9-point Likert scale anchored by "disagree strongly" or "agree strongly," answered in response to the following statements

I believe everyone should have equal opportunities

Having social order in society is important

Authority figures should always be obeyed

It is important to reciprocate favours to others

I seek approval from others

Choosing my own goals in life is important

Informal communication within the workplace is acceptable

A person should not flaunt their wealth

In the workplace, subordinates should expect to be told, not consulted

The Government should be based on majority

Adapted from (Schwartz & Boehnke, 2004).

Appendix Eight: Formation of compliance variable in SPSS

Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.939
Bartlett's Test of Sphericity	Approx. Chi-Square	2663.209
	df	120
	Sig.	.000

Communalities

	Initial	Extraction
HI1	1.000	.690
HI2	1.000	.440
HI3	1.000	.592
HI4	1.000	.590
HI5	1.000	.677
HI6	1.000	.554
HI7	1.000	.603
HI8	1.000	.703
HC1	1.000	.776
HC2	1.000	.721
HC3	1.000	.615
HC4	1.000	.778
HC5	1.000	.430
HC6	1.000	.700
HC7	1.000	.489
HC8	1.000	.599

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.615	53.843	53.843	8.615	53.843	53.843	5.460	34.125	34.125
2	1.344	8.399	62.242	1.344	8.399	62.242	4.499	28.118	62.242
3	.765	4.779	67.021						
4	.713	4.456	71.477						
5	.662	4.140	75.617						
6	.634	3.961	79.579						
7	.536	3.351	82.930						
8	.497	3.104	86.033						
9	.439	2.745	88.778						
10	.367	2.296	91.075						
11	.326	2.036	93.111						
12	.289	1.805	94.916						
13	.262	1.638	96.555						
14	.226	1.412	97.967						
15	.184	1.152	99.119						
16	.141	.881	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
HC4	.852	-.228
HC1	.848	-.238
HC6	.818	-.176
HC2	.782	-.332
HI8	.773	.325
HI5	.767	.297
HI3	.767	
HI4	.767	
HC3	.730	-.287
HC8	.712	-.305
HI7	.690	.357
HI6	.680	.302
HC5	.654	
HI2	.642	.166
HC7	.603	-.354
HI1	.587	.588

Extraction Method: Principal Component
Analysis.

a. 2 components extracted.

Rotated Component Matrix[a]

	Component	
	1	2
HC2	.807	.265
HC1	.795	.379
HC4	.791	.390
HC3	.738	.265
HC8	.736	.239
HC6	.731	.407
HC7	.687	.131
HI4	.547	.539
HC5	.518	.401
HI1		.829
HI8	.367	.754
HI5	.382	.729
HI7	.284	.723
HI6	.313	.676
HI3	.536	.553
HI2	.374	.548

Extraction Method: Principal Component
Analysis.

 Rotation Method: Varimax with Kaiser
Normalization.[a]

a. Rotation converged in 3 iterations.

Component Transformation Matrix

Component	1	2
1	.752	.659
2	-.659	.752

 Extraction Method: Principal Component Analysis.

 Rotation Method: Varimax with Kaiser Normalization.

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	249	100.0
	Excluded[a]	0	.0
	Total	249	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.897	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HI1	46.7912	106.295	.643	.887
HI2	46.5141	107.775	.592	.892
HI3	45.7349	108.381	.679	.884
HI4	46.5141	106.920	.677	.884
HI5	46.3574	102.747	.745	.877
HI6	46.6867	106.385	.662	.885
HI7	46.7470	105.278	.672	.884
HI8	46.6104	101.481	.767	.875

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	249	100.0
	Excluded[a]	0	.0
	Total	249	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.915	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HC1	46.6145	105.609	.828	.895
HC2	46.4699	105.460	.785	.898
HC3	46.8635	107.723	.711	.904
HC4	46.4739	103.726	.821	.895
HC5	47.7671	109.889	.583	.916
HC6	46.6787	106.421	.782	.899
HC7	47.0683	111.774	.587	.915
HC8	46.9438	108.634	.691	.906

Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.851
Bartlett's Test of Sphericity	Approx. Chi-Square	816.858
	df	45
	Sig.	.000

Communalities

	Initial	Extraction
PD1	1.000	.720
PD2	1.000	.501
PD3	1.000	.743
PD4	1.000	.607
PD5	1.000	.609
PD6	1.000	.800
PD7	1.000	.679
PD8	1.000	.637
PD9	1.000	.786
PD10	1.000	.483

Extraction Method: Principal Component
Analysis.

Total Variance Explained

Component	Initial Eigenvalues Total	Initial Eigenvalues % of Variance	Initial Eigenvalues Cumulative %	Extraction Sums of Squared Loadings Total	Extraction Sums of Squared Loadings % of Variance	Extraction Sums of Squared Loadings Cumulative %	Rotation Sums of Squared Loadings[a] Total
1	4.224	42.240	42.240	4.224	42.240	42.240	3.580
2	1.271	12.714	54.955	1.271	12.714	54.955	2.957
3	1.072	10.717	65.672	1.072	10.717	65.672	2.417
4	.681	6.811	72.484				
5	.609	6.088	78.572				
6	.553	5.532	84.104				
7	.491	4.909	89.013				
8	.426	4.256	93.268				
9	.405	4.053	97.322				
10	.268	2.678	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Component Matrix[a]

	Component 1	Component 2	Component 3
PD6	.742	-.471	-.166
PD8	.740	-.235	-.185
PD1	.713	-.413	-.203
PD4	.709	-.165	.278
PD10	.687	.101	
PD2	.686		.172
PD3	.585	.360	-.521
PD5	.584	.403	.324
PD9	.476	.688	-.293
PD7	.511	.143	.631

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Pattern Matrix[a]

	Component

	1	2	3
PD6	.945		
PD1	.891		
PD8	.740		.123
PD7		.910	-.182
PD5	-.144	.705	.266
PD4	.462	.508	-.144
PD2	.320	.455	
PD10	.313	.335	.240
PD9	-.205	.113	.901
PD3	.253	-.199	.812

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 5 iterations.

Structure Matrix

	Component		
	1	2	3
PD6	.889	.359	.244
PD1	.845	.329	.279
PD8	.790	.404	.401
PD7	.275	.800	.136
PD5	.286	.740	.484
PD4	.647	.670	.222
PD2	.564	.637	.376
PD10	.559	.574	.484
PD9	.182	.363	.868
PD3	.461	.232	.829

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

Component Correlation Matrix

Component	1	2	3
1	1.000	.470	.371
2	.470	1.000	.384
3	.371	.384	1.000

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	238	100.0
	Excluded^a	0	.0
	Total	238	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.839	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PD1	55.6218	140.405	.576	.821
PD2	56.6303	137.019	.582	.820
PD3	57.3992	138.629	.497	.828
PD4	56.7311	137.514	.596	.819
PD5	57.9244	137.944	.505	.828
PD6	55.7227	140.117	.604	.819
PD7	57.4832	142.799	.415	.836
PD8	56.3739	136.708	.616	.817
PD9	58.6807	141.172	.408	.838
PD10	56.9286	136.033	.586	.820

Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.933
Bartlett's Test of Sphericity	Approx. Chi-Square	3422.403
	df	15
	Sig.	.000

Communalities

	Initial	Extraction
Vac1	1.000	.854
Vac2	1.000	.870
Vac3	1.000	.889
Vac4	1.000	.871
Vac5	1.000	.770
Vac6	1.000	.812

Extraction Method: Principal Component
Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.067	84.445	84.445	5.067	84.445	84.445
2	.304	5.069	89.513			
3	.217	3.623	93.137			
4	.157	2.620	95.757			
5	.144	2.397	98.153			
6	.111	1.847	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
Vac3	.943
Vac4	.933
Vac2	.933
Vac1	.924
Vac6	.901
Vac5	.878

Extraction Method: Principal
Component Analysis.

a. 1 components extracted.

Rotated Component

Matrix[a]

a. Only one component
was extracted. The
solution cannot be rotated.

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	487	100.0
	Excluded[a]	0	.0
	Total	487	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.963	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Vac1	30.1745	125.951	.887	.955
Vac2	30.1910	126.579	.900	.953
Vac3	30.1191	126.262	.915	.952
Vac4	29.9281	128.417	.901	.953
Vac5	30.4004	126.850	.827	.961
Vac6	30.4292	127.464	.858	.958

Correlations

Correlations

		Vaccinate	Indiv	Collect
Vaccinate	Pearson Correlation	1	.568[**]	.602[**]
	Sig. (2-tailed)		.000	.000
	N	249	249	249
Indiv	Pearson Correlation	.568[**]	1	.756[**]
	Sig. (2-tailed)	.000		.000
	N	249	249	249
Collect	Pearson Correlation	.602[**]	.756[**]	1
	Sig. (2-tailed)	.000	.000	
	N	249	249	249

[**]. Correlation is significant at the 0.01 level (2-tailed).

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Collect, Indiv[b]	.	Enter

a. Dependent Variable: Vaccinate

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.626[a]	.392	.387	1.75551

a. Predictors: (Constant), Collect, Indiv

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	489.646	2	244.823	79.441	.000[b]
	Residual	758.131	246	3.082		
	Total	1247.776	248			

a. Dependent Variable: Vaccinate

b. Predictors: (Constant), Collect, Indiv

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.

1	(Constant)	-.509	.553		-.920	.358
	Indiv	.404	.117	.262	3.454	.001
	Collect	.616	.116	.404	5.315	.000

a. Dependent Variable: Vaccinate

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PD[b]	.	Enter

a. Dependent Variable: Vaccinate

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.571[a]	.326	.323	1.82649

a. Predictors: (Constant), PD

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	381.069	1	381.069	114.227	.000[b]
	Residual	787.313	236	3.336		
	Total	1168.382	237			

a. Dependent Variable: Vaccinate

b. Predictors: (Constant), PD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.407	.591		-.690	.491
	PD	.977	.091	.571	10.688	.000

a. Dependent Variable: Vaccinate