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# Learning a Language: the Gateway to Cosmopolitanism

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# LEARNING A LANGUAGE: THE GATEWAY TO COSMOPOLITANISM

Caleb Griffin

102 Pages

This thesis explores the relationship between language acquisition and ethnocentrism. Specifically, does learning additional languages reduce ethnocentrism? After reviewing the literature on social groups, ethnocentrism, and language acquisition, a quantitative test was carried out. This consisted of a survey design implemented in Morocco using Moroccan subjects. Although learning additional languages was correlated with less ethnocentrism, the results did not meet the threshold for statistical significance. The variables that did have a statistically significant impact on ethnocentrism and prejudice were contact and age.

**KEYWORDS:** Ethnocentrism; Language Acquisition; Language Learning; Additional Languages; Social Identity Theory; Contact Theory; Contact Hypothesis; Age; Morocco; Arabic; Berber; Amazigh; Imazighen; Tamazight

LEARNING A LANGUAGE: THE GATEWAY TO COSMOPOLITANISM

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A Thesis Submitted in Partial  
Fulfillment of the Requirements  
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2017

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LEARNING A LANGUAGE: THE GATEWAY TO COSMOPOLITANISM

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C.G.

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## CHAPTER I: THE PSYCHOLOGY OF GROUPS: A REVIEW OF THE LITERATURE

### **Introduction of the Research Question**

My interest in the effects of language learning have developed over many years, but were probably catalyzed most profoundly (and improbably) by watching rugby. In the matches I watched, teams from around the world, speaking various languages, would invariably get into arguments with the referees, pleading their innocence or accusing the other team of skulduggery. Sometimes the referee would happen to speak the same language as one of the teams, but not the other. That always struck me as patently unfair, and I wondered whether a referee could avoid feeling biased in favour of the shared language team. I remember dwelling on the topic while I put away CD cases in the music store that I worked in at the time. I decided then and there (I even wrote it on a sticky note) that if I were ever to go to graduate school, that is the topic I would study- the effects of language acquisition. I have indeed been blessed to have had professors at Illinois State who have indulged my somewhat off the beaten path research request. The end result is this thesis, in which I discuss language acquisition, but specifically in terms of its relationship to ethnocentrism.

William Sumner coined the term ethnocentrism to describe the universal tendency to prefer one's own group to all other groups (1906). In this thesis, I outline the origins of ethnocentrism as currently understood, and discuss the process of thinking in terms of the ingroup. I also show that ethnocentrism varies by individual based on several interacting factors. One factor, in particular, that might change a person's level of ethnocentrism, has been studied very little. I am referring, of course, to language acquisition. Does learning additional languages change an individual's endorsement of ethnocentrism? This thesis attempts to answer that question by both examining the current literature on ethnocentrism (both the causes and effects

of) and language acquisition<sup>1</sup>, and by carrying out a quantitative test that measures the relationship between these two concepts.

### **The Origin of Social Groups**

The history of humanity is a history of groups. The human species evolved in the context of group living (Caporael & Brewer, 1991). Indeed, preference for ingroups is the universal order for all social animals, and even many plant species (see for example: Chase, 1980; Dudley & File, 2007; Runyon, Mescher & De Moraes, 2006). The essential function of ethnocentrism and ingroup preference is the ability to distinguish between ingroup and outgroup members, and select different behaviours based on that distinction (Hartshorn, Kaznatcheev, & Shultz, 2013). An example from the animal kingdom is the tendency of red fire ant workers to kill red fire ant queens at birth who lack a particular gene (Keller & Ross, 1998). The gene in question is physically apparent to the ant workers who lack that gene, and the ants kill the queen with the offending gene, in order to promote queens who are more genetically similar. This preference for ‘genetically similar’ individuals is hardwired into our cognition. The main drive for organizing into cooperative groups, besides simply survival, is to pass on one’s genes, either through one’s own reproduction or the reproduction of genetically similar individuals (Buss, 1990). This drive naturally led to behavior that favoured individuals who carried the group genes, and disfavour of those that lacked those common genes (Archer, 1991).

For human beings, ethnocentrism and behaviour that favoured the ingroup was aided by harsh environmental conditions. To survive the rigours of prehistoric life, human beings naturally organized themselves into groups. As noted earlier, this is behavior common to many

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<sup>1</sup> I use ‘language acquisition’ and ‘language learning’ interchangeably in this thesis. Both terms just refer to the act of learning an additional language that is not one’s native language.

organisms. Pro-social behaviour, however, is especially typical of primates. In one of the seminal texts in the field, *Evolution of Social Behavior*, the biologist Richard Alexander notes the larger apes' aversion to solitary life (1976). This aversion stems from fear of predators, the need to socialize, and the greater availability of breeding partners in group settings, among many other reasons. Alexander claims that these groups formed and survived because all the individuals gained genetically. Like other animals, human beings prioritize passing on their genetic makeup to subsequent generations, yet human beings have also carried the process of group socialization far beyond other organisms, and certainly further beyond simply bettering the odds of reproduction. Indeed, humans have abandoned most of the characteristics and behaviours of other animals that allow for survival and reproduction as isolated individuals or pairs, in favour of cooperative interdependence and social learning (Brewer, 1999).

The Pulitzer Prize winning biologist Edward Wilson, also known as the “father of Sociobiology”, has explained that this super-socialism developed because of a need for division of reproduction, labour, cooperation, and altruism (2012). This adds some nuance to the idea that it was only the need to survive which brought human beings together. Although that was almost certainly the original driving force; once together, human beings quickly adapted into cooperative behaviour like farming and hunting that required sociability. Thus, the more cooperative and social humans were the ones who survived at higher rates, and so by natural selection over the course of many generations, the genes of sociality were passed on far more than genes of isolation (Wilson, 2012). The result was a species that was more prone to interact in the context of groups than in isolation.

It was not merely the need to be part of a group, however. Our evolutionary history also created the dynamic of group competitiveness. As groups coalesced around resource-rich areas,

they also encountered other groups with whom they had to cooperate with to share resources or fight to protect their resources. Wilson calls this “interaction of two levels of selection,” or, in other words, ‘individual’, in which individuals have to interact to work harmoniously with other individuals to form a group, and ‘group’ - in which groups compete with other groups for resources (2012). Wilson theorizes that groups that had more altruistic individuals tended to survive and flourish more than groups made up of self-serving individuals. He writes:

“Between groups, the group of altruists beats the selfish individuals...[and] I’m afraid that what made us human is the group selection...based upon selection between groups competing...and above all, the ability of the individuals to cooperate and to create a social environment conducive to efficient action *even at the cost of individual genetic selection*” (Wilson, 2012).

Wilson here is echoing an even earlier proponent of group altruism - Charles Darwin. In *The Descent of Man*, Darwin writes:

“There can be no doubt that a tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, obedience, courage, and sympathy, were always ready to aid one another, and to sacrifice themselves for the common good, would be victorious over most other tribes; *and this would be natural selection*. At all times throughout the world tribes have supplanted other tribes; and as morality [or self-sacrificing altruism for the group] is one important element in their success, the standard of morality and the number of well-endowed men will thus everywhere tend to rise and increase.” (Darwin 1871, pp.159-60).

Both Darwin and Wilson make the point that a sense of fidelity and altruism towards the group is a product of natural selection. As counterintuitive as it may seem, individuals frequently choose to repress their own desires in favour of more favourable outcomes for their group, and this too is a product of natural selection. The idea of true altruism might raise the eyebrow of a cynic, and admittedly most of this behaviour (at least among other mammals) has only the appearance of altruism, and yet is still technically genetically selfish. This apparent paradox occurs for several reasons. I defer to Alexander’s explanation of this phenomenon (1974). He first explains that reciprocity is embedded within many social animals. With reciprocity, animals

take risks for the group because they expect the same behaviour to be reciprocated later to their own offspring or relatives. Secondly, ingroups have historically shared genetic kinship, and thus aiding other group members enhances the possibility that they will pass on the common genetic heritage of the group. There is usually enough genetic overlap with other ingroup members to encourage seemingly altruistic behaviour. As Kinder and Kam note, this is not universal or “true” altruism, but only altruism in favour of one’s own group, often at the expense of other groups (2009).

A full discussion of genetic altruism is not warranted in this work. I touch on it briefly principally to emphasize that our own evolution is very much connected with behaviour that strives to enhance the power and prosperity of the group, rather than the individual. As stated earlier, this process of natural selection has left humanity with the genetic hardware of group cognition. We need to both belong to groups, and contrast our groups with other groups. Within Political Science literature, the groups in which we find identification and belonging are usually referred to as “ingroups”, and the groups to which we do not belong are called “outgroups.” That is the terminology I employ in this thesis as well.

Social evolutionary arguments are necessarily theoretical in nature, as we cannot directly observe the behaviour of early humans. Computerized evolutionary models, however, that simulate the conditions of pre-historic societies and their environments bear out the conclusions drawn by evolutionary biologists and anthropologists. One such model was created by Axelrod & Hammond who found that ethnocentrism naturally develops under a broad range of conditions and can support very high levels of cooperation, even when that cooperation is costly to individuals (2006). Even when providing a random starting point for civilization, in their model, ethnocentrism evolves to become the dominant behaviour strategy, eclipsing humanitarian,

selfish, and traitorous behaviour, and eventually characterizing about 75% of the world population.

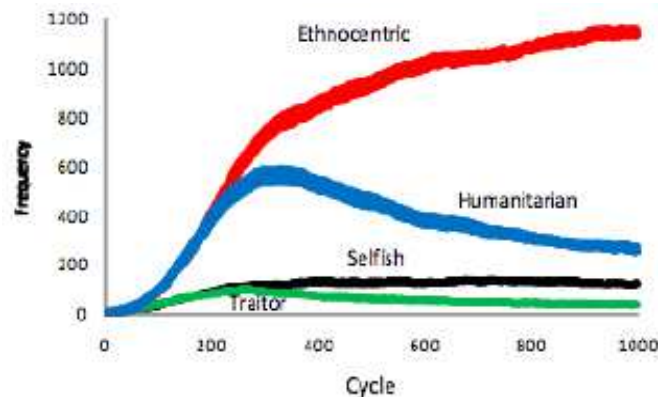


Figure 1. Mean Evolving Strategy Frequencies Simulation. The y axis reads “frequency.” Reprinted from “The evolutionary dominance of ethnocentric cooperation,” by M. Hartshorn, A. Kaznatcheev, and T. Shultz, 2013, *The Journal of Artificial Societies and Social Simulation*, 16(3).

Their model has been duplicated with added sophistication by other scholars, including Hartshorn, Kaznatcheev, & Shultz (2013), and the results have held up virtually unchanged. The graph above is from Hartshorn et al. showing the mean evolving strategy frequencies for 50 different ‘worlds’ or evolution simulations (2013). The ethnocentric evolving strategy is clearly the most common strategy across all simulations. Pierre van den Berghe’s provides an admirable summing up of the evolutionary theory of ethnocentrism and ingroup affect:

“For nearly all of human history- all but the last few thousand years, so virtually all of evolutionary time- human society consisted of tribes, or superfamilies: inbred populations of a few hundred people, sharing common descent, and maintaining clear territorial and social boundaries with outsiders. Within these small human societies, peace and cooperation prevailed; relations between groups, on the other hand, were characterized by mistrust and either avoidance or open conflict over scarce resources...eventually [this] primordial model of social organization, was extended to much larger societies...all human societies...are ethnocentric” (1981, as quoted in Kinder & Kam, 2009, p.252).

This evolutionary need to distinguish between one’s own group and other groups has left us with a brain that is hardwired to think primarily in terms of groups. We may have left the



caves behind but we are still using a prehistoric mental map to make sense of our modern world. The socio-biological argument in favour of group formation provides the underlying foundation for how this process of favouring the ingroup developed, but how does this process work in our everyday life? Marilyn Brewer, one of the foremost authorities on group psychology, answers this question by noting that the attachment to ingroups goes beyond mere cognitive classification, but carries great emotional significance as well (1996). For example, there is evidence that even saying the words “we” and “us” carry positive emotional signals that are received both automatically and unconsciously (Perdue, Dovidio, Gurtman, & Tyler, 1990).

Both Brewer and Perdue et al. raise points that are consistent across the literature about groups. Firstly, that ingroup membership is emotional. People like fellow ingroup members and dislike outgroup members because they have an emotional attachment to the groups in which they belong. Secondly, that individuals’ cognition about groups happens without conscious thought or effort. It is cognition that happens behind-the-scenes as it were, typically without the explicit knowledge of the individual. This unconscious processing has broad support in the literature and has been verified through several different researchers. Experiments by Zarate and Smith, for instance, have demonstrated that social categorization by group occurs within milliseconds of the initial presentation of a cue-giving photo or image (1990). In other words, people can sort themselves and others based on group membership almost instantaneously. The miniscule timeframe indicates that these effects are occurring before respondents have time to think deliberatively about them at all, but instead represent a purely automatic and subconscious response.

Consider the results derived from recent research using the Harvard Implicit Association Test, which provide significant evidence for the automaticity of group thinking (Greenwald,

Banaji, & Nosek, 2003). In tests of this type, respondents are asked to categorize objects by various criteria, including by racial and national groups. It is a way to measure implicit bias and prejudice against various groups. For tests that measure prejudice against Arabs, for example, respondents are shown an Arabic name and asked to link them with positive and then negative words. They then do the same thing for common American names. Respondents are asked to match the words by pressing two keys on their keyboard for each category as quickly as possible. The researchers then compare the time it takes respondents to match Arabic names with negative words compared with American names with negative words, and vice versa with positive words. If the respondent takes longer to match Arabic names with positive words than American names (or quicker to associate Arabic names with negative words), that is taken as a sign that the respondent has an implicit bias against Arabs, since she is unable to semantically connect the two concepts of 'Arab' and 'positivity' as quickly as 'American' and 'positivity'. Theoretically, this occurs because people have existent negative stereotypes about other groups, and when put in the unfamiliar position of having to link those groups with positive associations, it takes them longer to consciously overcome those unconscious, automatic stereotypes that already exist. In the case of connecting positivity with 'American', American respondents do not have those stereotypes, and so there is no implicit bias to overcome.

The Harvard Implicit Association Test has been replicated countless times, and the results are consistently in favour of the idea that unconscious bias against other groups is ubiquitous and automatic. In a recent review of 15 different studies that analyzed prejudice against other racial groups using the Harvard Implicit Association Test, the authors found

statistically significant evidence of implicit bias against other racial groups in 14 of the 15 studies reviewed (Hall, Chapman, Lee, Merino, Thomas, Payne, Eugenia, & Steven, 2015).<sup>2</sup>

To better understand the strength of affective responses to groups, I turn now to a discussion of social identity theory, which helps explain how and why these automatic, unconscious processes occur.

### **Social Identity Theory**

Social identity theory was developed in the 1970s by Henri Tajfel (and later John Turner) as a way to understand prejudice and group behavior. Originally pioneered in the field of psychology, it has since become popular in many disciplines (including political science), and has been adopted as the dominant theory in understanding group identity and group relations (Schwartz, Luyckx, & Vignoles, 2011).

What is social identity theory? It has been described by Bradley as the theory of how we locate ourselves within the society in which we live and the ways in which we perceive others as locating us (1996). It is built upon the general assumption examined in the group literature in this paper- that human beings sort themselves and others into social categories (Turner, 1985). These categories become groups wherein individuals find meaning and orientation. Indeed, membership in these groups is essential to one's personal identity. Stephen Wagg writes that our social identity is how we group ourselves according to the groups that naturally exist, and that

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<sup>2</sup> Critics of the Implicit Association method point to recent work that finds that when respondents are first asked to predict how they will perform on the Implicit Association Test, they generally are able to accurately predict their performance (Hahn, Judd, Hirsh, & Blair, 2013). They question whether the findings of the Implicit Association Test are actually "implicit", since respondents seem to be aware of the biases in the first place.

The objection of Hahn and colleagues, while instructive, does not refute the evidence that people are making decisions about groups automatically and unconsciously, or even implicitly for that matter. Individuals in their test may be able to explicitly gauge the level of their affect for other groups, but that does not mean that they came to that level of affect without a prior process of unconscious cognitive processing about those groups. They may realize that they feel some negative affect towards another group, but not have any inkling as to why they feel so strongly, or why they identify with their ingroup and disdain outgroups.

our self-placement within those groups gives us a sense of personal location and a stable core to our individuality (2009). Tajfel found that the underlying motivation for this identification was a need for positive self-regard or self-esteem (1974). Individuals seek out group membership because it gives them a sense of belonging to the social world, which improves their self-esteem.

Social identity is deliberately broad because there are myriad ways that individuals can choose to orient themselves, and countless groups wherein they can find identity. In many circumstances, these identities may be cross-cutting. Some identities are easily and intuitively grasped, such as one's ethnicity, national origin, or gender (although as we are learning, gender is perhaps not as simple as initially conceived). Other identities are more obscure but still relevant, such as one's affiliation with sports teams or hobbies. Indeed, soccer fans are less likely to help an injured stranger wearing the rival team's jersey than a stranger wearing their own team's jersey (Vanman, 2016). Still other groups are completely artificial, and yet individuals still feel affinity for the groups wherein they find themselves placed. Tajfel himself carried out the first experiments showing this tendency in his famous minimal group experiments.

In one experiment, Tajfel divided his subjects by flipping a coin in front of them and assigning them to groups based on whether the coin landed on heads or tails. When participants anonymously allocated rewards at the end of the experiment, more than 70% of participants chose to reward members of their own group instead of the other group, despite only sharing the single characteristic of random assignment with their group (Kinder & Kam, 2009). It appears that individuals are irresistibly drawn to find identity with groups, however implausible or weak the attachment to the group might appear.

If one can find identity with such artificial groups, it is easy to imagine the strength of identity with the groups that 'naturally exist' in society, as Wagg points out. That will be

discussed further, but at this point it is important to understand the rationale behind why social identity helps explain why individuals think so consistently in terms of groups. As stated earlier, the fundamental assumption behind the theory is that all people are driven to maintain a positive identity in order to maintain or enhance their self-esteem (Kinder & Kam, 2009). Because human beings are social animals (as detailed in the discussion on the evolution of human social groups), their self-esteem is inexorably caught up in their sense of placement and attachment to social groups. This need to belong is deeply ingrained within us, and thus we feel the need to identify with groups to help us find a sense of location within society, and a stable identity. It is one of social psychology's great ironies that an individual's personal identity and self-conception should be rooted in their attachment to a group, but that behaviour has been observed in multiple experiments. It appears that Sumner's original hypothesis remains valid a century later- that the preference of ingroups is the universal characteristic of human social life (Sumner, 1906).

It is worth pausing to consider whether Tajfel's assumption is defensible. Do human beings identify socially with groups because they seek primarily to enhance their self-esteem? If one views the Psychology literature as a whole on the matter, the verdict seems certain. Tom Pyszczynski and colleagues have conducted a meta-review of all papers on self-esteem as a motivating factor within Psychology research, and they sum up its ubiquity neatly (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004):

“The idea that people are keenly motivated to maintain high levels of self-esteem and that this motive underlies a great deal of human behavior has been a central theme in psychological theorizing, stretching from the very beginnings of scientific psychology to the current day (e.g., Crocker & Wolfe, 2001; Fein & Spencer, 1997; Horney, 1937; James, 1890; Kernis & Waschull, 1995; Sullivan, 1953; Tesser, 1988). Indeed, the notion that people are motivated to sustain high levels of self-esteem is so pervasive and widely accepted that most theorists use it as a postulate or paradigmatic assumption without providing justification or explanation. Such diverse forms of behavior as altruism and aggression, love and hatred, and conformity and deviance, have all been explained as ultimately rooted in the human need to see ourselves as valuable” -(p.435).

They note however, that recently some scholars have begun questioning whether this drive for self-esteem really is universal (Pyszczynski et al., 2004). For example, when using a Japanese sample, one study found that many elements of Japanese culture are incongruent with such motivations (Heine, Lehman, Markus, & Kitayama, 1999). Instead, Heine et al. found that Japanese subjects tended to be motivated by a more self-critical focus, rather than a need for positive self-regard. The authors conclude that “the need for positive self-regard...is not universal, but rather is rooted in significant aspects of North American culture” (p.766). Similar studies carried out on other East Asian populations confirm this finding (see for example Diener & Diener, 1995 and Campbell, Trapnell, Heine, Katz, Lavalley, & Lehman, 1996). What psychologists have labeled as a universal need for enhancing self-esteem may simply be an artifact of Western philosophy and culture.

The literature, therefore, is split. The overwhelming majority of researchers simply take the desire for positive self-regard as a given, without questioning the validity of the assumption (and perhaps reflecting the fact that most major psychological research is still undertaken by westerners). The minority who dispute that claim, however, do not generally offer up a convincing alternative.

Fortunately, Marilyn Brewer provides a middle road between the disputants, one that allows us to accept Tajfel’s findings, if not his assumptions about self-esteem. She alters Tajfel’s theory of social identity so that the underlying motivation is a need for security, rather than a need for self-esteem (1999). This alteration brings social identity theory into conformance with evolutionary sociological theories, which are more persuasive in their simple elegance. Human beings have always prioritized groups as a means for survival, and so it makes sense that we are genetically hardwired to attach ourselves to groups for the security and psychological comfort

they provide. The beauty of Brewer's alteration is that it keeps the explanatory power of social identity theory, which is powerful, but gives it a more convincing backstory, as it were, by making an evolutionary, rather than a psychological, argument.

### **The Impact of Social Identities**

Social identity theory gives us a way to understand how individuals interact with the world of social groups. People naturally place themselves into groups, and can also identify as members of many different groups concurrently. The strength of identification with each group, at each moment, depends on the contextual salience of a social identity. In other words, group membership is 'triggered' contextually. This occurs when a social identity of a person is made salient by a cue that encourages such categorization (such as meeting people of different races from one's own). When that happens, individuals tend to think of themselves as having characteristics that are representative of their ingroup, and not sharing characteristics they perceive in the outgroup (Brewer, 1996). Social identity is therefore a process of self-stereotyping (Simon & Hamilton, 1994). We give ourselves all the characteristics of any group with which we identify, even to an exaggerated degree. In other words, we think of ourselves as having all the traits stereotypical of the ingroup with which we identify. This has been demonstrated in experiments by Hogg and Turner using gender as an identity (1987). They found that after exposure to cues that triggered gender as an identity, subjects characterized themselves as more typical of their sex than those not exposed to the gendered cues. The men in their experiments acted more typically 'manly', and vice versa with the women.

Gender may seem like a rather obvious cue. It is hardly surprising that a woman will feel a more heightened sense of femininity if she is thinking of herself as a woman. What about less

obvious cues? In fact, as discussed earlier, even classifying individuals into made-up categories in laboratory experiments elicit ingroup/outgroup effects (Tajfel, Billig, Bundy, & Flament 1971; Turner 1978; Brewer 1979). It appears that people tend to characterize almost everything into an ingroup-outgroup dynamic, provided they are given a cue that triggers such thinking.

It is important to note that individuals can possess multiple different identities at a time. For instance, one can simultaneously identify as a mother, a Republican, a woman, an American, a Latina, and a Californian. How does one sort through all these different identities? The scholarly consensus appears to be context (Reicher, 2004; Sinclair, Hardin, & Lowery, 2006). People choose the identity that best fits the context or is most salient in the situation in which they find themselves at a given moment. In the case of the somewhat unlikely hypothetical woman I invented, she will identify as a mother when her children are around and as a Republican when the election cycle starts. Of course, as noted earlier, she will likely always identify as a woman because that is a very stable identity, but in the presence of a group of men, will have a heightened sense of “womaness” or femininity (Deaux, 2001). The same is true of her other identities as an American, a Latina, and Californian. They will all be stronger identifiers in the presence of outgroups, because outgroups strengthen ingroup favourability (Brewer, 1996). Thus, the hypothetical woman discussed will most likely use an American identifier in the presence of foreigners. This is because the presence of foreigners cues national identity, and an American national identity is the one that best corresponds to our hypothetical woman.

When a social identity is adopted, it has important repercussions on a person’s decision-making process. This is true because identity with a group spurs ingroup/outgroup considerations, as discussed earlier. Marques, Yzerbyt, and Levens find that people consistently



favour ingroup members, reward them more frequently, and evaluate them more positively than they do outgroup members (1988). This favouritism occurs even in the absence of any knowledge about the individual ingroup member's personal characteristics or views (Brewer, 1996). If this effect is occurring within completely meaningless and unimportant groups, we might expect the effect to be magnified with groups that are important or meaningful to an individual.

Some evidence of this is provided by Brewer, who finds that the presence of a salient outgroup increases the nature and intensity of emotions attached to ingroup membership (1996). In some cases, then, it is the presence and strength of the outgroup that is more important than the favourability of the ingroup. This happens because identification is spurred by the salience of the outgroup, or in other words: awareness of outgroups reinforces awareness of one's ingroup. Ashforth and Mael find that groups become more homogenous when a salient outgroup is present (1989). They point to experiments done by Wilder & Kanter that show that groups of men become more uniformly and homogeneously masculine when a woman enters the group.

Social identity theory is important to this thesis because it provides a coherent theoretical framework wherein ethnocentrism fits. The discussion now turns to ethnocentrism specifically, and how it fits under the broader umbrella of social identity theory.

### **Ethnocentrism**

I gave a very brief definition of ethnocentrism in the introduction. A more complete definition is provided by Donald Kinder and Cindy Kam in their excellent book *Us Against Them* (2009). They call ethnocentrism the universal predisposition to divide the world into groups, specifically one's ingroup versus all other outgroups. They also note that ethnocentrism

varies by degrees. People are not either ethnocentric or not; they are more or less ethnocentric. Ethnocentrism is a “general predisposition” that everyone has which “encompasses both cognition and affect” (2009). Levenson describes this aptly. He calls ethnocentrism a perceptual lens through which all people understand their world, with some people using this lens more frequently than others (1949).

It may be tempting to simply lump ethnocentrism in with prejudice, but the difference is that prejudice is directed at one specific outgroup, whereas ethnocentrism is a “relatively consistent frame of mind concerning aliens generally” (Adorno, Frenkel-Brunswick, Levenson, and Sanford, 1950). Instead of just involving one outgroup, it captures *all* outgroups.

Ethnocentrism relies on the tenets of social identity theory, because dividing the world into an ingroup versus all other outgroups relies on there being a meaningful differentiation between the groups. This differentiation is largely social. Human beings interpret the world socially, and the groups wherein they find meaning serve as a way to understand the world (Sumner, 1906). Individuals demonstrate their ethnocentrism by forming a social identity with the ingroup, and by punishing the outgroups. In other words, ethnocentrism could not occur in a world where people did not have social identities. It is the identities themselves that spur the drive to punish outgroups which constitutes the core of ethnocentrism.

The vast majority of scholarly work on ethnocentrism within political science has been devoted to showing how ethnocentrism affects other aspects of political life. Kinder and Kam show how a person’s level of ethnocentrism affects support for the “war on terror” (2009). Neuliep and Speten look at how a person’s level of ethnocentrism affects their perceptions of other cultures (2013). Austead uses ethnocentrism to explain xenophobia and the rise of nationalism in Europe (2013). Clemons, Peterson, and Palmer show how support for military

action in Syria varies by the ethnocentrism levels of survey respondents when exposed to a racial cue (2016). For further examples of how ethnocentrism has been used to explain political phenomena, see also Maxwell and Shields (2015) and Chander (2000). Considerably less research, however, has been devoted to examining the causes of variation within human beings with respect to ethnocentrism. Why are some individuals more hostile to outsiders than others? Equally important, what factors could change a person's level of inclusion or level of hostility towards outgroups? Later, I will discuss how learning another language might serve as a catalyst for change in an individual's expressed levels of ethnocentrism, but first let us grapple with the two questions I have raised above.

Although I agree with Sumner's claim that preference for ingroups is universal, that does not mean that all human beings possess the same *level* of preference. In fact, the evidence is overwhelmingly in favour of the proposition that human beings vary in their level of ethnocentrism (see for example Baumgartner, Nash, Hill & Knoch, 2015). Some individuals are naturally suspicious of outsiders, while others are more welcoming. What can explain this variation?

The first explanation is genetic. The full range of learning potential is, at its core, genetically programmed. This is true for all higher animals. According to species, each animal is prepared to learn certain stimuli, counter prepared to learn others, and unprepared for still others (Wilson, 1977). All human beings are "prepared" to learn ethnocentric behaviour because of natural selection favouring group behaviour, as seen in the earlier discussion on social evolution. Hammond and Axelrod call this the tendency of the human mind to be predisposed to react in certain ways as a result of evolution, and single out ethnocentrism as particularly well-programmed into the human psyche (2006).

The rates of preparation between individuals vary, unsurprisingly, given that we know that individual human beings differ from one another genetically, and that much of the difference in social behaviour can be attributed to these genetic differences (see for example Alford, Funk, & Hibbing, 2005; Hatemi, Hibbing, Medland, Keller, Alford, Smith, Martin, & Eaves, 2010). Thus, some human beings have a natural disposition to be more suspicious of outsiders than others simply because they have inherited a genetic predisposition for such behaviour.

One facet of this genetic predisposition is one's personality, since that is significantly genetically derived (Loehlin, 1992; Caspi, Roberts, & Shiner, 2005). The famous "authoritarian personality" theory of Adorno, Frenkel-Brunswick, Levinson, and Sanford (1950), introduced us to a type of personality that inherently values adherence to authority, social cohesion, and uniformity while despising diversity (1950). It seems natural that those with the genetic predisposition for this personality type would be suspicious of outgroup members who disrupt uniformity almost by definition, and thus would be more likely to be ethnocentric. This has been confirmed by Kinder & Kam, who measure the correlation between authoritarianism and ethnocentrism by pooling responses from NES surveys (2009). They find a statistically significant relationship with a Pearson's correlation coefficient of 0.2 connecting the two concepts based on the NES data. The Pearson's correlation coefficient is the extent to which the relative ordering is identical on all occasions, ranging from -1 (perfectly opposite) to 1 (perfectly identical), with 0 representing no relationship (Kinder & Kam, 2009). The relationship between authoritarianism and ethnocentrism therefore could be called a somewhat weak relationship, but a relationship nonetheless.

Genetics do not tell the whole story, of course. To develop a high degree of ethnocentrism, an individual needs to have a combination of the latent genetic capacity, the

social learning taught or exemplified by others, and the right environment to activate the ethnocentric genetic blueprint. An individual might possess the ideal genetic blueprint for ethnocentrism, and yet not develop ethnocentrism because of positive socialization from her family, or from an absence of circumstances that initiate or “turn on” the set of genes (as yet largely unidentified) that activate ethnocentrism.

Children may acquire higher rates of ethnocentrism by observing the behaviour of others, especially by imitating and internalizing the behaviour of parents (see for example Hewstone, Rubin, & Willis, 2002; LeVine & Campbell, 1972; and Sherif, 1966), and correlation between levels of ethnocentrism in parents and offspring has been verified (Kinder & Kam, 2009). Kinder and Kam actually believe the impact of parents is due more to their ‘genetic inheritance than social learning’ (p.64) and cite the Jennings longitudinal data as evidence (see Jennings & Stoker, 1999). One problem with the Jennings data, acknowledged by Kinder & Kam, is that it does not differentiate between adopted or biological parents, and those authors acknowledge that their evidence is ‘far from decisive’ (p.64). For my purposes here, I am not particularly interested in differentiating between whether social learning or genetics contributes more to ethnocentrism, and am instead content to acknowledge that some of the variation in ethnocentrism is undoubtedly inherited from one’s parents, either genetically or socially.

Another kind of learning that explains variation in ethnocentrism is formal education. Generally speaking, the more education one acquires, the more tolerant one becomes (Price, 2000; Kinder & Kam, 2009). There are several schools of thought that purport to explain this finding. The first is that through education, students are exposed to many different competing philosophies and worldviews. For example, in studies that use pre and post testing for students in comparative politics classes, students show greater levels of intercultural sensitivity after taking

the classes (Brooks, 2008). It remains to be seen whether the apparent recent shift towards homogeneity in many universities, in terms of diversity of political expression, changes the impact education has on ethnocentrism. In any case, however, the *spirit* of tolerance is still revered in academic circles, and there is desire on the part of educated individuals to appear tolerant. This helps to temper the natural predisposition human beings have towards intolerance. While tolerance is not necessarily the lack of ethnocentrism, it is at least strongly correlated, and we can infer that an intolerant person is most likely ethnocentric as well.

The second explanation is that people who pursue extensive education tend to be better off than those who do not, and may therefore feel more financially secure and less threatened by other groups, thus slowing the formation of prejudiced attitudes (Price, 2000). This suggests that it is not education that is changing ethnocentric attitudes but rather the demographic makeup of those pursuing higher education which makes them appear less ethnocentric.

The third explanation is similar, in that some research finds that less prejudiced people are more likely to elect to go on to further education (Sorenson & Krahn, 1996). Again, this would indicate that the effect of education is more indebted to self-selection among the highly educated rather than education itself.

A final possible explanation as to the power of formal education in reducing ethnocentrism comes from Eric Vanman, who finds that training people on how to increase empathy for outgroups reduces prejudice (2015). Universities have taken great pains to encourage their student bodies to be empathetic towards traditionally marginalized groups (especially racial groups). This institutional training on empathy towards other groups, reinforced by the ubiquity of social justice causes in popular culture, might explain why formal education reduces ethnocentrism.

Whatever the actual causal mechanism, it is at least true that those who are more highly educated are also less ethnocentric. The efficacy of genetics versus social learning versus institutional learning have yet to be totally unraveled, but it is clear that there are factors that create varying levels of ethnocentrism among individuals within societies.

Thus far, I have laid out the theoretical structure underpinning ethnocentrism. Ethnocentrism developed in humans because of natural selection which favoured ingroup solidarity and outgroup hostility. The functioning of this genetic predisposition toward ethnocentrism is best understood through social identity theory. I have also summarized the current state of the literature in explaining why ethnocentrism varies by individuals. I now turn to another possible explanation for variation in ethnocentrism, one that has received scarce attention- the role of language acquisition.

## CHAPTER II: THE ROLE OF LANGUAGE

There are a few broad schools of thought when it comes to assessing the impacts of learning and speaking another language. I introduce each school of thought briefly and then connect it to ethnocentrism. There are cultural explanations proposed by sociolinguists, psychological and cognitive explanations forwarded by social psychologists, and neurological explanations advanced by neurolinguists. Each school of thought brings their expertise and perspectives to create a rich literature on why language acquisition affects both cognition and perceptions of others. This thesis examines each broad school of thought in turn, considering the explanatory strength of each in answering the research question

### **Language as Culture**

Many scholars believe that language affects behaviour and perception because language is inseparable from culture. This is particularly true when a group has a distinct ethnicity and language (what linguists call an “ethnolinguistic group”). The linguistic distinctiveness of an ethnolinguistic group is a basic component of its members’ personal identity, and the group’s cultural norms have been saturated in that linguistic heritage. Thus, linguistic distinctiveness is deeply attached to the feelings towards other groups and cultures (Lambert, 1973). George Mead (2009) explains what happens with the acquisition of additional languages:

“A person learns a new language and, as we say, gets a new soul. He puts himself into the attitude of those that make use of that language. He cannot read its literature, cannot converse with those that belong to that community, without taking on its peculiar attitudes.”

A new language, in other words, gives a person access to an entirely new culture and understanding of norms within that culture. It is impossible to avoid this because each language comes embedded in its own cultural context, making language and culture almost inseparable



(Chen, Benet-Martinez, & Ng, 2014). Chen et al. call this a “culturally congruent cognitive mindset.” Thus, when individuals acquire different languages, they also acquire knowledge about the associated social and psychological nuances embedded in the cultural context of these languages. Speaking that language primes the associated cultural norms, whether that be conceptions of self, values, or emotional expression. Another way to state this is that learning another language facilitates some level of acculturation with the culture that that language represents. Acculturation<sup>3</sup> is the process of cultural and psychological change that results following exposure to a new culture (Sam & Berry, 2010). Acculturation is one of several terms that are often used nearly interchangeably in the literature; intercultural tolerance and intercultural competence are other terms that capture largely the same dynamic. Intercultural tolerance is the closeness one feels with another culture and level of toleration for that culture (Gojkov, 2013).

This connection between language, culture, and acculturation is important because it helps answer the question of why learning a language might make a person less ethnocentric. It is because the extent of acculturation is inversely related to ethnocentrism (Seelye & Brewer, 1970). In summation of this section, learning a language facilitates acculturation, and acculturation in turn leads to a lower level of ethnocentrism.

### **Explanations from Group Psychology**

In the previous section, I used Seelye and Brewer’s study to show a causal connection between acculturation and reduced ethnocentrism, but how exactly does that causal mechanism function? Seelye and Brewer explain the logic behind this connection: acculturation to a social

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<sup>3</sup> Acculturation is sometimes used to refer to the changes that subordinate groups must make to fit in with the culture of a dominant group (see for example Price, 2000). That is not how the term is employed in this thesis.

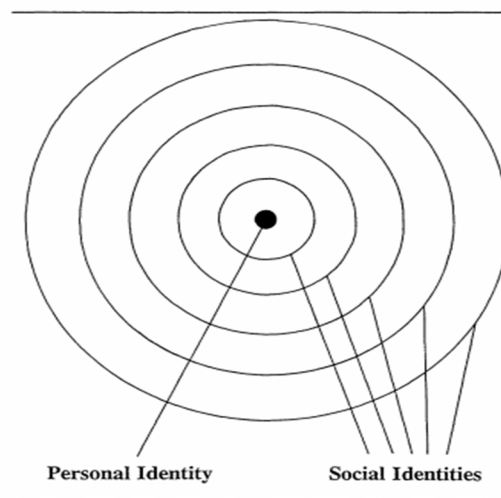
group apart from one's original ingroup involves recognition of new value systems unfamiliar or contradictory to those of the original socialization group (1970). Learning these new unfamiliar norms of behaviour helps an individual realize that his or her original socialization group's norms and behaviour system are not the only correct way, but rather one of many different systems. It is a discovery that helps move individuals away from ethnocentrism, towards cosmopolitanism. I use the term 'cosmopolitan' in its most basic and traditional sense in this thesis, referring to an ease with differing cultures and a lack of suspicion towards other groups. Functionally, I consider it the opposite of ethnocentrism because cosmopolitan individuals will not punish outgroups simply because they are different from one's ingroup.

Seelye and Brewer test the link between ethnocentrism and acculturation using a series of interviews with Americans living in Guatemala (1970). They measured degree of acculturation, and found that high acculturation was correlated with a reduction of commitment to the original ingroup. Holding ethnocentric views is by definition considering one's own ingroup to be superior and thus holding a strong commitment to that ingroup. Reducing commitment to that ingroup by acculturation then is a plausible way to reduce ethnocentrism. Some evidence of this is provided by Gagnon and Bourhis (1996). They found that individuals who identified strongly with their ingroup correspondingly discriminated more strongly against the outgroup, whereas individuals who identified weakly with the ingroup did not.

### **Expanding the Ingroup**

Reducing commitment to the ingroup is not the only process of reducing ethnocentrism however. Social identity theory suggests that expanding one's ingroup would also reduce negative affect toward outgroups. This happens because ingroup members are nearly always

evaluated more positively than outgroup members (Marques, Yzerbyt, & Levens, 1988). If a person expands their ingroup, everyone in that ingroup receives that benefit. As examined previously, triggering a social identity and ingroup effects depends on receiving the right cue. In the case of language acquisition, the language itself can become a cue that triggers a social identity. This is because language is an important social marker and source of identity. People tend to hold very potent attitudes about the languages they speak and the languages others speak (Edwards, 1999). Lippi-Green argues that much of linguistic variation is structured around social identity (1994). Language can be a means for exclusion; when people reject a language “they also reject the identity of the person speaking: his or her race, ethnic heritage, national origin, regional affiliation, or economic class.” (p. 165). In other words, speaking the same language as another individual places them in the ingroup with its accompanying benefits, but failing to do so should also trigger the penalties associated with outgroups.



*Figure 2.* Personal and social identities illustration. Reprinted from *Intergroup Relations*, by M. Brewer, 1996, Philadelphia: Open University Press.

To reiterate, learning another language not only gives speakers of the acquired language the benefits of ingroup rewards, but it also expands the ingroup of the person learning that language. It broadens the ingroup and diminishes the outgroup with each language learned, because each language learned means another group of language speakers with which one can find identity. The graphic above helps conceptualize this phenomenon. It was created by Marilyn Brewer (1996). Each concentric circle represents a social identity. As one gains access to more social identities (for example, by learning more languages which leads to identity with speakers of those languages), one's ingroup becomes larger and the outgroup smaller. A smaller outgroup leads to smaller effects against the outgroup, or a lower level of ethnocentrism against outgroups in general.

### **Language as a Form of Intergroup Contact**

A final psychological explanation found in the literature is intergroup contact. This refers to the level of contact a person has with people that represent the outgroup. If the reader is not convinced that language acquisition leads to acculturation, there is still an argument that learning a language at least increases familiarity and contact with the culture and members of that language group. In her classic work, *Hearing the Other Side*, Diana Mutz (2006) argues that “hundreds of studies on intergroup contact...unambiguously demonstrate that contact reduces prejudice” (p.64).<sup>4</sup> In the case of language learning, familiarity with the language also engenders at least some level of familiarity with the culture. As one gains familiarity and contact with other cultures, intergroup bias is diminished. There will thus be smaller penalties for the outgroup,

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<sup>4</sup> Or consider the work of Pettigrew & Tropp (2006). In conducting a meta-analysis of 515 studies on intergroup contact, they found that such contact “typically reduces intergroup prejudice [and] multiple tests indicate that this finding appears not to result from either participant selection or publication biases, and the more rigorous studies yield larger mean effects” (p.751).

leading a person who learns additional languages to score lower on ethnocentrism because the assumption that outgroups are much worse than the ingroup has been damaged by intergroup contact.

It is beyond the purposes of this thesis to divert into a discussion of the arguments for and rebuttals against the contact hypothesis. It is important to note, however, that some scholars believe that increased contact between groups leads to greater distrust as per the group threat hypothesis (e.g. Blalock, 1967). This hypothesis states that prejudice arises from the dominant ingroup fearing the size and proximity of subordinate ethnic outgroups. Hence, contact with these outgroup members is something to be feared and avoided (Cheng & Lo, 2014).

As James Laurence points out, however, the group threat hypothesis principally applies to individuals who fail to establish meaningful contact or interaction with the other group; they merely happen to live in proximity with the other group (2013). Learning a language, by contrast, could represent meaningful cultural and psychological contact, thus mitigating the group threat hypothesis.

Additionally, the group threat hypothesis has been criticized by subsequent scholars for only looking at a black/white dynamic, rather than at all races. Laurence (2013) found that in analyzing previous studies, the detrimental effects of racial propinquity depend on the minority group in question and the actual form of contact. Large numbers of blacks may arouse threat and give rise to prejudice in whites, but large numbers of Latinos and Asians do not. When whites have relatively superficial contact with members of these minorities, they are not less prejudiced against blacks but are less prejudiced against Latinos and Asians. When whites know and feel close to members of these minorities, they are less prejudiced toward all groups (Laurence, 2013; see also Taylor, 1998; Pettigrew & Tropp, 2006). Although Laurence criticizes the failure of

previous studies to look at more than just whites versus blacks, it is somewhat ironic that he still considers the problem through the lens of whites' interactions with other groups, rather than looking at it from a different group's viewpoint.

It is clear then that a more nuanced understanding of the group threat hypothesis is warranted. Yes, propinquity can lead to prejudice in certain conditions- competition over scarce resources for example, but it depends upon the size and type of the minority, and can be mitigated by meaningful, rather than superficial contact. It seems reasonable to consider learning the language of the other group as meaningful contact.

### **Language and Cognition**

Many linguists believe that language, apart from simply being part of culture or social identity, can even affect cognition. For example, Shatz, Diesendruck, Martinez-Beck, and Akar (2003) tested comprehension of false belief among preschoolers speaking different languages. False belief is the recognition that others can have beliefs about the world diverging from one's own (Woodruff & Premack, 1979). Languages vary in their lexical explicitness to express false belief, and so some children were better able to mentally understand false belief based upon the language they spoke. This illustrates that even something as innocuous as differing language structure can affect cognitive processes like false belief comprehension (Chen, 2015).

Further evidence is provided by Chen, Benet-Martinez, and Ng (2014). They find that people adopt a cognitive style based upon the language they speak. They conducted an experiment using Chinese-English bilinguals to test levels of dialectical thinking based upon whether the interviewer conducted the interview in English or Mandarin. Chen et al. define dialectical thinking in their study as the level of ease in interfacing between contradictory

viewpoints and facts (2014). When responding in Mandarin, subjects correspondingly showed much greater levels of cognitive dialecticism, showing that knowing additional languages can have a very real impact upon a person's cognitive style. They theorize that Mandarin is much more dialectically-oriented than English, which leads the person who learns or speaks Mandarin to show greater levels of dialectical thinking when using that language.

Much of the power that language has in terms of altering cognition stems from the fact that much of our cognition is processed semantically. Beginning with Collins and Loftus' adaption of Quillian's theory of semantic memory search (1975), semantic processing has been extensively studied. Their theory suggests that the brain operates using "nodes" which are representations of concepts that need to be categorized to be understood. If one node is similar by type, or semantically, to another node or concept, the brain connects those two nodes because it sees them as sharing similar characteristics. For instance, the object "chair" represents a mental node that the brain sees as being connected to other nodes or concepts such as "table", both of which can be grouped under a larger network, set of nodes, or category called "furniture." Quillian proposed various types of links connecting each node, but the basic idea is that when a concept is processed or stimulated, activation spreads out along the paths of connected nodes in the network. The strength of the semantic spreading depends on the tightness of connection between the nodes or concepts and whether they share categories (Collins & Loftus, 1975). Given an array of similar concepts, the mind automatically imposes a standard of criterion for each concept to meet in order to be included, and thus creates a hierarchical order upon the world (Lumsden & Wilson, 1985).

Although originally conceived as merely theoretical, subsequent research has borne out Collins and Loftus' conception of semantic cognition, and shown that these nodes exist not only

in theory, but in actuality as well (Lumsden & Wilson, 1985). The existence of semantic spreading activation has important implications for those who speak additional languages, as they can access additional semantic pathways; each language being a distinct pathway. For instance, studies on bilinguals have shown that phonological information is stimulated in the brain for both languages spoken by bilinguals even when speaking entirely in only one of the two languages known (Von Holzon & Mani, 2014). Thus, even when only using one language, bilinguals are affected by the other language known, which simultaneously activates and influences the production of their thought, and subsequently, speech (Spalek, Hoshino, Wu, Damian & Thierry, 2014). In other words, bilinguals experience two distinct semantic pathways, each pathway being one of the languages known.

The strength of the effect that other languages have upon speech production in bilingual's native language depends on various contextual factors, but there is conclusive evidence at least that bilingual speakers can implicitly generate at least two labels for every concept, or semantic node to use the terminology of Collins and Loftus (Von Holzon & Mani, 2014).

Having discussed how learning a language might alter cognition, it is still not apparent why it would alter cognition in a direction that specifically reduces ethnocentrism. To understand that, it is necessary to discuss cognitive empathy. Cognitive empathy is the capacity to understand another's perspective or mental state (Rogers, Dziobek, Hassenstab, Wolf & Convit, 2007). Levels of cognitive empathy vary by individual, but there is evidence that people can increase their levels of cognitive empathy (for example, see Georgi, Petermann & Schipper, 2014; Vanman, 2016; and Greenberg, Rentfrow, Baron-Cohen & Simon, 2015). Having a high level of cognitive empathy means that an individual is more likely to be empathetic of, and understanding towards, their fellow human beings. It is also important to note that empathy is



related to cognition about groups. It is more difficult to have empathy for those who belong to outgroups (Vanman, 2016). Vanman explains that this expression of empathy that varies by ingroup membership is unconscious and automatic; as evidenced through testing using the minimal group design. For example, after participants were divided into groups based on their (fictional) dot estimation ability, they judged the perceived pain (through pictures depicting painful situations) of ingroup members as being more painful than the pain of outgroup members (Vanman, 2016).

There are several environmental factors that can help increase a person's level of cognitive empathy, and one of them appears to be language learning. Dewaele and Wei tested the relationship between cognitive empathy and knowing multiple languages and found a statistically significant correlation (2012). A correlation does not provide conclusive evidence of a causal link, of course, and it is conceivable that higher cognitive empathy could lead to interest in learning other languages. The relationship does exist, however, and it seems more likely that the causal arrow points the other way. An empathetic person could express that empathy in a myriad of ways, not just learning another language, and so the notion that empathetic people will inexorably be drawn to language learning seems a stretch. Also, the paucity of second language speakers in some countries and the wealth of them in other countries seems to speak more to language learning as a result of necessity rather than as an expression of empathy. The alternative is to consider some nations as inherently more empathetic than others.

On the other hand, consider the logic behind learning a language that Dewaele and Wei present (2012). They posit that to speak another language authentically is to take on a new identity. It is a chance to step into a new and unfamiliar pair of shoes. Learning the language grants access to the culture in which the language is embedded, and facilitates acculturation, as examined previously.

As Chen et al. point out, the person learning the language will also adapt the cognitive style that the language promotes (2014). Having assimilated all this automatic baggage that comes with language learning, it is reasonable to believe that this could help a person be more cognitively empathetic and understanding of others' point of view. The language learner has already had to take a "crash course" in understanding the nuances and emotional complexity of another group's behavioral and moral codes just by learning the additional language.

Eric Vanman provides another reason why language learning affects cognitive empathy: mimicry (2016). Mimicry is the tendency of humans to mimic or replicate the behaviour, actions, or speech of others. All humans engage in such behaviour, matching motor and speech responses, or "allowing us to get under the skin of other people" as Inzlicht, Gutsell, & Legault put it (2012, p.361).

One explanation for this behaviour is that people engage in mimicry because it increases empathy (Vanman, 2016). Referring back to the original evolutionary argument, behaviour that increased ingroup solidarity and empathy helped human beings thrive as social animals, and increased survival odds. This happened because mimicry communicates feelings of empathy toward interaction partners (the tribe for example) and leads to prosocial feelings and behavior toward others (Chartrand & Dalton, 2009). Chartrand & Dalton give an analogy about how this behaviour might have started (p.475). Imagine two cavewomen out picking berries, hoping to avoid being eaten by a large bear. One cavewomen (upon seeing the bear) suddenly drops her berries and runs away as fast as she can. What does the other cavewomen do (the one who has not seen the bear)? If she mindlessly follows her companion (mimicry) then she likely survives, but if she fails to mimic then she ends up in the belly of the bear. Repeat similar situations over

hundreds of thousands of years and one can see how the development of an automatic imitative response would be highly adaptive for survival.

Vanman explains that imitating others is the first step in an ‘emotional contagion’ process’ which results in muscle contractions that provide the necessary feedback to the brain allowing one to feel the corresponding emotion in others (2016, p.60). For example, when participants in an experiment viewed a video of a woman who occasionally rubbed her face while talking, they found themselves spontaneously imitating her movements (Yabar, Johnston, Miles, & Peace, 2006). More interestingly though, the rate of mimicry increased when the woman in the video was described as sharing the same group membership as the participants. Rather than just being subject to an ingroup/outgroup dynamic, however, mimicry can actually increase empathy. In an experiment where participants watched a video of racial ingroup or outgroup members drinking from a glass of water; those participants who were instructed to mimic the actors’ movements showed greater levels of empathy (Inzlicht, Gutsell, & Legault, 2012). This was true even when mimicking outgroup members. This led to less implicit racial bias toward the outgroup among those asked to mimic, compared with those who simply watched the outgroup video without being asked to mimic. I include a brief discussion of the neurological implications of mimicry in the next section. For now, let us consider language as a form of mimicry.

When a person learns a language, they are forced to mimic an entirely new form of speech, not only to learn the words, but also to capture the distinct accent, and copy the unfamiliar positions of the tongue that the new language requires. In a discussion I had with Dr. Zsuzsanna Fagyal, a linguist at the University of Illinois, she explained that even mimicking a different accent helps develop empathy with the group that uses that accent, let alone an entirely

different language. This has been confirmed by a recent experiment asking subjects to consciously mimic different accents (see Adank, Steward, Connell, & Wood, 2013). In this study, the researchers found that subjects asked to mimic other accents rated the groups to whom the accents belonged higher than those who were not asked to mimic the accents. They concluded that their results “showed that overt changing of an individual’s speech toward a target [group] positively affects feelings of sociability toward that target [group]...and decrease[s] the social distance” (2013).

To increase positive affect for an outgroup is to move further down the road of cosmopolitanism, away from ethnocentrism. So apart from the idea that language encapsulates the culture of the outgroup, those who learn a new language might also develop empathy by a process of intense mimicry that puts the individual in entirely ‘new shoes’, or a ‘new skin’, or ‘speaking with a new tongue’, or whatever your metaphor of choice is. Another way to say this is that mimicry increases empathy and decreases misunderstanding and disdain of outgroups (ethnocentrism as it were).

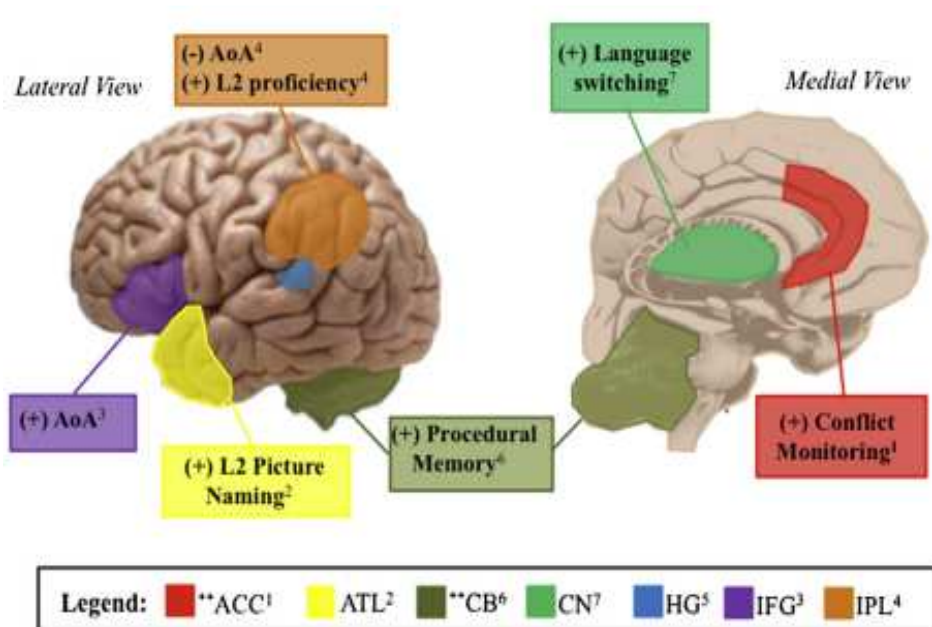
### **Language and the Brain**

Neurolinguists provide evidence of the impact of language learning from a different perspective. Most of this literature is devoted to showing the benefits learning additional languages has upon cognitive functioning in the brain, including multi-tasking and multi-competence by subtly altering brain structure (for example see Grodzinsky, Shapiro, & Swinney, 2000). Other scholars have found that learning another language impacts how the brain codes colour, time, and other everyday stimuli (Chiu, Leung, & Kwan, 2007). The most important finding as it relates to this thesis however, is the discovery that learning a new language induces

neuroplasticity in the brain (Bialystok, 2014; Li, Legault, & Litcofsky, 2014). Li et al. call neuroplasticity the ability of the brain to functionally and physically change or reconfigure its structure in response to environmental stimulus or cognitive demand (2014).

Like the earlier discussion of evolutionary pro-social behaviour, neuroplasticity can also be understood through an evolutionary lens. The most adaptable humans tended to be the fittest for their environments, since they could change as the circumstances of their environment changed. Neuroplasticity is therefore the flexible adaptation that human beings have acquired over the course of our evolutionary history that allows adaptive capacity in the brain throughout a person's entire lifespan, which allows us to constantly adapt to environmental constraints (Heidlmayr, Dore-Mazars, Aparicio, & Isel, 2016). The cognitively challenging task of learning additional languages is clearly a hefty 'environmental constraint' and requires considerable flexible adaption (Heidlmayr et al., 2016). Li, Legault, & Litcofsky claim that while experience-dependent neural changes can result from many different environmental inputs, the cognitive intensity of learning another language is particularly powerful in bringing about such changes in the brain (2014). Their own functional magnetic resonance imaging studies (fMRI) bear this claim out, showing that that individuals who learn an additional language experience a change in the anatomical structure of their brains, including increased gray and white matter in several regions. I defer to their explanation of gray and white matter: neurons are organized within the brain to form both gray and white matter. Gray matter consists primarily of neuronal cell bodies, whereas white matter consists of support cells. Bundles of these support cells (also called axons) form the so-called fiber tracts that connect different cortical regions within the brain (Li, Legault, & Litcofsky, 2014). Changing the anatomical makeup of these areas can have profound impacts on cognition and brain functioning. For example, Li and colleagues found correlations between

increased grey matter density from learning additional languages and improved performance on cognitive tasks such as picture identification, memory, task switching, conflict monitoring, and other executive functions. The chart below is drawn from their work, and adeptly illustrates the regions in a bilingual’s brain that show increased grey matter density compared with a monolingual (Li, Legault, & Litcofsky, 2014).

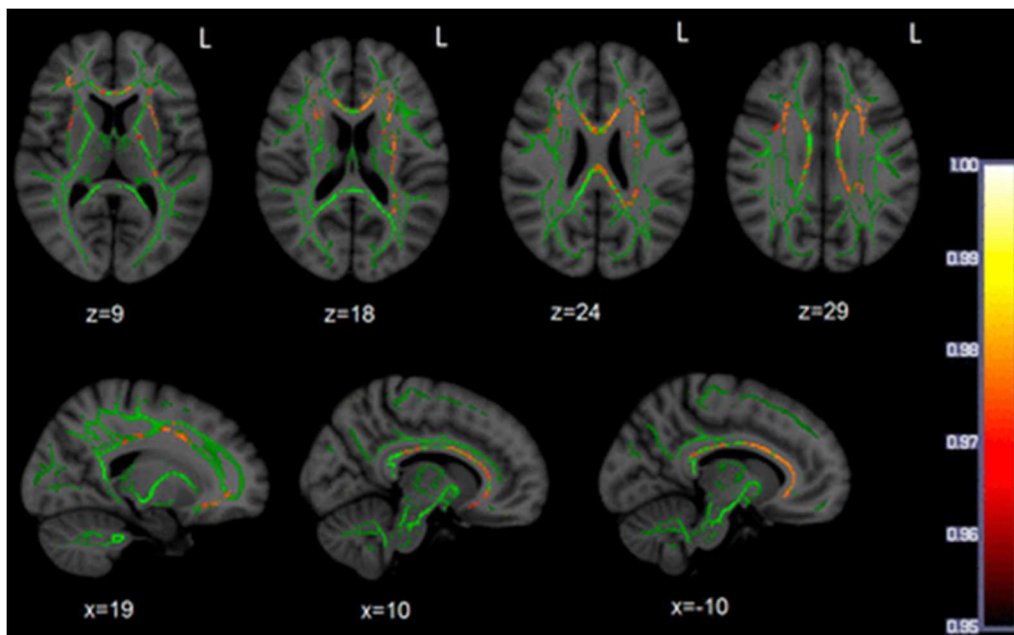


*Figure 3.* Brain regions that show increased GM density/volume or CT according to a number of studies with group comparisons of bilinguals versus monolinguals. Regions in the above image labeled with \*\* in the legend indicate bilateral GM; otherwise localized in the left hemisphere or medial section. Further, structural increases in the specific regions are shown to be correlated with behavioral tasks or variables: (+): positive correlation with a task or variable; (-): negative correlation with a task or variables. These brain-behavior correlations are based on the following studies: Abutalebi et al., (2012); Abutalebi et al., (2014); Klein et al., (2013); Mechelli et al., (2004); Ressel et al., (2012); Pliatsikas et al., (2013); Zou et al., (2012). Reprinted from “Neuroplasticity as a function of second language learning: Anatomical changes in the human brain,” by P. Li, J. Legault, and K.A. Litcofsky, 2014, *Cortex*, 58, p.24. Copyright 2017 by Elsevier. Reprinted with permission.

Li and colleagues’ work is especially notable because it shows that this increased gray matter density and white matter integrity can be found in all age groups, and can occur rapidly

with even short-term language learning (2014). They conclude that the “evidence...shows that our linguistic brain is much more plastic than we have ever previously imagined” (p. 318).

Their findings have been replicated by several scholars including Pliatsikas, Moschopoulou & Saddy (2015). The chart below is drawn from their research, and shows the areas of the brain that have increased white matter density as a result of second language acquisition.



*Figure 4.* Brain regions that show increased white matter density. Reprinted from “The effects of bilingualism on the white matter structure of the brain,” by C. Pliatsikas, E. Moschopoulou, and J.D. Saddy, 2015, *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 112(5), p.1336.

The green lines show the standard space white mass skeleton, or regions where white mass is found, and the red lines show areas where higher fractional anisotropy values for bilinguals have been found. Rather than being bogged down in a sea of highly technical, unfamiliar neuroscience research; it is sufficient for the purposes of this thesis to say that fractional anisotropy values have been related to greater white mass integrity in other studies,

and so are evidence of neuroplasticity as a result of second language acquisition (Pliatsikas, 2015).

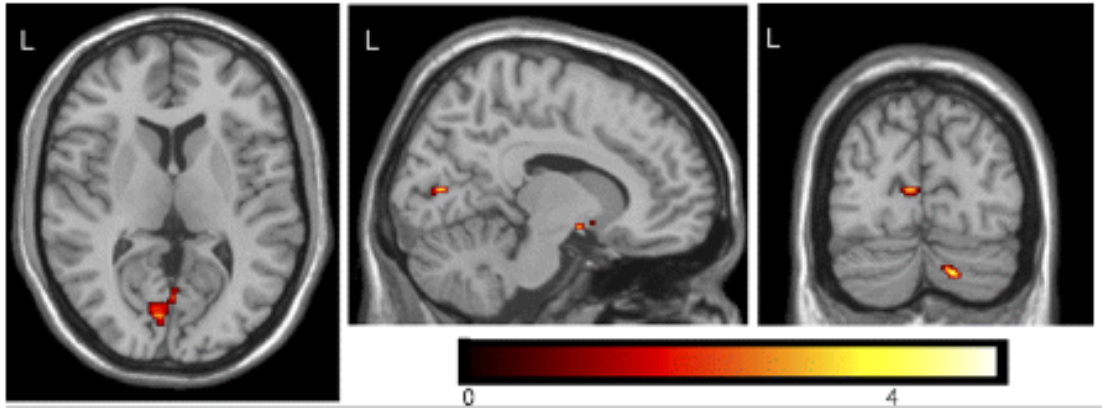
Part of the challenge in discussing the neuroscientific impacts of language learning is that different studies show completely different areas of the brain being activated with second language acquisition. Pliatsikas and colleagues find increased white matter in the corpus callosum, bilateral superior longitudinal fasciculi, and inferior fronto-occipital fasciculus (2015). Tu and colleagues, in contrast, find increased brain activity and induced neuroplasticity in the left frontal gyrus and left inferior parietal lobule (2014). Other researchers find results in yet different areas of the brain, including cortical thickness (Li, Legault, Litcofsky, 2014). It is clear that there is no broad consensus yet about which area of the brain is specifically impacted by learning a second language, but it is appropriate to claim that many neuroscientific fMRI studies have shown that language learning induces greater neuroplasticity in the brain by altering the amount of grey and white matter density.

One reason for the dispersion of effects is the complex nature of language use itself. For instance, a recent study found that the alteration in white matter depended upon the learning experience, and the region of change in the brain depended upon mode of communication (Kuhl, Stevenson, Corrigan, Van den Bosch, Can, & Richards, 2016). Kuhl et al. found that experience in listening in a second language was more robustly correlated with decreases in radial diffusivity in anterior white matter regions of the left hemisphere, whereas speaking in a second language was more robustly correlated with increases in fractional anisotropy in the posterior left hemisphere white matter regions (2016). What this boils down to is that the proportion of change depends upon the experience one has with another language. Greater immersion in the language leads to a larger magnitude of change, while the type of immersion (whether primarily listening



comprehension or speaking) can help determine which area of the brain experiences stronger connectivity and denser white matter.

To experience an anatomical change in the brain, most studies find that language learning must take place for at least 3 months (Li, Legault, & Litcofsky, 2014). A recent study, however, found gray matter changes in the brain after only 5 sessions of learning at 20 minutes per session (Kwok, Niu, Kay, Mo, Jin, So, & Tan, 2011). Kwok et al.'s study consisted of teaching Chinese monolinguals four new words associated with four different colour shades per session. Although this may seem like too easy a task to stimulate changes in the brain, their results indicated that gray matter increased in the left visual cortex of the brain. Their findings demonstrate the very real neuroplasticity of the brain in response to cognitive demand. Additionally, one could reasonably assume that if participants are experiencing structural changes in a task that is far easier than any real language learning experience, they would experience even greater changes with additional cognitive demands placed upon them (i.e. by learning a complete language). The chart below is drawn from their work (Kwok et al., 2011) and shows differences in gray matter volume in participants pre and post training.



*Figure 5.* Differences in gray matter volume between post- and pretraining scans, as illustrated by images from axial (Left), sagittal (Center), and coronal (Right) views. The region in the cerebral cortex surviving a whole-brain-based analysis ( $P < 0.005$  uncorrected) is  $v2/3$  ( $X = -10$ ,  $Y = -77$ ,  $Z = 3.58$ ). One area in the cerebellum ( $X = 13$ ,  $Y = -75$ ,  $Z = -38$ ;  $P < 0.005$  uncorrected;  $Z = 3.86$ ) also shows a volumetric difference. A small volume correction (20-mm) analysis of  $V2/3$  indicated that the difference was significant at  $P < 0.05$  FEW. Reprinted from “Learning new color names produces rapid increase in gray matter in the intact adult human cortex,” by V. Kwok, Z. Niu, P. Kay, L. Mo, Z. Jin, K. So, and L.H. Tan, 2011, *Proceedings of the National Academy of Sciences of the United States of America*, 108, 6687.

These fMRI studies show that language learning impacts the actual physical structure of the brain, but does not explain the mechanism behind such a change. How does this work in everyday life? When thinking about a concept, a person will access relevant information about that concept in memory, as described in spreading activation theory (Collins & Loftus, 1975). To access that memory, it must be connected by a neural pathway or it will be inaccessible. Learning another language allows a person to utilize an additional neural pathway to arrive at the same concept. This is because the set of connections of one concept in one language is different from the set of connections for the same concept in another language (Evans, 2014).

This is what is happening behind the curtain in a multilingual’s brain. They can see many concepts empathetically, or from another’s points of view because they can access additional neural pathways. Utilizing these neural pathways strengthens them, increasing density of white matter, and functionally making the brain more flexible in arriving at concepts from different

perspectives. Scholars have different ways of labeling this process. It is sometimes called language learning's ability to alter brain "functional connectivity" (Li, Abutalebi, Zout, Yan, Liu, Feng, Wang, Guo, & Ding, 2015).

The importance of this anatomical change of the brain in terms of affecting cognition is key to understanding why language learning has such an impact. By increasing the size and density of white matter integrity, individuals' thought processing can change. Neuroscientists have found that individuals with increased white matter integrity in the right temporal-parietal junction of the brain show increased impartiality toward outgroups in experiments (Baumgartner, Nash, Hill, & Knoch, 2015).

In the same vein, and relating back to the earlier discussion of cognitive empathy, Eres, Decety, Louis, & Molenberghs find that higher scores of cognitive empathy in individuals are associated with greater gray matter density (2015; see also Vanman, 2015). Cognitive empathy allows a person to understand the points of views and rationales that drive others' behavior. When a person learns a new language and thus changes the anatomical structure of the brain, including increased white and grey matter density in various regions of the brain, that change also promotes higher levels of cognitive empathy, which are also associated with increased gray matter density. Cognitive empathy, in other words, is not just a psychological process; it has its roots in the very structure of the brain. As a person learns a language, they induce neuroplasticity in their brain, leading to a higher capacity to process information that is cognitively empathetic towards others.

In the previous section I alluded to the fact that language learning might be considered a form of mimicry, and that mimicry increases cognitive empathy. The evidence from the neuroscience literature illustrates that mimicry activates the mirror neuron system, the brain

system that underlies motor resonance (see for example, Obhi, & Hogeveen, 2010). Motor resonance (the internal activation of a person's motor system attuned to perceptions and movement in a social context), in turn, is precisely what is lacking for outgroups (Inzlicht, Gutsell, & Legault, 2012). By mimicking the words and speech patterns of another language group, language learners experience the cognitive benefits associated with mimicry, namely more empathy, as a function of the activation of the mirror neuron system in the brain.

One caveat to mention is that learning a language earlier has a bigger impact in terms of altering cognitive functioning (Pavlenko & Malt, 2011). Despite this added impact for younger language learners, recent experiments targeting older language learners confirm the "limited but continued plasticity of the network" (Malt, Li, Pavlenko, Zhu, & Ameer, 2015). In other words, the brain continues to be affected by language even into maturity (see for example Li, Legault, & Litcofsky, 2014).

Thus far I have discussed multiple possible causal mechanisms found in the literature on languages and groups, which would help explain a relationship between language learning and ethnocentrism. These include arguments about culture, social identity, cognition, and neurology. Although all these arguments approach the question from a different perspective, and use different methods; they each provide additional explanatory power to understanding why learning a language might reduce ethnocentrism. I am less interested in learning which of the explanations is the most powerful (although I suspect the neurological one), and am content with knowing that there are solid theoretical reasons connecting the two concepts (language learning and ethnocentrism). My synthesis of the many theories is this: when an individual learns a new language, they are exposed to a new culture and a new way of thinking. As they gain familiarity with the new language, they begin to be able to use multiple semantic or neural pathways, since

the new language opens additional pathways. For example, when thinking about a concept (let's say "a bird"), a bilingual individual will label that concept in both languages known, or arrive at her thought of a bird through two different neural pathways. Activating these neural pathways strengthens them. In terms of the brain, this strengthening is the growth and greater density of gray and white matter in various regions. The importance of the growth of this gray and white matter is that it is associated with a greater ability to think empathetically. To think empathetically is to abandon ethnocentric thought, since now the individual has a greater empathetic intelligence and mental capacity to feel the emotions of the other group. That is the theory anyway. This thesis now turns to an empirical test to see whether the relationship between language learning and ethnocentrism actually exists as the literature and my theory suggests it should.

### CHAPTER III: RESEARCH DESIGN

I test the link between multilingualism and ethnocentrism using a completely new dataset collected personally in Morocco during 2017. The actual hypothesis is straightforward: each additional language known will decrease a person's level of ethnocentrism. I will know that my hypothesis is incorrect if individuals who speak more languages show no difference in their level of ethnocentrism compared with individuals who speak fewer languages.

The test was carried out through an online survey designed to measure individuals' levels of ethnocentrism through the Kinder and Kam method (2009). The Kinder and Kam method revolves around asking respondents to address common stereotypes about other groups, particularly the stereotypes of stupidity, laziness, and dishonesty. Respondents were asked to rate various groups in Morocco based on those stereotypes on a 1 to 7 scale. In addition to this measurement, I also included variables capturing languages known, as well as several controls. These measurements were analyzed using ordinary least squares regression. Mathematically the model can be expressed:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_{13}x_{13} + e$$

With the actual variables inserted the model looks like this:

$$\textit{Level of Ethnocentrism} = a + (b)\textit{number of languages known} + (b)\textit{facility in languages known} + (b)\textit{education} + (b)\textit{urban vs rural} + (b)\textit{socioeconomic status} + (b)\textit{amount of foreign media} + (b)\textit{interpersonal contact} + (b)\textit{number of other countries visited} + (b)\textit{age} + (b)\textit{ideology} + (b)\textit{gender} + (b)\textit{linguistic interest} + (b)\textit{internationalist} + \textit{error}$$

The complete list of questions asked, as well as the exact wording can be found in the appendix. As far as the actual method of collection, I used a mixed methods approach to try enhance the diversity of the sample. I sent the survey out to students at the Hassan II University in Casablanca. I also distributed the survey to women at the Women's Empowerment Center in Imouzzer Kandar, which accounts for the slight majority of women in the sample. Also in

Imouzzar, I distributed the survey to beneficiaries of the Greenside Development Foundation. This was an important step as I was able to get an older, less educated, and less affluent subset of Moroccans to diversify the sample. I also used the snowball sampling method to distribute the survey through social media. That is, I sent the survey out to Moroccan acquaintances, asking them to take the survey, and then to send the survey out to their friends.

Notwithstanding this mixed method approach, I was not able to gather the large sample I had anticipated. The combination of a short window to gather data, no funding to pay respondents or interviewers, and the suspicion that local authorities had of my efforts to distribute the survey, resulted in a less than ideal sample size (66 respondents). Despite this shortcoming, however, I was still able to capture some spread across various demographics, including a range of socio-economic statuses, ethnicities, linguistic expertise, and ethnocentric tendency.

The survey was provided in English, French, and Arabic depending on respondents' preferences. Since this is a study on language, the actual language used to ask questions obviously has an impact on respondents' answers. This is an unavoidable reality in social science research, but my own approach is the "least bad" way since it at least provides options for the respondents to select the language they prefer to answer in right from the beginning of the survey.

### **The Case of Morocco**

Before immediately delving into the results, I think it appropriate to discuss the setting of the research- Morocco. Morocco is an interesting place to test language acquisition and ethnocentrism simply because of its history and location in the world as a crossroads of languages, cultures, and ethnicities. Its geopolitical location has created a citizenry that is largely

multilingual. It is easier, therefore, to find subjects who speak three, four, or five languages; and thus, be able to see the impact additional languages might have. Additionally, most previous studies on language acquisition use English as the base language. As far as I know, there exist no other studies testing language acquisition and ethnocentrism using Arabic as the base language. This research design allows contrast with later studies that might test European language multilinguals. Even more importantly, however, this research deviates from the standard model of only using American or European subjects for research in studies on behaviour. A study conducted by Henrich, Heine, & Norenzayan (2010) criticized behavioural scientists for making claims about human behaviour drawn exclusively from western societies. They found that studies using samples in non-western societies often drew very different results (p. 61). This research then is a chance to see whether the currently accepted findings on ethnocentrism hold up in a non-western environment.

Morocco has been populated since pre-historic times. The first well-documented group of inhabitants were the Imazighen<sup>5</sup>, the nomadic people called ‘Berbers’ by the Greeks. They mainly resided in the interior of the country. More technologically advanced peoples soon moved to colonize the coastal regions, including the Carthaginians and the Romans. The ruins of their settlements are still visible today. The most impactful colonization came in the 8th century, when Muslim armies from Arabia arrived in Morocco. Unlike previous invaders, they came in greater numbers, settled far into the interior, and brought a cohesive and an aggressively proselytizing religion. Although the Imazighen largely adopted the new religion, they fought against their new

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<sup>5</sup> “Imazighen” is the plural of “Amazigh”. It means “the free people” in Tamazight, which is the one of the three principle Berber dialects used in Morocco. The terms Amazigh, Imazighen, and Berber can be used largely interchangeably, but there is a growing consensus that the term ‘Berber’ is inappropriate, so I use “Imazighen” or the ‘Amazigh people’ in place of “Berber” in this thesis. I also use “Tamazight” as a catch-all for all Amazigh language dialects. This is consistent with the usage in Imouzzar Kandar, Morocco, although the term “Shilha” is often used. I do not use “Shilha” as a term because it is what Arabs call the Tamazight language, rather than what Imazighen call their own language.



overlords. The next thousand years of Moroccan history can be characterized (albeit simplistically) as a struggle between these two groups, the Arabs and the Imazighen. Each group managed to take control of the ruling of Morocco during various eras, and the great palaces built by both Arab and Amazigh dynasties are still intact today.

As European powers became the dominant world players during the enlightenment and industrial revolutions, they colonized virtually the entire world, and all of Africa except Ethiopia. Morocco was not exempted from the spread of colonialism, and was divided up between the Spanish in the north, and the French in the rest of the country in the nineteenth and twentieth centuries, although parts of Morocco were controlled by Europeans far earlier (Pennell, 2003). The French occupation (beginning formally with the Treaty of Fes in 1912) was the heaviest, and they imposed French laws, customs, and language learning on Morocco (Pennell, 2003). As a result, even today, Moroccan education at the university level is conducted almost entirely in French, despite French not being the native tongue of nearly any Moroccan. It has also resulted in some Moroccans harbouring resentment against having to learn the French language because they see it as the language of oppression, or “permeated with characteristics of cultural imperialism” as a recent article on the French language in Morocco puts it (Chakrani, 2013, p.436). Conversely, among the educated elite in Morocco, knowledge of French is seen as a mark of culture and high social class (Chakrani, 2013). This is almost certainly influenced by the fact that far more of the educated elite have had to learn French in school. The graph below is drawn from Chakrani (p.435), and shows how French and English fluency change by income bracket. It shows that the lower economic classes in Morocco are far less exposed to European languages.

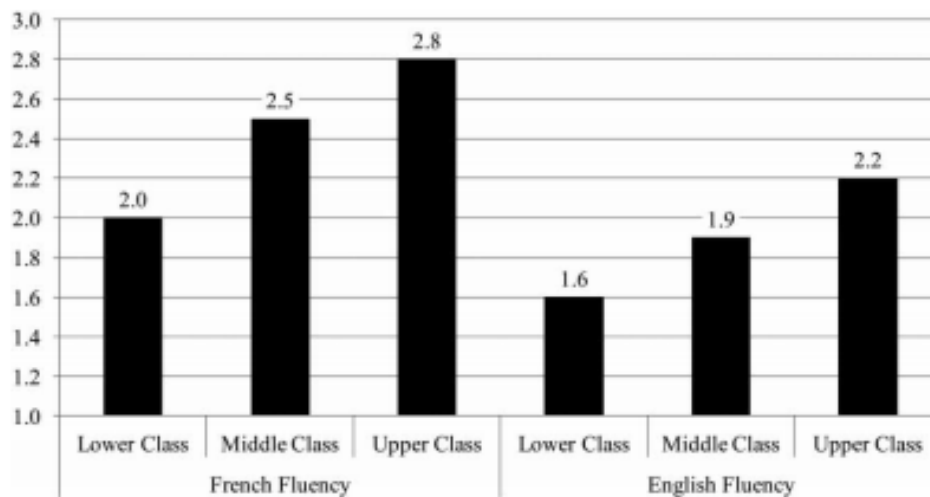


Figure 6. Average Language Proficiency. 3 = fluent; 2 = proficient/a little; 1 = none/very little. Reprinted from “The impact of the ideology of modernity on language attitudes in Morocco”, by B. Chakrani, 2013, *Journal of North African Studies*, 18(3), p.435. Copyright 2013 Routledge. Reprinted with permission.

After the end of the colonial period, the ruling Alawite dynasty tried to homogenize Morocco’s multilingualism by insisting on Arabic as the predominate language. This linguistic uniformity was part of a greater Arabization movement and was “consciously constructed...based on the one nation, one religion, and one language principle” (Zouhir, 2014, p. 42). Only recently has the King recognized other official languages in Morocco.

In 2006, under the direction of King Mohammed VI, the Ministry of Higher Education launched an initiative to promote the position of the English language in Morocco. The new requirements include proficiency in English as a requirement for doctoral students and for the recruitment of new university professors (El Kirat & Laaraj, 2016). Although the impact of this shift remains to be seen, it will likely raise the profile of English in the country, especially as an academic language.

Referring back to the conflict between the Imazighen and Arabs, although the underlying tension still exists for many, the conflict has certainly subsided compared to medieval Morocco, or even the days of the “divide and rule” French administration, who pitted the two groups against each other. This can be explained, in part, by the high rate of intermarriage between the Imazighen and Arabs in Morocco. Indeed, the major ethnic group in Morocco is now simply called ‘Arabized Berbers’.<sup>6</sup>

Despite this mixing, however, people still tend to identify with one group over the other. This is largely linguistically derived, with those who speak Tamazight as a first language regarding themselves as Amazigh, even if they are racially a mix between Amazigh and Arab. Vice versa, many who claim to be Arab have a great deal of Amazigh ancestry (Fromherz, 2014).

In recent years, a pan-Amazigh movement (sometimes called the ‘Berber Spring’) has arisen across the Maghreb region (Morocco, Algeria, Tunisia, and the Canary Islands), where Amazigh people reside (Fromherz, 2014). This has resulted in re-emphasizing the Tamazight script, celebrating the Amazigh culture and language, providing local television and radio stations in Tamazight, and overturning a law that prohibited parents from naming their children with Amazigh names. This new Amazigh consciousness has also revived academic learning in Amazigh history and customs within Moroccan universities. Tamazight (the language of the Amazigh people), has recently been codified and introduced into the educational system of Morocco (Errihani, 2007). Despite this Amazigh renaissance, however, Arabic is still seen as a more prestigious language than Tamazight. (Zouhir, 2014). Zouhir explains that this prestige

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<sup>6</sup> This is a claim founded mostly on common knowledge as no official ethnographic information is tracked by census in Morocco. A report published by the Immigration and Refugee Board of Canada: *Morocco: Brief history of the Berbers including their origins and geographic location* (2000) verifies this claim however, as does the CIA World Factbook (<https://www.cia.gov/library/publications/the-world-factbook/geos/mo.html>).

stems from the fact that Arabic is the language of the Quran, as well as the primary language of the public domain, including business and education (p. 42).

In summation, although most Moroccans are ‘Arabized Berbers’, nearly all identify as either Arabs or Amazigh, and this identification is spurred primarily linguistically. In the next section, I measure ethnocentrism using these ethno-linguistic groups (including Europeans and Sub-Saharan Africans who are admittedly not ethno-linguistic groups), and think it an appropriate measure since these groups already exist as natural kinds in Morocco.

### **General Statistical Information on Morocco**

To further contextualize Morocco as the location of this research, I have provided some basic demographic information and charts below for the reader’s convenience:

#### The average Moroccan:

- ❖ Is 28 years old
- ❖ Earns \$8, 300 per year
- ❖ Has completed 12 years of formal education

*Figure 7. The Average Moroccan. Source: The World Factbook, 2017.*

Morocco skews remarkably young. In fact, the country is currently experiencing what some observers call a “youth bulge”, in that more than half the country is under the age of 30.

The graph below shows the distribution exactly.

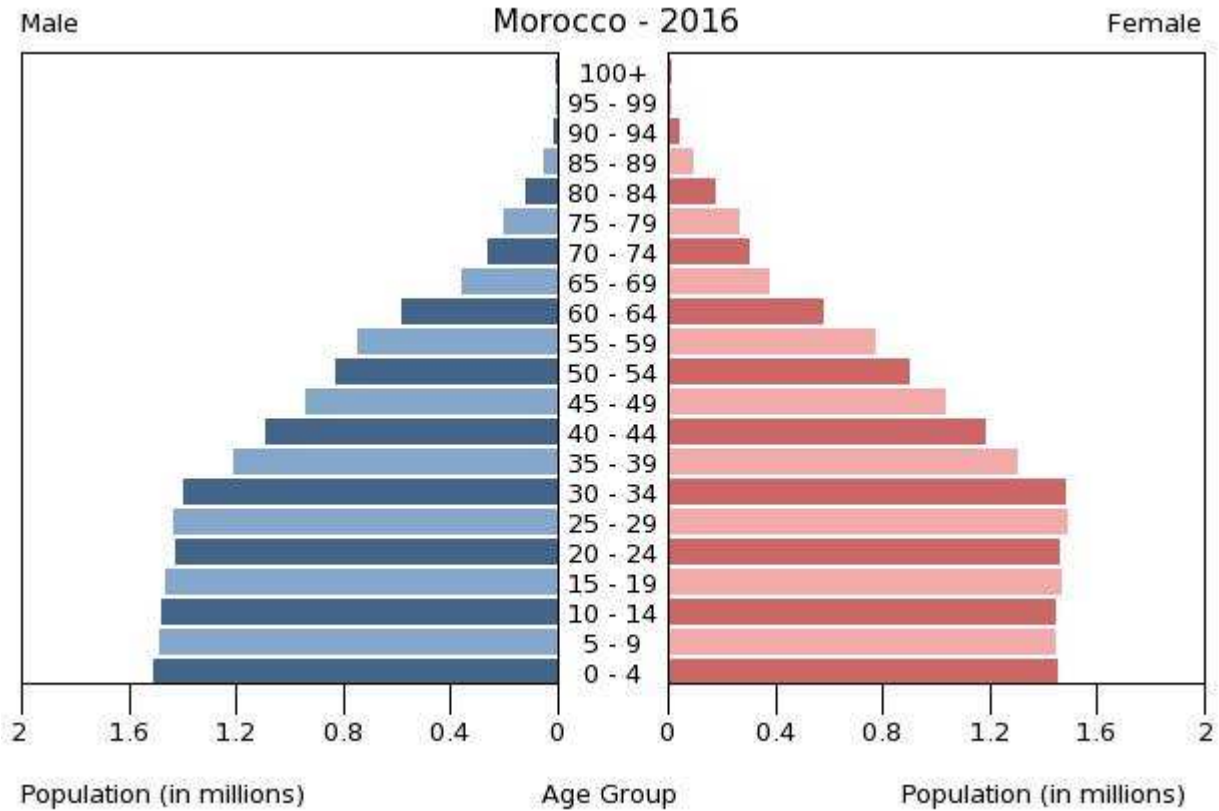


Figure 8. Morocco Age Distribution. Reprinted from *The World Factbook*, Washington, DC: Central Intelligence Agency, 2017, Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/index.html>.

The next graph shows the percentage of Moroccans who are internet connected, urban, and have traveled to western nations. These numbers may appear low, but they compare quite favourably to the MENA region.

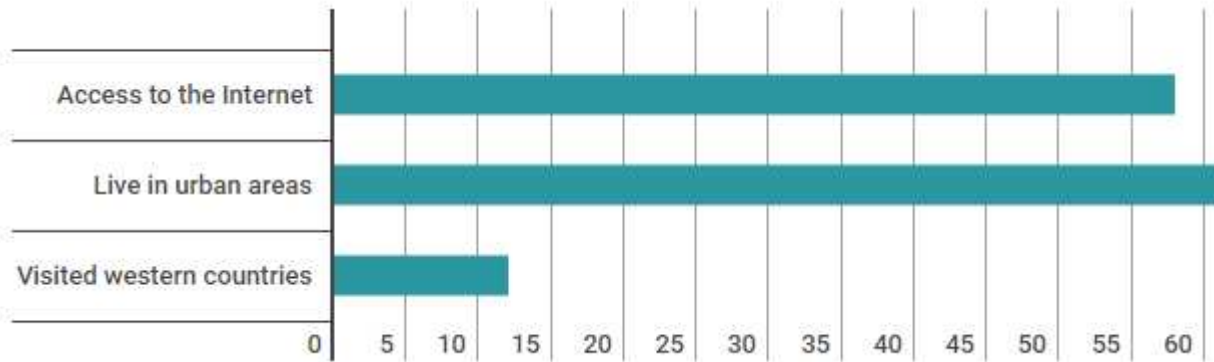


Figure 9: Morocco Demographic Information. Source: The World Factbook, 2017 & the Arab Barometer Survey (Morocco) Wave 3, 2014.

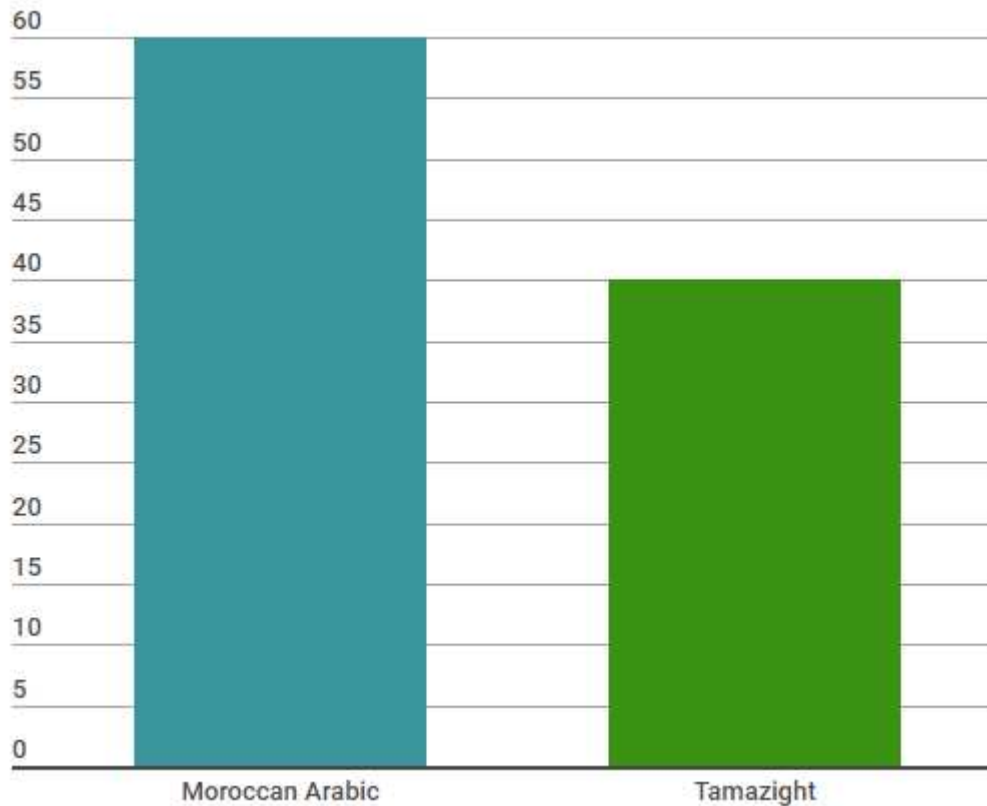


Figure 10. Estimated distribution of Arabic and Tamazight native speakers in Morocco. Source: Zouhir, 2014 & Ethnologue (18<sup>th</sup> edition), 2015.

Estimates vary widely on native language distribution, but the above graph represents a typical estimation. One should note that there are many Moroccans who are ethnically Amazigh

who do not speak the Tamazight language. Also, nearly all Moroccans speak Moroccan Arabic, either as a first or second language- the graph above only shows native speakers.

Do you think that the increase in global connectivity is a good or a bad thing for society?

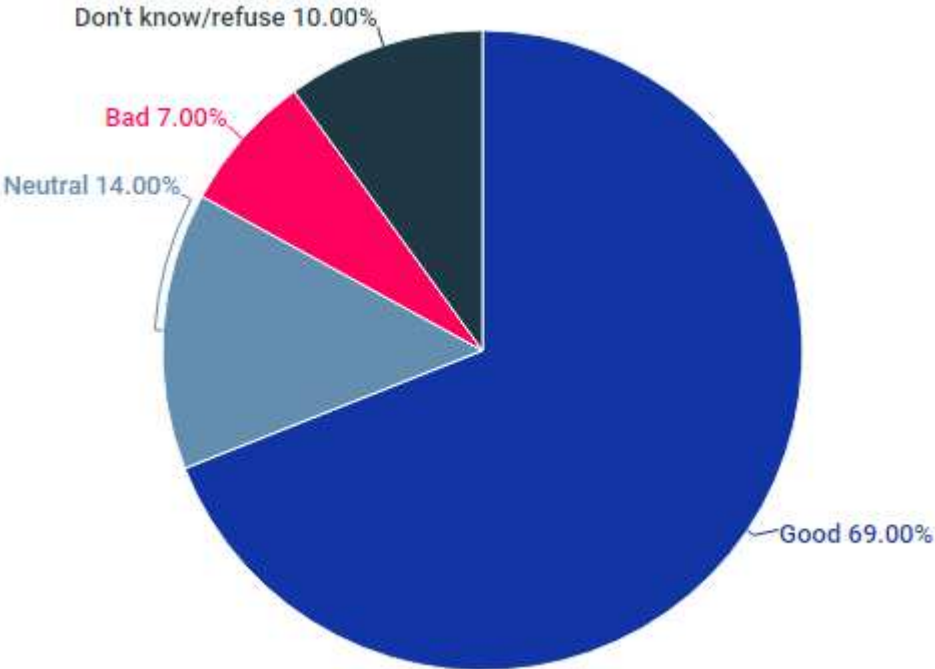


Figure 11. Global connectivity graph. Source: Arab Barometer Survey (Morocco) Wave 3, 2014.

The graph above is from data gathered by the Arab Barometer which constitutes a large representative sample of Moroccans. I include it as a soft indicator of Moroccan’s sense of being “citizens of the world” or at least of their desire to appear cosmopolitan. Only 7% of Moroccans in the survey consider an increase in ‘global connectivity’ (a proxy for increased globalization and movement between countries) a bad thing. That is an astoundingly low number. The reader will notice the same question reproduced in my survey later.

## Variables

My dependent variable is a person's level of ethnocentrism. While ethnocentrism can be triggered for all groups for which a person identifies, it is typically used as a measurement for ethnic group affect. I follow this tradition in my thesis. The measurement of ethnocentrism involves comparing the positive affect a person has for their ingroup with the negative affect for outgroups. Kinder and Kam operationalize this quite succinctly (2009). First, they ask respondents to score groups based on work ethic, intelligence, and trustworthiness and then subtract those scores from the scores they give their ingroup. They then divide all three scores by three to obtain an ethnocentric measure. They also have a secondary measure of ethnocentrism that simply subtracts a feeling thermometer rating for all outgroups from the rating one gives to the ingroup. They find that the two measures are highly correlated: Pearson correlation is 0.42 (Kinder & Kam, 2009).

The Kinder and Kam method of measuring ethnocentrism has been widely replicated, but it is not the only method. Neuliep and McCroskey have generated a 61-question battery that they call the "Generalized Ethnocentrism Scale" (1997). It asks respondents to answer on a Likert scale about statements such as "other countries should model themselves after my country" and "I have little respect for the values and customs of other countries." The main problem with their Generalized Ethnocentrism Scale is that it appears too vulnerable to demand effects. It may be difficult for people to explicitly say that they have no respect for other cultures or countries, for instance. Of course, the Kinder and Kam approach is subject to demand effects as well, but probably to a lesser degree. Subjects in their approach simply have to equate a numeric value to each group, rather than having to state they agree with a statement that denigrates other groups. The Kinder and Kam measurement approach will therefore be used for this thesis.



This thesis compares four groups that are highly salient to Moroccans, specifically Moroccans' feelings towards Arabs, the Imazighen (sometimes called Berbers), Sub-Saharan Africans, and Europeans. Depending on the category they fall into, each individual will compare their own group with the three other groups listed.

Respondents are asked to rank each group's characteristics, in terms of work ethic, intelligence, and trustworthiness, on a scale of 1 to 7. To obtain a level of ethnocentrism, the score of each outgroup will be subtracted from the score the respondent gives to their ingroup, and divided by three to obtain a general level of ethnocentrism. As stated, this is the method developed by Kinder & Kam (2009) and utilized in many subsequent studies.

Because respondents are specifically asked about their feelings towards other groups, it is perhaps inevitable that the survey questions will activate ethnocentrism in some individuals. After all, though ethnocentrism is a stable predisposition, it requires the necessary context to activate it (Kinder & Kam, 2009). For this survey design, however, this activation is not fatal. The working assumption for this design is that all human beings have a stable and abiding level of ethnocentrism that varies by individual. When encountering a prime that encourages ingroup affect, more ethnocentric individuals will respond more favourably to the ingroup than less ethnocentric individuals. It is not the survey that creates those feelings of ethnocentrism, however; that is an already existent latent predisposition. The priming activates ethnocentrism, certainly, but it does not skew all responses one way or the other. More ethnocentric individuals will show greater effects in terms of ingroup affect than less ethnocentric individuals, but that is exactly what one would expect from a theoretical perspective. It would be nearly impossible to measure ethnocentrism without priming it because people only rely on feelings towards other groups when there are other groups to consider. In other words, a person would only think in an

ethnocentric or cosmopolitan way if put in a context where those lenses are needed to interpret the situation.

An important caveat that needs to be raised is that Kinder & Kam's method is based upon stereotypes about groups in America, a belief that blacks are lazy, that Jews are pushy etc. (Kinder & Kam, 2009). If I use the same methodology, might I not be incorrectly assuming that the same stereotypes about groups in America apply to Morocco? It is a valid concern, but not necessarily problematic because the core of the questions gets at moral character and intellectual capacity, which are the main basis for stereotypes in general (Kinder & Kam, 2009). If ethnocentrism is as universal a tendency as currently understood, then it follows naturally that questions about trustworthiness and intelligence should be attached to all groups, because those are universal features of the human social experience. Can you trust the other group and do you think the other group is competent (both intellectually and in terms of work ethic)? A person who is more ethnocentric will naturally find other groups less trustworthy and less competent because they place more penalties on outgroups, which is why this measure works so effectively.

Furthermore, there are definite stereotypes about different groups in Morocco, especially between Arabs and the Imazighen. Ali Mguild and Bernhard Venema examined ethnicity and stereotypes in Morocco through a series of in-depth interviews, and found that "stereotypes about Berbers, Arabs and other ethnic groups are common" (2003, p.35). Note the presence of stereotypes from their work:

"With reference to Arabs one [Berber] informant stated, 'They are the evil eye: avoid seeing them, because they may bring bad luck.' Bad feelings are particularly common if newcomers [Arabs] are successful in their trade or occupation. A Berber informant complaining on this point ended his statement by saying: 'Strangers come today, and tomorrow they have a large family'... In a dispute between a Berber and an Arab we once heard the former shouting: 'raa Arabic', 'go to your Arab countrymen'. Arabs also regularly use stereotypes. With reference to the Middle Atlas Berbers, one informant said: "They live as savages in tents near caves and forests. They are nomads who use boots and plastic for clothing. They don't speak or read Arabic

and don't know the Koran.' Another informant said: 'They don't think about the hereafter. They live like barbarians: they don't have a family life and their daughters are prostitutes. Other quotes could be added.'

Although I have not seen quite this intensity of acrimony in Morocco, I have heard both Arabs and Imazighen generalize wildly about groups within Morocco. This includes the belief that Arabs are violent, Sub-Saharan Africans are untrustworthy, and so forth. I firmly believe, therefore, that the stereotype measurement of ethnocentrism is justified in Morocco, since natural types exist in the minds of Moroccans with definite stereotypes attached. The data bears that out.

Below are the ratings that Arabs and Imazighen give to different groups in Morocco:

Table 1

*Stereotype Checks*

	Sub-Saharan Africans are lazy	Sub-Saharan Africans are unintelligent	Sub-Saharan Africans are untrustworthy	Mean Score
Arab	4.6	4	4.5	4.3
Amazigh	3.8	3.9	3.9	3.8
	Arabs are lazy	Arabs are unintelligent	Arabs are untrustworthy	Mean Score
Arab	3.1	2.7	3.6	3.1
Amazigh	3.1	3	3.5	3.2
	Imazighen are lazy	Imazighen are unintelligent	Imazighen are untrustworthy	Mean Score
Arab	3.5	3.6	3.4	3.5
Amazigh	2.6	2.8	2.8	2.7
	Europeans are lazy	Europeans are unintelligent	Europeans are untrustworthy	Mean Score
Arab	2.7	2.5	3.5	2.9
Amazigh	2.9	2.9	3.2	3

These values are drawn from the questions in the survey that ask respondents to rate on a 1 to 7 scale whether Arabs, Amazigh, Sub-Saharan Africans, and Europeans are lazy, unintelligent, and untrustworthy. Higher values indicate that respondents feel that the group in question is lazier, more unintelligent, and more untrustworthy. I have divided the sample between Arabs and Amazigh respondents in the rows while the stereotype scores are shown in the columns. The “mean score” indicates the sum of average scores for laziness, unintelligence, and untrustworthiness assigned for each category divided by the number of categories. For readers who prefer graphical information for interpretation, the mean scores are shown in the graph below:

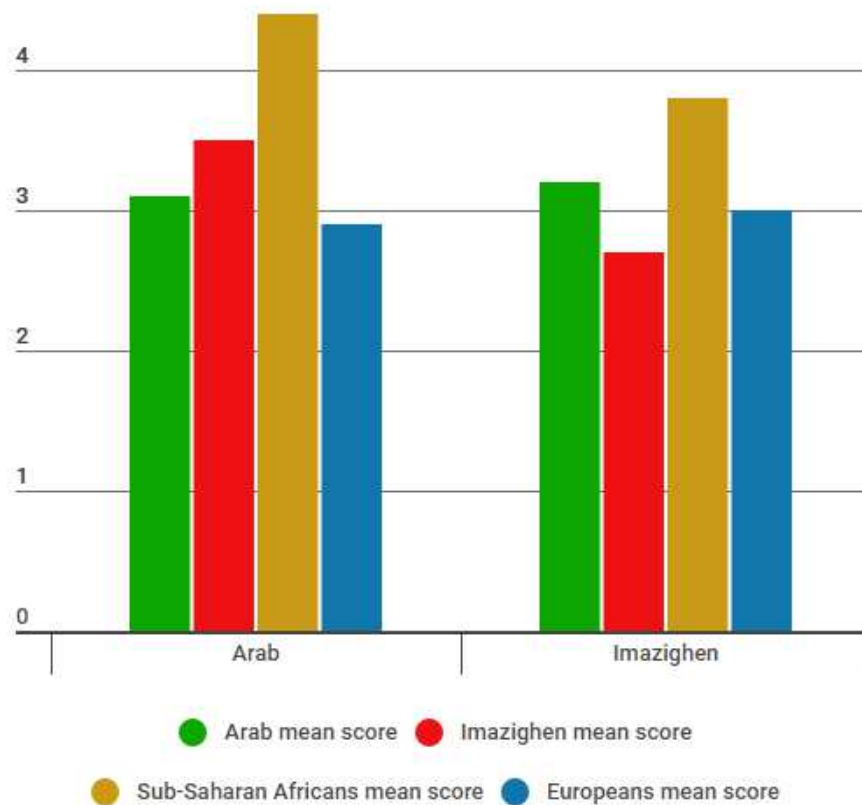


Figure 12. Mean stereotype score comparisons.

What is clear from this data is that Moroccans have definite feelings and stereotypes about the work ethic, trustworthiness, and intelligence of these natural groups within Morocco. Arabs score Sub-Saharan Africans and Imazighen lower than themselves on average, but Europeans higher than themselves on average. The Imazighen on the other hand, score every group as having lower intelligence, trustworthiness, and work ethic than they do themselves. The Imazighen appear to have stronger attachment to their ingroup than do Moroccan Arabs. Perhaps this is a result of feeling marginalized in society, which has emphasized their sense of unity.

Both Arabs and Imazighen score Sub-Saharan Africans worse in all categories. The Sub-Saharan scores are surely a reflection on the hardening attitudes that Moroccans have on the new waves of refugees and asylum seekers who have recently arrived in Morocco from central and west Africa. They are poorer, less educated, and suffer widespread unemployment, which undoubtedly contributes towards the stigma with which native Moroccans view this group. Europeans, on the other hand, fare well in this stereotype score. That might reflect the fact that Europeans typically come to Morocco as tourists, and thus the subset of Europeans with whom Moroccans interact are generally wealthier and higher in status. Perhaps this leads to a higher estimation of Europeans.

There are some further theoretic explanations in the ethnocentrism literature that help account for the high regard for Europeans in the sample. Kinder & Kam find that groups that perceive their own groups as lower status in comparison with another group have a difficult time asserting their own group's superiority (2009). They echo Brewer and Campbells findings (2007), stating that judgements about a group's intelligence or capability are conditioned on actual levels of resources and power. Moroccans are aware that Europeans enjoy a high standard of living. They see luxury goods imported primarily from Europe, and rich European tourists

visiting their country. Thus, they give Europeans the benefit of the doubt when it comes to assessing scores on intelligence and work ethic. Regardless of whether a rating of another group is positive or negative, however, it is still a stereotype, and evidence that my survey instrumentation is not misplaced.

My primary independent variable is the number of languages a person speaks. I rely on people's self-assessment as to how many languages they speak, and code this as a continuous variable (although I also use a dummy variable for bilingualism to test effects). I also try to determine fluency by asking for a self-assessment for how confident respondents' feel with each language. Granted, this is a crude measurement as it likely taps into self-confidence as well as actual language competence, but given limitations in resources is the best way to try to include a measure of exposure to language.

I include the following controls as well in case they have a mitigating effect on ethnocentrism: education, environment (urban/rural), socioeconomic status, exposure to outgroup media, interpersonal contact with outgroup members, travel, interest in language learning, conservatism, age, and gender.

## CHAPTER IV: FINDINGS

### Descriptive Statistics

This first table below shows the demographic breakdown of the sample. The statistics for the entire sample are shown in row 1, while in rows 2 and 3 are the cross tabulations based on whether respondents qualified as cosmopolitan or ethnocentric. The reader will recall that my formula for determining ethnocentrism is to subtract the score a respondent gives to her own group based on a certain characteristic (for example, intelligence) from the average score she gives to all outgroups. I then sum all three of these scores and divide by three for an average level of ethnocentrism. This formula produces values that range from -6 (perfectly ethnocentric) to +6 (perfectly cosmopolitan), with 0 representing a median value. A score of 0 would mean that respondents rate outgroups the same as their ingroups. With that in mind, I call respondents who score lower than 0 ethnocentric, as they score outgroups lower than their ingroup in terms of intelligence, work ethic, and trustworthiness. Respondents who score higher than 0 are considered cosmopolitan in this survey, as they do not penalize outgroups based on these criteria.

Table 2

#### *Descriptive Statistics*

	Level of Ethnocentrism	Languages known well	All languages known	Years of education	Age	Status	Village (%)
Entire Sample	-.29	2.6	3.3	14.1	26.1	5	43.7
Cosmopolitan	>0	2.7	3.3	13.9	23.7	4.9	28
Ethnocentric	<0	2.6	3.3	14.5	27.7	5.1	54

The category “Status” shown above refers to respondents self-rated place in society from a scale of 1 to 10, with 10 being the high. The category “Village (%)” refers to the proportion of the sample who listed a ‘village or small town’ as the place where they grew up.

Examining this table, respondents are on average slightly ethnocentric, which is expected, given that ethnocentrism is considered a ‘universal tendency.’ Using the same method of determining ethnocentrism, Kinder & Kam found that ethnocentrism scores center not on 0 (neutral), but rather on slight ethnocentrism (2009). They find extreme ethnocentrism rare, but in mild form, pervasive (p.57). That is echoed in this dataset. The graph below shows the distribution of cosmopolitan scores in the sample. The distribution is roughly normal but with a greater density of responses slightly below 0. There are few examples of extreme ethnocentrism (or cosmopolitanism), but mild ethnocentrism is the rule.

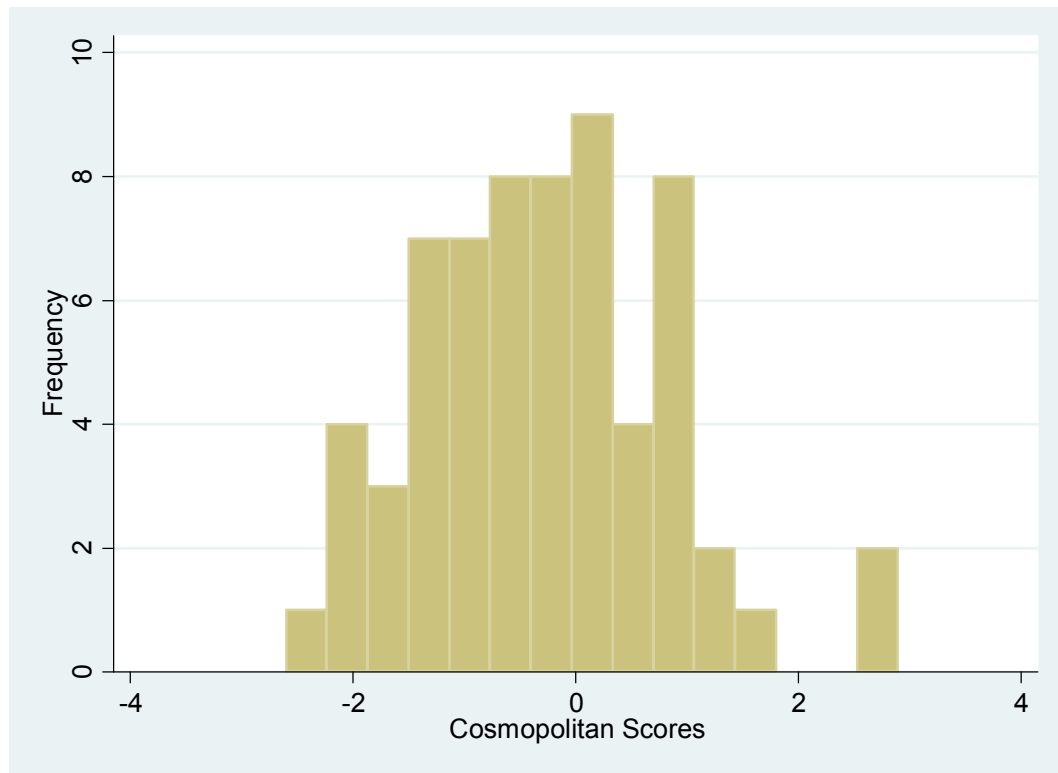


Figure 13. Distribution of Cosmopolitan Scores



Returning to the descriptive statistics, it is also evident that respondents in my sample are overwhelmingly multilingual. The average respondent is at least bilingual. Survey respondents are also younger and better educated than the average Moroccan, although not necessarily wealthier. The average socio-economic status score (self-rated) was only 5 out of 10. This is often referred to as 'relative deprivation', and it seems like respondents feel somewhat deprived when compared with their society. Finally, in terms of urban versus rural, the survey mirrors the general population fairly closely, with just over 40% of respondents living in rural areas or in small villages or towns.

There is only one surprise when comparing the demographic information of the sample by ethnocentric and cosmopolitan respondents, and that is the fact that ethnocentric respondents have on average slightly more education. This probably has a lot to do with the fact that ethnocentric respondents are on average 4 years older and thus have had more chance to finish university degrees (cosmopolitan respondents are only 23 years old on average).

Cosmopolitan respondents are slightly more linguistic and slightly poorer (at least in terms of self-rating) than ethnocentric respondents. The biggest difference was the role of city size. Ethnocentric respondents live in villages and small towns at nearly double the rate of cosmopolitan respondents. That too is expected, however, in that those in small towns are obviously much less likely to meet people from other cultures.

The next table shown below is similar, but shows attitudinal, rather than demographic, values. As in the table above, the cross tabulations are shown for the cosmopolitan versus ethnocentric respondents, as well as the entire sample statistics as well.

Table 3

*Attitudinal Statistics*

	Outgroup media average	Low contact score	Internationalist (%)	Secular
Entire Sample	1.8	11.8	75.8	41.5
Cosmopolitan	1.7	12.4	76	40
Ethnocentric	1.9	11.5	75.6	43.5

“Outgroup media average” refers to the average number of outgroup media sources respondents consume (social media, radio, and television). A score of 3 means that respondents primarily consume outgroup media and a score of 0 means that respondents do not use any outgroup media.

In the survey, contact with outgroups was scored on a range from 1 to 6 with 1 representing daily contact and 6 representing the absence of contact. The “Low contact score” listed in the table is the sum of contact with all outgroups, but as per the survey questions, a lower score means more frequent contact with outgroups.

“Internationalist (%)” refers to the proportion of respondents who agreed with the statement that “the increase in global connectivity is a good thing for society.”

“Secular (%)” refers to the proportion of respondents who stated that they would prefer Morocco to be more secular than it currently is. I use this as a proxy for conservatism.

Within the sample as a whole, the average respondent consumed nearly two sources of outgroup media, with nearly identical scores between cosmopolitan and ethnocentric respondents. I consider that a high rate of outgroup media consumption, with respondents getting about half their media from an outgroup source on average. Similarly, Moroccans in the sample had fairly high interaction rates with outgroups. A score of 12 would mean they interact with

outgroups at least once a week on average. The caveat here is that the average score is somewhat distorted, because respondents have far more contact with Arabs and Imazighen than they do with Europeans and Sub-Saharan Africans (more on this later).

As with the Moroccan data from the Arab Barometer, Moroccans in my sample were overwhelmingly supportive of ‘global connectivity’, perhaps reflecting Morocco’s role as an intersection of Europe, Islamic North Africa, and Sub-Saharan Africa. Or it could be tapping into cultural and religious norms that are more deep-seated such as the traditional hospitality norms brought by the desert-dwelling peoples of the Middle East. This is quite evident in Moroccan society where hospitality to guests is often seen as a sacred duty. Tourists in Morocco are often greeted by cries of “merhababikum!” which means “welcome!” in Moroccan Arabic.

Finally, rates of secularism are similar between ethnocentric and cosmopolitan respondents at just over 40%. With these attitudinal scores, there is little difference when dividing the sample. Surprisingly, however, ethnocentric respondents have slightly more contact with outgroups than do cosmopolitan respondents, although by less than 1 point on a 24-point scale. I will discuss contact more fully later in the thesis.

## Results

Table 4

*Ordinary least squares regression of cosmopolitan score on number of languages known and other control variables<sup>7</sup>*

Variable	Coefficient	Robust Standard Error
Additional languages	.1	.21
Low interpersonal contact	-.01	.06
High status	-.11	.1
Education	-.02	.04
Age	-.02*	.01
Male	.22	.32
Large city resident	.81	.65
High outgroup media exposure	.08	.39
Secular	.05	.35
Interested in languages	.4	.44
Internationalist	-.2	.37
Travelled abroad	.19	.45
Constant	.76	1.5

Note. Two-tailed test, \* =  $P < .1$ , \*\* =  $P < .05$ , \*\*\* =  $P < .01$ ,  $N = 52$ ,  $R^2 = .16$ ,  $VIF = < 2.2$  for all variables (no multicollinearity problem).

This first model regresses participants' cosmopolitan score on the number of languages they speak as well as various controls. A negative coefficient indicates that an increase in that

<sup>7</sup> I chose to use robust standard errors as an added protection against heteroskedasticity although no problem with heteroskedasticity existed in the regression (Breusch-Pagan score of .37).

variable moves a person in an ethnocentric direction (closer to -6 which is perfect ethnocentrism in my model), whereas a positive coefficient indicates that an increase in that variable moves a person towards cosmopolitanism.

The most obvious and serious conclusion to be drawn from this first regression is that all of the independent variables (except age) are statistically insignificant. An increase in languages spoken does not statistically increase survey respondent's cosmopolitan scores (although the direction is at least as expected). Based on this first model then I have thus far failed to reject the null hypothesis- that there is no meaningful difference in ethnocentrism between those who speak additional languages and those who do not.

The absence of statistical significance for most of the control variables is also concerning. Do none of these traits explain ethnocentrism? At least three of them have been purported to explain variation in ethnocentrism in previous studies. The first is education. As Kinder & Kam put it, "Education does indeed predict ethnocentrism: as years of education increase, ethnocentrism declines" (2009, p.65). Yet that is not occurring with this data set (in fact education is negatively correlated with cosmopolitanism, though not statistically significantly). Possibly the lack of significance lies with the size (or lack thereof) of the sample. That could be said of any the variables tested in this thesis unfortunately. Also relevant, however, is the differing demographic makeups of this survey when compared with surveys measuring ethnocentrism in the United States.

In Kinder & Kam's work on ethnocentrism (2009), for example, they use NES data. There are meaningful differences between respondents who did not attend college and those who graduated from college in that data set, including those who went on to receive graduate or professional degrees. The lines of demarcation in income and attitudes between non-college

graduates and college graduates are fairly clear in America, and so the impact of obtaining higher education is easy to decipher. Those dividing lines are fuzzier in Morocco, at least in my data set. One factor is that there are few college graduates (both relative to the country as a whole and in the sample). With fewer graduates sampled, it's harder to see what impact their college experience had upon ethnocentrism.

It's also clear that previous samples have typically only considered education in a western context- at American universities primarily. The education and university system are different in Morocco, and so unsurprisingly the impact of education is not showing up identically in this sample. One major difference is that there is less emphasis on providing students with a broad education. In the U.S., students in high school are required to take classes from various disciplines: some science classes, foreign language classes, art classes, literature classes, and so on. That continues in college, where about two years of the undergraduate experience is devoted to 'generals', or classes meant to expose students to a wide range of subjects.

In contrast, Moroccan students have to make up their minds as early as the 10th grade about their future tracks. They choose a track (science, literature, Islamic education etc.) and then pursue that track for the rest of their high school career. For those who choose to attend university, they are not required to take general classes as extensively. This makes for a very different experience from American colleges- more professionally focused with a much smaller range of subjects. So, the lack of effect of education in this context is understandable. We wouldn't expect job training to have much impact on a person's level of ethnocentrism, and that is arguably more like what a Moroccan university education provides for most students. It does not fit the criteria as well for exposure to many different world views/ideas that western universities (perhaps sometimes only theoretically) provide.

The other two variables that should alter ethnocentrism are related to contact theory. I'm referring specifically to the variables "Low interpersonal contact" and "High outgroup media exposure." Interpersonal or intercultural contact has long been understood to reduce prejudice (see for example Pettigrew & Tripp, 2006). While prejudice is not exactly the same as ethnocentrism, a more ethnocentric person likely has stronger prejudices against outgroups. So, the lack of statistical significance is confounding, unless it is simply a result of too small a sample size or too complicated a model. The direction of the relationship, at least, is expected. The less contact a person in the sample has with a group, the more they penalize that group. In the tables below, I show the regression coefficients of a set of OLS bivariate regressions that regress the stereotype scores respondents give to groups on the dummy variable High Contact (measured as contact of at least once per week).<sup>8</sup>

Table 5

*Regression Coefficients by Stereotype*

	Sub-Saharan Africans are lazy	Sub-Saharan Africans are unintelligent	Sub-Saharan Africans are untrustworthy
High Contact	-.9*	-.77*	-.58
Standard Errors	.47	.42	.49
Constant	4.2	4.09	4.1
	Europeans are lazy	Europeans are unintelligent	Europeans are untrustworthy
High Contact	-.95**	-.67	-.58
Standard Errors	.47	.46	.49
Constant	2.95	2.7	3.42

Note. Two-tailed test, N = 63, \* = P<.1, \*\* = P<.05, \*\*\* = P<.01.

When using this simpler model, half of the coefficients are statistically significant and the directions are all expected. Those who fall into the 'High Contact' group view both Sub-Saharan Africans and Europeans as more hardworking, intelligent, and trustworthy. Remember, this is

<sup>8</sup> Regressions using Arab & Amazigh work ethic, intelligence, and trustworthiness are not included as they were multicollinear. There was no variation in the sample of contact with Imazighen and Arabs. Nearly all respondents dealt with those two groups on a daily basis.

measured on a 1 to 7 scale, with 7 being most lazy, most unintelligent, and most untrustworthy. So, a coefficient of  $-.95$  indicates that moving from the low contact to the high contact group decreases the score given to a group by about 1 point (measured on a scale from  $-7$  to  $7$ ). That is substantively significant because the range of ethnocentric scores is not large. Consider that the standard deviation of ethnocentric scores is only  $1.1$  for example. So, a change of  $.95$  is certainly an impactful change. This thesis, therefore, confirms previous findings on contact theory. High contact with outgroups reduces prejudice towards those groups.

Turning back to the regression results in table 4 again, I think it worth considering the correlation directions of age and status. Both are negatively correlated with cosmopolitanism. Age is easier to interpret. Younger Moroccans are more in tune with a modernism that is significantly driven by the west. They watch American movies, use American social media sites, dress in the latest European fashions, and so forth.

Status is more difficult to interpret. An increase in self-reported socio-economic status among survey respondents is correlated with an increase of ethnocentrism. My hunch for what is occurring here is that the self-reported status is tapping into self-confidence, and perhaps even narcissism. Respondents who value themselves higher, will likely also value their ingroup higher, as attachment to ingroup is very much part of one's sense of self-worth as per social identity theory. A stronger attachment to one's ingroup is part of the measurement of ethnocentrism I employ in this thesis, so those individuals will also show up as more ethnocentric.

In the literature review, I wrote about previous studies' findings on the impact of language learning on the brain. The Kuhl et al. study (2016) found evidence that greater immersion in the new language learned led to greater changes in the corresponding areas of the



brain. In addition, Li et al. (2014) argued that language learning must take place for at least 3 months before meaningful changes can take place. With that in mind, the table below regresses cosmopolitan scores on the number of languages known, separated by expertise in those languages.

Table 6

*Ordinary least squares regression of cosmopolitan score on number of languages known (by expertise) and other control variables.<sup>9</sup>*

Variable	Coefficient	Robust Standard Error
Fluent languages	-.05	.18
Fair languages	.11	.16
Mediocre languages	.08	.2
Poor languages	.07	.24
Age	-0.02**	.01
Large city resident	.78	.51
Constant	.21	.73

Note. Two-tailed test, \* = P<.1, \*\* = P<.05, \*\*\* = P<.01, N = 60, R<sup>2</sup> = 0.12, VIF = <1.32 for all variables, (no multicollinearity problem).

Surprisingly, given that we know that increased familiarity with languages increases brain changes, added expertise in languages known is still not statistically significant in relation to ethnocentrism. In fact, knowing more languages fluently is negatively correlated with cosmopolitanism. Knowing more languages at a fair, mediocre, or even poor level is correlated

<sup>9</sup> For the regression shown in table 6, I dropped the control variables from my initial regression model (table 4) that were highly statistically insignificant (p>.2). For justification of this approach see Princeton University's recommendations on regression analysis (Torres-Reyna, 2007): <https://www.princeton.edu/~otorres/Regression101.pdf>

with a higher cosmopolitan score, although still not statistically significant. The fact that the correlation direction is not uniform is puzzling. One possible explanation is that the mere fact that a person takes the trouble to learn another language gives the cognitive benefits of language learning, without necessarily having to have full immersion in the language. Just experiencing the difficulty of learning new vocabulary and grammatical structures might be enough to gain access to the cultural context or additional neural pathways that come from language learning. There is some previous evidence of this. Consider Kwok et al.'s study that found induced neuroplasticity in the brain after only five sessions of foreign language learning (2011).

With this more limited model, the variable 'Age' increases its statistical significance while 'Large city resident' does not quite meet the significance threshold. A one year increase in a respondent's age is associated with a .02 increase in ethnocentrism. It may not look like much of an effect, but when magnified to ten years (.2) or twenty years (.4) its impact is more apparent. A seventy-year-old will on average gain nearly a full point of ethnocentrism compared with a twenty-year-old. When the scale only goes to six (above and below zero), that is sizable.

Although not statistically significant, the coefficient of "Large City Resident" is even bigger. Compared with residents in small towns or villages, city dwellers are nearly one full point less ethnocentric. As referenced earlier, city residents have far greater access to different kinds of people; they hear different languages, and they are exposed to outgroups in greater numbers. That is especially the case in Morocco, where the small towns are much more homogenous than the cities. It is not hard to picture a city resident in these circumstances being more cosmopolitan.

While pleasing to see at least one of the independent variables retain its statistical significance, my hypothesis that knowing additional languages reduces ethnocentrism (even

when accounting for depth of knowledge) remains incorrect. I fail to reject the null hypothesis that there is no difference in ethnocentrism between those who speak fewer languages and those who speak more languages. One concern is that perhaps the lack of results for my hypothesis is a result of the model being too extensive for the amount of data. To ensure that that is not the case, I present two simpler models below. The first is a bivariate regression of cosmopolitan scores on languages known, with languages known coded as a continuous variable:

Table 7.

*OLS bivariate regression of cosmopolitan score on number of languages known.*

Variable	Coefficient	Robust Standard Error
Additional languages	.05	.12
Constant	-.46	.44

Note. Two-tailed test, \* =  $P < .1$ , \*\* =  $P < .05$ , \*\*\* =  $P < .01$ ,  $N = 64$ ,  $R^2 = 0.002$

Even with a simpler model, the results are similar. Each additional language known is still associated with a small change in ethnocentrism (.05), but the statistical significance remains a problem. The second simple model below codes languages known as a dummy variable. In this case, multilinguals (defined as those who speak two or more languages) are separated from monolinguals.

Table 8

*Bivariate regression of cosmopolitan score on number on the dummy variable 'Multilingual'.*

Variable	Coefficient	Robust Standard Error
Multilingual	.16	.42
Constant	-.43	.39

Note. Two-tailed test, \* =  $P < .1$ , \*\* =  $P < .05$ , \*\*\* =  $P < .01$ ,  $N = 64$ ,  $R^2 = 0.002$

A multilingual has a .16 reduction in ethnocentrism, but if it was not already clear from the tremendously low R2 number, neither this nor the previous simple model explain change in ethnocentrism. The standard error is twice the size of the regression coefficient, indicating a highly insignificant statistical relationship. No matter the model employed with this data set, the relationship cannot be indicated statistically.

## CHAPTER V: DISCUSSION

What can explain this lack of a relationship between ethnocentrism and language acquisition? There are several possibilities that need to be considered. The first (mentioned earlier) is that limitations with the size of the data set have underinflated the results, showing no relationship when in reality a relationship does exist. That possibility can only be discounted with further testing with larger samples. That remains to be seen.

Another possibility, also introduced earlier in the thesis, is that the causal arrow is pointing the other direction. Could it be that there is something different about those who choose to learn additional languages? Instead of learning languages making people more cosmopolitan, is it simply that more cosmopolitan people are likely to be interested in learning more languages? I controlled for that partially in the survey by including variables that captured general interest in language learning as well as attitude toward ‘global connectivity.’ For a more definitive test, I also asked respondents why they had learned the additional languages they spoke. I was curious to see whether respondents who were forced to learn additional languages because of school or work would exhibit different cosmopolitan scores from those who chose to learn languages for personal interest or pleasure. It was my expectation that language learning prompts cosmopolitanism, not the other way around, and this gives an opportunity to examine the flow of causality. If the effect sizes on cosmopolitanism for respondents who are forced to learn additional languages are similar to those who choose to learn additional languages, then I am justified in my expectation.

Table 9

*Regression coefficients of cosmopolitan score on languages learned because they were forced or voluntary*

Variable	Coefficient	Standard Error
Voluntary	.03	.31
Forced	.33	.28

Note. Two-tailed tests, N = 64, \* = P<.1, \*\* = P<.05, \*\*\* = P<.01.

The table above reports the coefficient scores for two different bivariate regressions. The first uses “Voluntary” as a dummy variable with the positive value indicating that the respondent chose to learn additional languages because she found them interesting. The other used “Forced”, which is also a dummy variable, but with the positive value signifying that the respondent chose to learn additional languages because she was required to, either through school or work. Again, the lack of statistical significance is a hamper to interpretation, but the direction and size of the coefficients do provide some instruction.

The effect of learning languages because of a requirement through work or school on cosmopolitanism is substantively ten times as great in the sample as learning a language for pleasure or interest. While I do not believe the impact to be quite that substantial in reality, for the purposes of this paper I think it sufficient to say that it suggests that language learning is more likely to alter cosmopolitanism, rather than only cosmopolitan people choosing to learn languages. Even when ‘forced’ to learn a language, respondents gain a correspondingly higher cosmopolitan score.

Referring back to the lack of evidence for my hypothesis, another explanation could be Morocco-specific. Perhaps Moroccans are learning these languages but don't really associate them that strongly with the groups that speak those languages, except in a very abstract, limited way. Unless one lives in a big city like Rabat or Casablanca, there is little opportunity for Moroccans to interact with foreigners. Most communities are rather homogenous in Morocco (in terms of being native Moroccans), so perhaps a Moroccan will learn French, Spanish, or English in school and yet not have much real knowledge of, or exposure to, the peoples that speak those languages. For example, French is used as a language of business and education between Moroccans, meaning many speak French without ever meeting a French national. If one does not associate the language with the group, that would explain why learning a language would not improve affect towards that group.

The same argument could be applied to Imazighen Moroccans who learn Arabic; do they really associate Arabic with Moroccan Arabs? One could argue that Arabic is an automatic language for all Moroccans, since it is the language of school instruction right from the beginning, even in purely Imazighen communities. It is also the language of religion. Thus, most Moroccans never have to consciously learn Arabic, they grow up with it no matter their ethnicity. Hence, it is conceivable that Arabic is never fully associated with the ethnic group, Moroccan Arabs, but has rather been co-opted as a national language, transcending ethnic boundaries. It is nearly impossible to test this empirically because every respondent in the survey speaks Arabic and nearly every respondent is in contact with Arabs daily. One can get some idea about my theory about Europeans by examining the following cross tabulation:

Table 10

*Contact with Europeans*

	Europeans are lazy	Europeans are unintelligent	Europeans are untrustworthy	Mean Score
High contact and fluent	2.2	2	3	2.4
Low contact and fluent	2.9	3.1	3.8	3.2
Low contact and not fluent	2.9	2.2	3	2.7

Note. The “mean score” indicates the sum of average scores for laziness, unintelligence, and untrustworthiness assigned for each category divided by the number of categories.

If my hunch that Moroccans do not really equate European languages with Europeans that strongly has any merit than one would expect respondents who fall into the “High Contact and Fluent” category to be more favourable to Europeans. After all, they have real, meaningful contact with that group and so naturally they associate the language with that group (whether French, English, or Spanish). Those respondents who fall into the “Low Contact and Fluent” category might not associate the languages with the groups strongly, and so will penalize the outgroup despite knowing the language. And finally, the “Low Contact and Not Fluent” category would show little difference with the “Low Contact and Fluent” category, showing that it is contact driving higher cosmopolitan scores and not language. That’s the theory, what do we see in the crosstabs?

Indeed, it is exactly as predicted. Despite being fluent in a European language, those who have less contact with Europeans find Europeans to be lazier, less intelligent, and less trustworthy than those who have more contact with Europeans. Also, those with low contact who do not speak a European language have relatively similar scores to those who have low contact and speak a European language fluently. In this case, knowing a European language is not really



knowing European culture or people. In fact, the worst scores come from those who know a European language but do not have any contact with Europeans.<sup>10</sup> Thus, learning a European language does not reduce prejudice towards Europeans in this sample, albeit with a very simplistic test.

This contradicts my initial expectation laid out in the literature review, that language represents a form of intergroup contact. Perhaps contact has to actually involve human beings, and classifying learning a language from a textbook as contact is misguided. Or perhaps the language learning environment of Morocco is simply different from the United States, where one usually has an opportunity to be in contact with the groups with which one shares a learned language. Regardless, that would be interpersonal contact with actual human beings from other groups driving cosmopolitanism rather than language representing a form of contact.

How else might Moroccans be different as a sampling population? Perhaps it is just an extreme exposure to languages, far more than the norm. Consider the average number of languages known per individual in the sample- it is nearly three languages. Although linguistic data is not available for the country, from my experience that is typical of most Moroccans. Just to navigate the educational system, many Moroccans have to speak two languages and three different scripts (Latin, Arabic, and Tifinagh). Moroccans are accustomed to ‘code switching’, or alternating between two or more languages in daily conversation. Everywhere in Morocco, you will hear people mixing in French with Arabic, or Tamazight with Arabic. Or they will be chatting with friends using the social media app What’s App, writing Arabic words using Latin script. The immediate familiarity with such markedly different languages is astounding.

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<sup>10</sup> This could also be a result of French representing a colonial language, and thus knowing the language actually penalizes the score Moroccans give to Europeans. That is beyond the scope of this thesis but certainly an interesting consideration for future research.

It is not hard to imagine then that a population made of such dedicated polyglots might not show the same effects to language acquisition compared with a more linguistically simplistic population. Consider the average American who grows up speaking English. Perhaps they will be mildly exposed to another language in high school or college, but for the most part they will not have to experience much cognitive load in having to adjust to different languages. It is possible to travel the entire United States just speaking one language. And when another language is learned, it is typically a European language that shares the same script and general language structure.

For those Americans who differ from this generalization, and become fluent in a foreign language, perhaps the language learning is much more of a cognitive stressor than for Moroccans; language learning being more novel. I suspect that if I carried out my survey in the United States, I would see language learning having a greater effect than in Morocco. That is certainly an avenue for future research.

On a final note for this section, there is a peculiarity with the sample in that I have captured a group of respondents where 76% are “very interested” in languages in general. I am not sure if this percentage is capturing a latent trend in the general population of Morocco towards learning a language, or if it is an artifact of the survey. I suspect the latter, as the informed consent letter that had to be read before taking the survey informed them that it was a survey about “languages and groups in Morocco.” Hence, people who were more interested in languages would be more likely to follow through and finish the survey; self-selection in other words. The problem this presents is that there is not much variation in linguistic interest in the data. Would my results be different if I had captured a more varied population? I suspect that learning a foreign language would have a greater impact on a person who was not already

interested in languages. The whole experience of slipping into another culture and background through language learning would be that much more shocking, and that much more challenging to one's worldview, and consequently one's ethnocentrism.

### **Limitations**

As with any research, there are several limitations to this thesis that must be discussed. The first is that my sample is a convenience sample. Many in the sample are university students, who do not accurately reflect their society. They tend to be better educated, from a higher socio-economic background, and less conservative. They are probably also more cosmopolitan than the average person and less ethnocentric. I would think this might underinflate the results. If learning additional languages actually mitigated ethnocentrism in a relatively cosmopolitan population (like university students), perhaps it would have a greater effect on the general population, who are less exposed to other mitigating factors reducing ethnocentrism. So perhaps that element of the sample is not so damaging as one might suppose. The theoretical implications of language learning are strong and since all people interact within the framework of groups, the exact representativeness of the sample is less critical than in other types of research. Of course, it would be interesting to see if the effects are the same between different types of people, and that can be the subject of subsequent research.

More problematic is the relatively small sample size used in testing my hypothesis. A small sample size is both more vulnerable to outliers and less robust when subjected to regression models. Having so few respondents lessens my confidence in the results, as it makes it difficult to tell whether there really is no relationship between ethnocentrism and language learning, or whether it is merely an outcome of a small sample underinflating effect sizes.

Finally, the survey's lack of a true mechanism that isolates cause and effect, rather than just capturing correlation, is an issue. Is it that less ethnocentric people are more interested in learning additional languages, or that learning additional languages reduces ethnocentrism? Or both? It feels as if I have written about this ad nauseam, but again, it is conceivable that the causal arrow points both directions. I believe it is more likely that learning languages would reduce ethnocentrism, and not the other way around, but my test does not truly resolve this dilemma. I control for it somewhat by asking respondents how and why they learned these languages, and how interested they are in learning languages generally, but some might quibble with these limited measures. A more comprehensive way would be to track language learners longitudinally, and measure their attitudes before and after learning a new language. Again, this is a problem for this paper, but could offer rich opportunities for research in the future. I turn now to discuss some other avenues of future research that follow naturally from this thesis.

### **Future Research**

Having used an evolutionary argument about why ethnocentrism exists, it remains for geneticists and political scientists who include genetic studies in their work, to try and isolate the particular set of genes for ethnocentrism that are distributed (theoretically unevenly) throughout the human species. Since an evolutionary argument is by necessity a genetic argument, it makes sense to turn to the human genome to try and find the answer. That remains an avenue where further research is needed and might change ethnocentrism from a psychological hypothesis into an easily seen genetic reality. Much recent work has been done on the heritability of social attitudes such as conservatism (see for example Alford, Funk, & Hibbing, 2005; Bouchard et al.

1990; Olson, Vernon, & Jang, 2001), but to my knowledge none specifically seeking to isolate the genes for ethnocentrism.

It would also be instructive to know whether the languages themselves matter in language acquisition. Does the acquired language need to be radically different from the original language to affect ethnocentrism? For example, will learning German have the same effect on an American in terms of mitigating ethnocentrism as learning Swahili? My guess is that the effect will not be the same, which recent research seems to agree with. Yang et al. found that dissimilar languages such as Mandarin and English produce distinct patterns of neural responses for bilinguals (2011). For languages with less overlap, links between the first and second language lexical items are weaker (Li et al., 2004), and the first language shows less change due to second language acquisition (Paradis, 2007; Pavlenko, 2004; Ramirez, 2003; and Schmid, 2011). Whether that matters to ethnocentrism remains to be seen, but having seen the depth of change in the brain that results from language acquisition, it is hard to believe that the type of language learned won't have some variable effect on ethnocentrism. A recreation of Yang and colleagues' work extended to include ethnocentrism would be most instructive.

Similarly, do the combinations of languages learned matter? Is there a particular profile of languages known that would have a greater impact of ethnocentrism? For instance, if a person knew one European language combined with one Asian language, would that have a greater impact on cosmopolitan than if a person knew only two European languages? One would assume so since a European and Asian language together represent a much wider swath of humanity than just two European languages. There was not enough variability to test that among this sample, but it could be instructive for future research.

A final possibility for future research is determining whether the age of language acquisition matters. Do children who grow up bilingual or multilingual earlier in life show more pronounced changes compared with those who learn languages later (in terms of impact upon ethnocentrism)? One would expect a difference given that the brain is more plastic or responsive to change earlier in life, but it would be interesting to see the actual size of the effect.

### **Conclusion**

In this thesis, I explored the literature on social groups, ethnocentrism, and language acquisition. I argued that learning a language is not merely a cultural experience, but also relates to social identity, cognition, and neurology. My general theory explained the relationship that I expected between language acquisition and ethnocentrism thusly: that when an individual learns a new language they not only gain insight into the culture of another group, but they also create multiple semantic or neural pathways as a result of the cognitive pressure that language learning represents. Using these new neural pathways prompts neuroplasticity in the brain, including greater gray and white matter density in various regions associated with language learning. These growth areas can help enhance cognitive empathy, which would be a natural counter to ethnocentric thought, since greater empathetic intelligence leads to a greater capacity to feel the emotions of outgroups.

As compelling as I found this theory, there was little evidence of it working in the sample I gathered. Although language learning was indeed correlated with ethnocentrism in the direction I expected, that relationship was not statistically significant. I therefore was not able to confirm my principal hypothesis: that those who learned additional languages would be less ethnocentric than those who spoke fewer languages. To explain this lack of relationship I discussed the

differences of Moroccans as a sampling population (as compared to the United States at least) because of the peculiarities of their linguistic environment. It remains to be seen through further testing, however, whether the theory was indeed correct and just needed a larger sample to really test the relationship with a high degree of confidence. Like much academic work, this thesis raises more questions than it answers. It has provided at the least, however, an opportunity to explore the characteristics of a little sampled population. This was the first scientific work that specifically examined ethnocentrism and language acquisition in Morocco. Additionally, it also confirmed previous studies' findings on the role of contact in reducing prejudice in a non-western sample. It also highlighted a new finding in that age was statistically correlated with ethnocentrism, in that older respondents are more likely to be ethnocentric. Although the results (at least in terms of language acquisition) are somewhat underwhelming, the questions they raise and further insight gained have been rewarding.

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## APPENDIX: SURVEY QUESTIONS

Hello, my name is Caleb Griffin. I am a Master's student at Illinois State University under the supervision of Dr. Carl Palmer, and am currently doing my field work in Morocco. More specifically, I am writing a Master's Thesis about languages and culture in Morocco. I am doing this to fulfill the requirements of my university degree and because this is a topic in which I am interested.

Your role, as a voluntary participant in this project, will be to answer questions about the languages you speak and your way of cognitively interpreting the world around you. There will be questions about your social environment, about the languages you speak, and some demographic and background information. If you agree to participate, your responses to this survey will be emailed only to me, Caleb Griffin. The survey should take approximately 6-7 minutes to complete.

The answers you give will be aggregated with many other students' answers, so that your individual responses will never be known to anyone except me. No contact information or names will be shared, as I will not ask for any of that information. Your individual responses will be anonymous. Myself and Dr. Palmer will be the only people with access to the data. Additionally, at the end of the survey, there will be an option allowing you to take back any statement you want.

The findings of this study will become a paper. This paper will help improve academic knowledge about language learning. The paper (a thesis) will be published by Illinois State University. There is no compensation for participation in this research.

Let me clearly mention some potential risks from this survey. The first is the possible risk of psychological harm. Because some of the questions are about your feelings toward social groups, it is possible that this might be a sensitive or difficult subject to talk about. Please be aware that you are welcome to skip any questions that make you feel uncomfortable, or to stop taking the survey altogether. Taking the survey is optional and you can refuse to take it without any consequences. In addition, you can take back statements or ask that your response be completely deleted at any time before the paper is published. The second risk is a possible breach of confidentiality. Although I will make the greatest effort to protect the data, it is theoretically possible that someone illegally hacks in to see the responses. That is why I do not ask for names or similar information. These are very small risks, but I am required to mention them.

This project has been approved by the Institutional Review Board at Illinois State University. Questions about the research may be directed to either Caleb Griffin at [cgriff5@ilstu.edu](mailto:cgriff5@ilstu.edu) or Dr. Carl Palmer at [clpalme@ilstu.edu](mailto:clpalme@ilstu.edu). Questions about research participants' rights, and/or negative effects may be directed to Illinois State University's Research Ethics & Compliance Office at 1(309) 438-2529. Additionally, the researcher must follow the guidelines set by the ministry of National Education, Higher Education, Staff Training, and Scientific Research of Morocco. If at any time you feel the researcher is in violation of your rights as a participant, you have the right to contact the ministry at 212 (37) 73 72 26. If you agree to take part in this project please continue with the questionnaire. If you do

not wish to do so you are welcome to ignore this survey or exit out. If you start the survey, please note that you can stop at any time without penalty.

Sincerely,

Caleb Griffin  
Graduate Student, Illinois State University

1. Do you wish to take part in this survey? [Yes, No]
2. The next set of questions is about different groups in our society. You will see a seven-point scale on which the characteristics of the people in a group can be rated. Please note that all your responses to these questions are completely anonymous. Your honest responses will help us in our social science research.
3. How hardworking do you believe [Arabs, Amazigh, Europeans, Sub-Saharan Africans] to be on a scale of 1 to 7?<sup>11</sup>
4. How trustworthy do you believe [Arabs, Amazigh, Europeans, Sub-Saharan Africans] to be on a scale of 1 to 7?
5. How intelligent do you believe [Arabs, Amazigh, Europeans, Sub-Saharan Africans] to be on a scale of 1 to 7?<sup>12</sup>
6. Would you like to see Morocco become more secular or less secular? [more secular, less secular, I don't know, I prefer not to answer].
7. People differ in whether the increase in global connectivity is a good thing. Some people think that it is a good thing because it enriches cultural diversity in the society. Some other people believe that it is a bad thing because it threatens traditional values. Do you think that the increase in global connectivity is a good or bad thing for society? [very good, somewhat good, neither good nor bad, somewhat bad, very bad, I don't know, I prefer not to answer].<sup>13</sup>
8. How frequently do you interact with [Arabs, Imazighen, Europeans, Sub-Saharan Africans]? [daily, several times a week, about once a week, about once a month, about once a year, almost never, I prefer not to answer].

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<sup>11</sup> Additional instructions were provided about the scale, explaining that 7 is the high (i.e., most lazy).

<sup>12</sup> Question drawn from Kinder & Kam's *Ethnocentrism: Us against Them*

<sup>13</sup> Question drawn from the Arab Barometer (Wave 3)

9. Which language is your mother tongue? [Arabic, Tamazight, Other].<sup>14</sup>
10. Which language do you speak at home? [Arabic, Tamazight, Other].
11. Please select all other languages that you speak and rate your level of competency in those languages. [Arabic, Tamazight, French, English, Spanish, Other | I do not speak the language, I only know a few words, I can say a few sentences, I speak and understand well, I am fluent].
12. Please select the option that best describes why you learned these languages<sup>15</sup> [I chose to learn this language because it was interesting, I was required to learn this language in school, I was required to learn this language for my job, I chose to learn this language because I thought it would help my career, I chose to learn this language because my family speaks it, other, I do not speak the language].
13. Which television stations do you mostly watch? [Arab, Amazigh, Occidental/European, other, I prefer not to answer}.
14. Which radio stations do you mostly listen to [Arab, Amazigh, Occidental/European, other, I prefer not to answer].
15. Which language do you use on social media to talk with other people online? [French, Tamazight, Arabic, English, other, I prefer not to answer, I do not use social media].
16. Are you a member of an Amazigh movement? [yes, no].
17. How interested are you in learning other languages generally? [very interested, somewhat interested, not interested, I prefer not to answer].
18. What other language do you hear most frequently on a day to day basis? [French, Tamazight, Arabic, English, other, I prefer not to answer].
19. How would you characterize the place where you grew up? [a large city, a medium sized town or city, a small town or village, other, I prefer not to answer].
20. On a scale of 1 to 10, with 10 representing the highest rung of society, where would you place yourself?<sup>16</sup>
21. Please list any other countries which you have visited or in which you have lived.

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<sup>14</sup> Respondents could only choose one option here, essentially forcing them to choose only one mother tongue. Dr. Sarfati (of my thesis committee) pointed out that some individuals might possess multiple mother tongues. Unfortunately, the survey responses had already been collected at that point, so that is a limitation with this data set.

<sup>15</sup> Repeat language options from Q11

<sup>16</sup> Question drawn from the Eurobarometer

22. How many total years of education have you completed (include all forms of schooling such as kindergarten, preschool, primary school, high school, institutions, and university)?
23. What is your age?
24. What is your ethnicity? [Arab, Amazigh, Arab and Amazigh, other, I prefer not to answer].
25. What is your gender? [male, female, other, I prefer not to answer].
26. You have completed all questions. Is there any statement or question you would like to retract? [yes, no]
27. Which statement or question would you like to retract?<sup>17</sup>

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<sup>17</sup> Question only displayed if the answer to question 26 was “yes.”