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Honors Thesis

ISLAMOPHOBIA: THE EFFECT OF PERSONAL INTERACTIONS AND THE MEDIA ON
ARAB PREJUDICE IN SPAIN

by
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Submitted to Brigham Young University in partial fulfillment of graduation
requirements for University Honors

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ABSTRACT

ISLAMOPHOBIA: THE EFFECT OF PERSONAL INTERACTIONS AND THE MEDIA ON ARAB PREJUDICE IN SPAIN

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Bachelor of Arts

Throughout the western world, prejudice toward Arabs continues to be a significant issue. As the migration of Arabs into Spain continues, it is important to understand the various influences on Arab prejudice. The purpose of this thesis is to examine and analyze the influence of personal interactions and media consumption on Arab prejudice in Spain. To do so, I address several questions: does personal contact significantly change attitudes and language sentiments toward Arabs in Spain? Does the type of media consumption significantly change attitudes and language sentiments toward Arabs? To what extent do personal contact and media consumption jointly affect attitudes and sentiments? Using measures of personal contact with immigrants, type of media consumption, and language sentiments, I examine the degree to which these factors predict a change in attitudes and language sentiments toward Arabs. My analyses reveal that frequency of personal contact is correlated with the valence of attitudes; as the frequency of contact increases, pleasant attitudes increase. The type of media consumption also impacts attitudes toward Arabs in Spain, correlating left-wing selective and cross-

cutting media consumption with more pleasant attitudes compared to right-wing selective. However, there is no statistical evidence that there is a correlation between these measures and language sentiments. Thus, personal contact with immigrants and the type of media consumption are significant predictors of attitudes toward migrant groups.

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Introduction

A glimpse at international news tells the story: people are at odds with each other. It has been this way since the beginning of time. History books tell us about the violent ways people have acted toward others of different ethnicities, religions, and cultures. However, globalization in the last half century has exacerbated the issues of harmful stereotypes and hate speech. With the click of a button, hate speech can traverse the internet, potentially reaching millions of individuals worldwide. Due to the amplification of hate speech across geographical boundaries, echo chambers and polarization have become significant issues (Nyhan & Reifler 2010; Barbera 2020). People can surround themselves with like-minded individuals and consume content aligning with their beliefs and biases, often leading to group polarization (Cinelli et al. 2021). Furthermore, globalization and the integration of groups in a country can lead to identity challenges, enforcing the idea of adhering to your identity group.

In my work for the International Rescue Committee, I have seen divides drawn between people due to language barriers. These people all had a significant connecting factor between them: they were all refugees resettled in Utah. Despite this similarity, the adults clustered into groups of those they could talk to. The children, however, worked to communicate across the language barrier. What, then, is the difference between adults and children? The barriers between people, whether real or imagined, are conditioned into every person. Our interactions with others, the media we consume, and our personal experiences all inform our worldviews. These views become our comfort zones, and most people hesitate to

leave. The adults stuck to what was comfortable. The children adventured beyond that comfort zone because they had not yet been conditioned to view language as a barrier. Instead, they played games together and helped one another. Because of the futility of removing such influences from our lives, we should strive to understand such influences that inform the perceived barriers between people. It is with this thought in mind that I pursued my research.

The purpose of this thesis is to examine and analyze the influence of personal interactions and media consumption on Arab prejudice in Spain. To do so, I address several questions: does personal contact significantly change attitudes and language sentiments toward Arabs in Spain? Does the type of media consumption significantly change attitudes and language sentiments toward Arabs? To what extent do personal contact and media consumption jointly affect attitudes and sentiments? Using measures of personal contact with immigrants, type of media consumption, and language sentiments, I examine the degree to which these factors predict a change in attitudes and language sentiments toward Arabs. My analyses reveal that frequency of personal contact is correlated with the valence of attitudes; as the frequency of contact increases, pleasant attitudes increase. The type of media consumption also impacts attitudes toward Arabs in Spain, correlating left-wing selective and cross-cutting media consumption with more pleasant attitudes compared to right-wing selective. There is no statistical evidence that there is a correlation between these measures and language sentiments. Thus, personal contact with immigrants and the type of media consumption are significant predictors of attitudes toward migrant groups.

Though prior research has assessed the validity of contact theory and the influence of media on attitudes, little research has attempted to use sentiment analysis as a tool to analyze how intergroup contact and media consumption affect attitudes and language. Language sentiment analysis is growing in popularity as a measure to understand how important topics are being discussed. These analyses provide further insight into how individuals think and express their opinions and can also be used to show the influences that affect how individuals speak about certain issues. This thesis is unique and can contribute to the prejudice reduction literature as it analyses the effect of intergroup contact outside the bounds of experiments and the influence of the media on how individuals speak about a minority group. The strong ties between intergroup prejudice and political, economic, and social hostility within a country indicate the importance of understanding what factors affect prejudice and the strength of that influence. Thus, understanding the effect of personal contact with immigrants and the type of media consumption is vital as the role of marginalized groups in society becomes increasingly important to political, social, and economic behavior.

In what follows, this thesis will examine the available literature on islamophobia, Arabs in Spain, and the Spanish media. This thesis will also lay out the frameworks and current research about contact theory and political media consumption. Following the literature review will be a discussion about the data, results from my analysis, and the importance of my findings on prejudice reduction research.

Literature Review

Islamophobia

Challenges to identity have been studied by social scientists for decades. Theories of racial resentment focus on a fear of a minority group gaining more influence in the political and social spheres of society (Blumer 1958; Carsey 1995; Fossett & Kiecolt 1989; Key 1949; Zingher & Steen Thomas 2014). The fear that more power will be given to the minority is a catalyst for the majority group to become more politically and socially active to protest their loss of power. For example, in 2010, the French Senate passed a ban on face coverings, discriminating against those who wear face coverings due to religious and cultural beliefs (Barry 2012). The ban limited the religious rights of specific groups and led to greater racial tensions between identity groups.

A significant amount of racial resentment research has been conducted between black and white Americans in the United States. A shared definition between researchers is that racial resentment is “the belief that blacks are demanding and underserving and do not require any form of special government assistance” (Feldman & Huddy 2004; Henry & Sears 2002; Kinder & Sanders 1981; Kinder & Sears 1996; McConahay & Hough 1976). Such a definition can be expanded to include most minority and majority groups within a country. This definition focuses on the belief that a government is assisting the minority to the detriment of the majority. Such beliefs have led to the “Great Replacement” conspiracy in which one group perceives that they are being replaced—which includes concerns about the loss of a privileged status and disruption of an established political, economic, and

social hierarchy—which triggers hostile intergroup attitudes (Mutz 2018; Obaidi et al. 2022). Thus, there is research and precedent that an increase in the immigrant population in a country is likely to increase racial resentment as the increasing migrant population is likely to disrupt the political, economic, and social status quo.

Due to conflict in the Middle East, there has been an increase in political and social discourses about Arabs and immigration. Since the Arab Spring in 2011, millions of people from the Middle East have become displaced. Millions have sought homes in European states, such as France and Spain. The rise in Arab migrants has led to a rise in Islamophobia. Research has shown that the characterization of Islam relies heavily on the socialization of individuals' unpleasant perceptions toward Arabs (Ishak & Solihin 2012; Klug 2012; Shadid & von Koningsveld 2002). Western media has constructed an image of Islam associated with terrorism, violence, extremism, and antipathy toward the West (Ishak & Solihin 2012).

In the past twenty years, events around the world have contributed to the western image of Arabs. The terrorist attacks in the United States on September 11, 2001, have become a contributing factor in the portrayal of Arabs by the West because the large media frenzy it generated blurred the lines between national and international political discourse regarding Islam (Cesari 2013). Islam, and its many differences from Western religions and cultures, became a topic of international discussion. An analysis of three hundred written and spoken English texts by political experts and scholars between 2001 and 2006 found that religious fanaticism and cultural stereotypes significantly influenced the discourse on Islam

during that time (Jackson 2007). Additionally, the discourse on Arabs is largely predicated on a binary system that places the West in the subjective category of good and Islam in the subjective category of bad (Cesari 2013).

An example of such binary categories is in the language used regarding Arabs. In a 2022 study about prejudice reduction, researchers asked individuals in Spain to write the first seven words about Arabs that came to their minds (Gubler et al. 2023). In a frequency analysis of those words, two of the most common were “machistas” and “machismo” which translate to “male chauvinism” and “sexist” respectively. Islamic women's religious and cultural role is viewed negatively because it directly contradicts the role of Western women in society. Arabs are then perceived as anti-western, anti-modern, and anti-feminist because their behavior in this regard does not seem consistent with Western value systems. The perpetuation of such subjective binary categories facilitates prejudices against Arabs because the group is firmly perceived as “other” and, therefore, a threat to the existing political, economic, and social hierarchies. Thus, Islamophobia has continued to spread throughout Western countries, increasing the need to understand what drives the perceptions and prejudices of Arabs.

Spain

The topic of immigration has become a hot-button issue in Spain. Spain is a diverse country that receives thousands of immigrants from all over the world yearly (Romero 2021). Spain is the EU state with the highest consistent per-capita immigration rates and has the status of being one of the most welcoming EU states to migrants (González Enríquez 2021). In 2019, nearly 750,000 immigrants entered

Spain, with Colombians, Moroccans, and Venezuelans as the largest migrant groups (Instituto Nacional De Estadística 2021). Spain is a common destination for migrants fleeing states wracked with instability due to its physical proximity to Morocco. Many migrants will travel to Morocco to use it as an entry point into the EU, traveling through the Mediterranean Sea to Spain or the North Atlantic Ocean to the Canary Islands.

Political and social conflict has arisen in Spain due to the tensions between Spaniards and immigrants. Spain saw a sharp increase in the number of migrants in 2020 (UNHCR 2020), prompting a debate about the issue of immigration that has remained at the forefront of Spanish political and social discourse. Spain has a reputation for welcoming migrants of different cultures (Ariaco et al. 2020, 44); however, research has found that Spanish natives still prefer immigrants to let go of cultural practices that are not in harmony with traditional Spanish culture (Centro de Investigaciones Sociológicas 2017, 8). Most natives would prefer if migrants would assimilate to Spanish society and adopt the Spanish language and customs. The desire for assimilation has resulted in discrimination against non-Spanish-speaking and non-Christian migrants. Studies conducted in Spain have found that these minority groups are more likely to experience housing discrimination and labor exploitation, especially from landlords and employers, than other migrant groups (Araico et al. 2020, 44; Canto 2020; Pablo et al. 2020). Research has also shown that immigrant unemployment in Spain is 5% greater than the national average and more than 50% of Spaniards believe it is acceptable to prefer to hire native Spaniards over immigrants (Centro de Investigaciones Sociologicas 2017, 9).

The influx of immigrants in Spain has increased political and social movements against migrants as predicted by the theories of racial resentment. Before 2018, Spain lacked support for the type of far-right political groups that had permeated other EU countries (Ramis-Moyano et al. 2023; Xidias 2020). Vox, from its formation in 2013 until 2018, had little to no political power and had an insignificant influence on Spanish society. However, recent elections have surged in favor of VOX, making it the third most represented political party and ideology in the national Spanish parliament (Xidias 2020). VOX was founded because many individuals felt disenfranchised by one of Spain's major political parties, Partido Popular, due to the party leader's corruption and weak stance on issues such as immigration (Ramis-Moyano et al. 2023; Xidias 2020,). VOX's ideologies center on Spanish nationalism; VOX is against Catalanian independence and promotes restricting immigration into Spain, especially immigrants from Arab countries (Ramis-Moyano et al. 2023). VOX also boasts significant social influence because of its large presence on social media with the largest following of all of Spain's political parties on multiple platforms (Xidias 2020). Thus, VOX is evidence of the theories of racial resentment that has influenced a surge of political, social, and economic discrimination toward Arab immigrants.

VOX, and other similar movements, have increased in power largely due to the media coverage they have received. The media in Spain, including various newspapers, television channels, and online platforms, plays a crucial role in shaping public opinion because the media disseminates information and facilitates public discourse. Major newspapers such as El Pais, El Mundo, ABC, La Vanguardia,

and television channels like TVE and Antena 3 significantly influence the Spanish media landscape (Pew Research 2022; Gomez Baceiredo & Salaverria 2023). These media outlets often cover a wide range of topics, including politics, economy, culture, and social issues, and provide platforms for diverse perspectives and debates. They serve as key sources of news and information for the Spanish population and contribute to the formation of public opinion.

Spaniards have reported mixed feelings about the media. In Spain, 59% of adults believe the news media is very important, with 29% believing it is somewhat important (Pew Research Center 2022). A smaller portion of Spaniards (31%) reported that they trusted the media. Concerns about improper political influences in the media have reduced the levels of trust (Center for Internet Studies & Digital Life 2016; Gomez Baceiredo & Salaverria 2023). However, Spanish media remains one of the most trusted Spanish institutions with the third highest degree of trust of any institution in Spain, ranking beneath the armed forces and above the church (Gomez Baceiredo & Salaverria 2023). Thus, the Spanish media continues to play a strategic role in Spanish society and has retained significant influence over politics.

It is likely that tensions between Spaniards and Arabs will continue. Due to the linguistic, religious, and cultural differences between Arabs and Spaniards, Arab integration in Spain must overcome numerous obstacles, including political, social, and economic discrimination and the characterization of Arabs in Spanish media (Arianco 2020, 43). Discriminatory political and social discourse derived from negative characterizations of Arabs can create tension, leading to further group polarization and potential human rights violations. In Spain, where approximately

11.5% of the population are non-citizens, it is important to understand the factors that inform political discourse and social attitudes toward immigrant groups (Instituto Nacional De Estadística 2020). Understanding the framework for outgroup prejudice in the social sciences is also critical.

Contact Theory

The contact hypothesis, or theory, is a widely studied framework for reducing prejudice between different groups. The theory's basic premise is that intergroup contact under certain conditions can lead to reduced prejudice among the groups in question (Allport 1954). Since Allport introduced the “contact hypothesis” in the 1950s, it has been frequently studied with mixed results (Christ et al. 2011). The framework of this theory emerged from social psychology and due to the nature of human psychology, there is not a specific set of parameters that would satisfy all individuals (Harwood 2010). Researchers speculate that the mixed results are due to the complexities of contact situations, including the political ideologies of the participants and the type of interaction (Brown & Paterson 2016; Christ et al. 2011; Stephan 1987). For example, Allport suggested specific conditions for prejudice reduction: prolonged and pleasant contact, equal status among the groups, and support of authority figures (Allport 1954). Subsequent studies have supported Allport's arguments, showing that contact can effectively reduce prejudice, primarily when contact occurs under these conditions (Pettigrew & Tropp 2006). Researchers have concluded that personal intergroup contact breaks down stereotypes because people will search for commonalities between themselves and another identity group, which leads to more pleasant feelings and

attitudes toward another group (Christ et al. 2011). Thus, as people have more contact with an outgroup, they are more likely to hold and express positive feelings toward that group.

Multiple studies originating from the contact theory have been conducted throughout the years. A study that showed promising evidence for the validity of the contact theory was Green and Paluck's yearlong field experiment in Rwanda to test the theory that certain messaging in the media would reduce prejudice and change an individual's perception and behaviors toward another group (Green & Paluck 2009). Green and Paluck concluded that media messaging plays a role in an individual's perceptions of another identity group as the individuals in the treatment group changed their attitudes concerning intermarriage, open dissent, trust, empathy, cooperation, and trauma healing (Green & Paluck 2009). While the study showed evidence of social change, it did not show evidence of political change toward the other identity group. The language and interactions in the social sphere of life became more sympathetic while political ideologies about identity remained unchanged. However, contact theory research has not provided conclusive evidence about the impacts of contact on reducing prejudice. In an essay that reviewed 418 experiments from 2007 to 2019, 76% were "light" interventions; thus, the long-term impact of the interventions remains unclear (Paluck et al. 2020). The researchers concluded that most efforts to prove contact theory are theoretically and empirically ill-suited to provide evidence-based suggestions for reducing prejudice. These concerns, however, do not apply to the data I will analyze as it asks for individuals to indicate their level of contact with immigrants over their lifetime.

However, more recent research has highlighted some limitations to the contact hypothesis. For example, researchers have suggested that contact alone is not enough to reduce prejudice, but instead, the contact must involve active group engagement (Dovidio et al. 2009). In addition, it is argued that the impact of contact can depend on the nature of the contact itself, with face-to-face contact having a more significant impact on reducing prejudice than indirect contact, such as reading about a group in a book (Christ et al. 2011). Broockman and Kalla collected evidence of the contact theory from 49 field experiments that proved the limitations of the contact theory. These experiments focused on campaign contacts in general elections in the United States. After reviewing the evidence, Broockman and Kalla concluded that the effects of contact are minimal, and thus, the contact theory is not an effective mode of prejudice reduction (Broockman & Kalla 2018).

While Broockman and Kalla's research does not support the efficacy of contact theory, there are several reasons why contact theory is still likely applicable to prejudice reduction research. First, the field experiments reviewed were political rather than racial prejudice studies. While the need for prejudice reduction stays the same in both cases, there are significant differences in how each type of prejudice is fixed in society. Second, these field experiments occurred during a period of political instability before a general election. During such times, individuals are less likely to be open to contact with an opposing viewpoint. Thus, while these field experiments offer significant insights into the limitations of the contact theory, it is still a worthwhile theory to pursue in the case of racial and cultural prejudice, even in periods of rising racial tensions.

Media Consumption

Researchers worldwide have long investigated the media's role in attitudes and polarization. Media plays a powerful role in the dissemination of information; the media largely decides what information individuals have access to. Scholars have long suggested the potential role of the media in cultivating fear of minority groups (Mastro & Robinson 2000, 394; Glassner 1999). Thus, media can positively or negatively affect attitudes toward an outgroup. There is evidence that exposure to negative media portrayals predicts a negative attitude change, even if certain conditions of the contact theory are met (Mastro 2009). An example of the positive effect of media messaging is the field study conducted in Rwanda in which social attitudes were altered (Green & Paluck 2009). An example of the negative effect of media messaging is the portrayal of Arabs as terrorists throughout Western media (Ishak & Solihin 2012).

First, it is essential to note that media consumption can take many forms, from traditional news sources to social media platforms to popular television shows and films. Each of these forms of media has the potential to shape attitudes and beliefs about different groups of people. For example, exposure to news stories that focus on crimes committed by members of a particular racial or ethnic group can increase negative attitudes toward that group (Gentzkow & Shapiro 2006). Accordingly, exposure to television shows or movies featuring stereotypical portrayals of certain groups can reinforce negative stereotypes and beliefs (Mastro 2016).

One factor that can amplify the impact of media consumption on prejudice is the degree of personal identification with the characters or topics portrayed. Research has shown that people are more likely to internalize media messages when identifying with the characters or situations presented (Cohen 2001). For example, viewers who strongly identify with a particular television show or film may be more likely to adopt the attitudes and beliefs portrayed by the characters (Mastro 2016).

Another component of media to consider is the role of social media in shaping attitudes and beliefs. Social media platforms are increasingly becoming a primary source of news and information for many people, particularly younger generations. However, social media algorithms can reinforce existing biases by presenting users with content that confirms their preexisting beliefs (Tandoc et al. 2018). These algorithms can create so-called "echo chambers," where people are only exposed to information that reinforces their beliefs and attitudes, leading to increased polarization and prejudice toward those with different views (Flaxman et al. 2016).

The media significantly influences individuals' attitudes and perceptions because of the media's control over access to information. The effect of the media can lead to prejudiced attitudes depending on the type and scope of information that individuals consume. Because the media informs individuals on specific topics, people will likely use similar language in discussing those topics as the media they consume.

Due to the impact the media has on political and social discourse, the language used by the media becomes a significant factor in how issues are discussed (Popp

2006). Research shows that news media use biased language when reporting on social issues, such as on minority groups (Dixon & Linz 2000). Thus, the biased language used in the media can greatly influence how topics surrounding minority groups are discussed. For example, media usage of preferred pronouns in the United States has informed individual uses of preferred pronouns in social settings; the influence of the media was followed by the use of this language in other contexts. Researcher Richard Popp observed that “media language choice is an institutionalized means of framing reality” (Popp 2006). The media’s control over access to information and how that information is portrayed significantly influences the language used in political, economic, and social discussions. Thus, the type of media consumption engaged in by individuals can inform how much their language mirrors the media.

Selective and Cross-Cutting Media Consumption

A theory of selective and cross-cutting media consumption is an essential framework for understanding how media consumption can influence prejudice toward different ideologies. Selective media consumption, which involves seeking and consuming media that confirms existing beliefs and prejudices while avoiding media that challenges or contradicts those beliefs, can reinforce negative stereotypes and attitudes toward marginalized groups (Delli Carpini & Keeter 1996; Gaziano et al. 2010). For example, individuals who consume media that portray members of a particular racial or ethnic group as violent or dangerous may be more likely to hold negative views of that group. In contrast, cross-cutting media consumption, which involves seeking out diverse perspectives and viewpoints,

including those that may challenge or contradict one's beliefs, can promote greater understanding and empathy toward members of marginalized groups (Putnam 2000; Kim & Vishak 2008). By exposing individuals to diverse perspectives and viewpoints, cross-cutting media consumption can challenge existing beliefs and prejudices and promote greater empathy and understanding.

Research has shown that selective media consumption can perpetuate prejudice while cross-cutting media consumption can reduce prejudice and increase understanding of different cultures and perspectives (Dovidio & Gaertner, 2010; Kim & Vishak, 2008). Additionally, the effects of media consumption on attitudes towards marginalized groups can be influenced by a range of other factors, including personal experiences, socialization, and cultural and political contexts.

Research by Brookman and Kalla provided evidence of the influence of selective and cross-cutting media consumption through their research. They theorized that exposure to new topics, information, and framing within the media could somewhat overcome political biases (Brookman & Kalla, 2022). While some research suggests that people are still somewhat influenced by facts (e.g., Guess & Coppock 2020; Wood & Porter 2019), there is significant research on media bias toward specific information that suggests that people are most persuaded by the volume of the news coverage that they encounter (e.g., Hayakawa 1940; Mullainathan & Shleifer 2005; Grossman et al. 2022). In their experiment, Brookman and Kalla had Fox News viewers watch CNN for a time. The exposure to cross-cutting media introduced the participants to new topics and information, solidifying the evidence

of other research that sustained exposure to this type of media consumption is more likely to overcome biases (Redlawsk et al. 2010).

There have been criticisms of these evaluations of selective and cross-cutting media consumption and the effects on political attitudes. These criticisms highlight how media consumption is only one of many predictors of attitudes, and perhaps not the most important (Prior 2013). With this criticism in mind, I evaluate the type of media consumption as a predictor of attitudes and language sentiments, not as the most critical determinant of such outcomes.

Hypotheses

This review of the literature leads to several hypotheses about contact theory and media consumption that can be tested in the context of sentiment analysis. These predictions are not based on a cause-and-effect but rather a correlation framework. The contact theory predicts that prejudice will decrease as contact between identity groups increases. Because of this expected outcome of personal contact with immigrants on attitudes, I anticipate that language and sentiments will behave similarly. I anticipate these variables will negatively correlate: as the number of contact increases, prejudice—or the negative attitudes and language sentiments—decreases.

Selective and cross-cutting media consumption predict two outcomes of ideological extremism. Selective media consumption predicts extremist conservative and liberal ideologies, whereas cross-cutting media consumption predicts a greater likelihood of centered ideologies. The influence of the media

leads to familiarity with specific ideologies, language, and sentiments. Thus, I anticipate that there will be a correlation between the type of media consumption and the levels of attitudes and language sentiments toward Arabs. I predict that left-wing selective and cross-cutting media consumers will be more likely to have more positive attitudes and to use more pleasant language sentiments than right-wing media consumers.

H₁: Individuals with regular personal interactions with Arabs will be more likely to report positive attitudes toward Arabs and use pleasant language in their survey responses.

H₂: Individuals who engage with selective right-wing media sources will be less likely to report positive attitudes toward Arabs and use pleasant language and sentiments in the open responses. Individuals who engage with selective left-wing media sources will be more likely to report positive attitudes and use pleasant language and sentiments in their open responses.

H₃: Individuals who engage in cross-cutting media consumption will be more likely to report positive attitudes and use pleasant language and sentiments in their open responses than individuals who engage in right-wing selective media consumption.

Data and Methodology

To test these hypotheses, I used data from original research collected in January, February, and March of 2023 through a survey experiment conducted by two BYU political science professors, Joshua Gubler and Darren Hawkins, and a team

of research fellows, of which I as a part. The survey was based on a survey experiment conducted in the Summer of 2022 by the same research team. This large-scale survey (N=4,939) was conducted in Spain by the company Netquest.¹ The sample was nationally diverse and largely matched key demographics to the census. Due to the nature of the survey, the sentiment analysis is based on data from individuals in specific treatments (N=1,644).

The research focused on using open-ended responses to show the effect of sharing pleasant, unpleasant, or pleasant and unpleasant (mixed) experiences with Arabs on attitudes towards them. The open-ended responses allowed me to analyze the sentiments individuals used regarding Arabs. The survey had five treatment groups: a pure control, pleasant reflection, unpleasant reflection, mixed reflection, and placebo control. My analysis is focused on the pleasant, unpleasant, and mixed reflection treatments because each answered an open-ended response question about their experience with Arabs, whereas the other two treatments did not.

The survey consisted of demographic questions; an attitude thermometer toward different immigrant minority groups in Spain, including Arabs; the five interventions; and post-treatment attitude measures. The treatment interventions were designed to help people feel comfortable sharing authentic and honest personal experiences and opinions. Each word of the interventions was carefully chosen to give individuals the anonymity and openness required to receive the most accurate results possible. In the pleasant, unpleasant, and mixed interventions,

¹ The research team received IRB approval from Brigham Young University to conduct the survey in Spain.
IRB number: IRB 2022-273

personal experiences with Arabs were defined as any personal or impersonal interaction with Arabs, including conversations or posts on social media. The broad interpretation made it possible for most individuals in the survey to have a personal experience that could be shared and made the results for my analysis more likely.

Besides the open-ended responses, three questions were critical for my data analysis. Each was asked *before* the treatments were administered. The first was a feeling thermometer question that asked individuals to rank several immigrant groups on a scale of 0-100 about how they felt toward those groups. The only measure in this question used in my analysis was a measure indicating feelings toward Arabs. The second question asked individuals how frequently they have had personal contact with immigrants. This question did not specify Arab immigrants because doing so would impact the results of the prejudice reduction experiment conducted in the survey. Despite the non-Arab specific wording, this variable is still valid because contact with immigrants from any country can increase pleasant attitudes toward all immigrants according to contact theory. The variable was based on a 3-point scale of “a lot,” “a little,” and “never.” The third was a question asking individuals to rank how frequently they viewed eight Spanish news sites on a four-point scale of “never,” “monthly,” “weekly,” and “daily.” This question was used to create measures necessary for the analysis of cross-cutting, right-wing selective, and left-selective media consumption variables.

The media news sites in the measure are among the top new sites used in Spain, especially for political and social news. Including only these new sites in the survey, despite the increasing popularity of social media, allowed me to create

crosscutting, right-wing selective, and left-wing selective media consumption variables. I used measures of each news site's political orientation and the approximate frequency of individual viewing to create these media consumption measures. To make these variables, I first created "conservative" and "liberal" binary variables. I coded each variable as a "1" if the individual consumed right-wing and/or left-wing media sites weekly or daily. Second, I created the crosscutting variable, coded as a "1" if the individual consumed right-wing *and* left-wing media weekly and daily. Third, I coded the right-wing selective variable as a "1" if the individual only viewed right-wing media weekly and daily. Fourth, I created the left-wing selective variable, coded as a "1" if the individual only viewed left-wing media weekly and daily. Using these variables, I could analyze relationship between media consumption and language sentiments.

I chose the *syuzhet* package in R to conduct my sentiment analysis. The *syuzhet* package was developed by Matthew Jockers; it utilizes four sentiment dictionaries and a robust sentiment extraction tool developed in the Stanford NLP group (Jockers 2020). The package is frequently used, with over 340,000 downloads from June 2022 to May 2023 and it has been used in multiple research studies including Twitter sentiment analysis during COVID-19 and sentiment analysis of US campaign speeches in 2016 (Datacamp 2020; Hoffman 2018; Dubey 2020; Dubey 2021; Kansar & Soosaimanickam 2021). These studies use the *syuzhet* package in a similar way to how I employ it for my analysis. The package was created to reveal emotional shifts in language, such as the movement between conflict and conflict resolution, to help researchers understand the sentiments and

emotions associated with chunks of text, rather than individual words (Jockers 2023).

The sentiment dictionary I used in my analysis was the NRC Word-Emotion Association Lexicon developed by Dr. Saif M. Mohammad and Dr. Peter Turney (Mohammad 2022). The dictionary classifies words based on sentiments (positive and negative) and emotions (anger, anticipation, disgust, fear, joy, sadness, surprise, and trust) (Jockers 2020; Dubey 2021). The lexicon indicates the degree to which a text is associated with negative and positive sentiments on a scale of -10 to 10 (Mohammad 2022). The annotations for each word and associated sentiments and emotions were done manually. The lexicon, including the translations of the words in other languages, is updated frequently with the most recent update in August 2022.

I chose the NRC lexicon in the *syuzhet* package because it consists of 14,182 words that have associated sentiments and emotions and it is considered the most robust lexicon for non-English texts (Isasi 2021; Naldi 2019; Mohammad 2022). From the *syuzhet* package and NRC Word-Emotion Association Lexicon, I will have the most robust sentiment analysis possible to use for my research.

There are some criticisms of the *syuzhet* package and NRC lexicon that have been raised, including the cultural bias of English-based lexicons and the human error of subjective sentiment assignments (Isasi 2021). While both criticisms remain valid for my analysis—especially as I use the package and lexicon to analyze open responses in Spanish—these tools are the best available. The package and lexicon are frequently updated with these criticisms in mind, and superior

translations have been provided for the NRC lexicon (Mohammad 2022). Cultural differences will cause some variation because of the cultural bias associated with words; however, the updates to the NRC lexicon strive to lessen the effects of cultural bias on sentiment analysis (Isasi 2021). Due to the subjective nature of assigning sentiments and emotions to words in any language, creating a lexicon with 100% accuracy in sentiment analysis is impossible (Kim 2022). I acknowledge these limitations in my analysis and suggest that despite these limitations, my analysis provides worthwhile scholarship to prejudice reduction research.

My sentiment analysis included the following: a collection of surveys in Spain from February to March 2023 using Netquest, data cleaning [removing white spaces, punctuation, stop words, converting to lower case, eliminating nonsense responses], and running the open responses with the NRC emotion lexicon to get sentiment scores. After conducting the sentiment analysis in *R*, I was then able to use the sentiment scores as the dependent variable for the estimates of several linear models to find the correlation between sentiments and personal contact with immigrants or type of media consumption.

I also conducted a word frequency analysis on the open responses of the survey to provide background and an initial window into how individuals talk about Arabs in Spain.

Table 1: Frequency of Words Used in Treatment Open Responses

Pleasant Response	Frequency	Unpleasant Response	Frequency	Mixed Response	Frequency
Pleasant	51	Disgusting	90	Woman	54
Good (thing)	38	Woman	82	Work	43
Culture	36	Problem	37	Problem	41
Woman	34	Bad	34	Good (person)	37
Good (person)	32	Good (person)	32	Good (thing)	34
Problem	30	Man	29	Culture	34
Custom	27	Spain	29	Bad	33
Nice	26	Good (thing)	29	Dad (Pai)	30
Family	23	Help	29	Custom	26
Bad	21	Culture	28	Store	25

In the Pleasant Response treatment, there was a greater focus on culture, customs, and family. In the Unpleasant Response treatment, there was a greater focus on the cultural issues that have arisen in Spain regarding Arabs, including more frequent references to women. The Mixed Response treatment responses were a mix of culture and issues. The word “woman” was one of the most frequently used words in all treatment responses, signaling the importance of the topic of gender in discussions about Arabs.

These initial results show a correlation between the topic of gender and the type of treatment response in the survey, suggesting that the treatment of Arab women is a significant factor in the discourse about Arabs in Spain. As previously discussed, a word frequency analysis of a previous study in Spain (Gubler et al. 2023) showed that two of the most frequently used words regarding Arabs were chauvinist and sexist. Thus, it is important to note for my analysis that variables such as gender, age, education, and ideology likely correlate with the sentiment scores and need to be controlled for in my analysis.

Results and Analysis

To evaluate the results from my analysis, I use point estimate dot plots. The plots include marginal effect point estimates and 95% confidence intervals. The dotted black line in the plots is used as the baseline comparison and denotes no interaction and right-wing selective media consumption.

There are concerns about a selection bias occurring within this research. This thesis project is not the result of an experiment but measures the attitudes and language sentiments already occurring in Spain. Although this type of research does not exclude the possibility of a selection bias, there are several reasons why the results of this research are still essential and applicable. First, while people with pleasant attitudes toward immigrants might be more willing to seek opportunities to interact with Arabs, many more people are pushed into interactions despite their attitudes. For example, in the survey's open responses, many included an explanation of personal experiences with Arabs. Many of these stated that they interacted with Arabs at the store (the store was one of the most frequent words

mentioned in the mixed response intervention.) The store is not an occasion when interactions with Arabs are sought out but rather placed upon the individual. As such, the evidence that attitudes or sentiments are affected by immigrant interactions is still applicable and valid in this study.

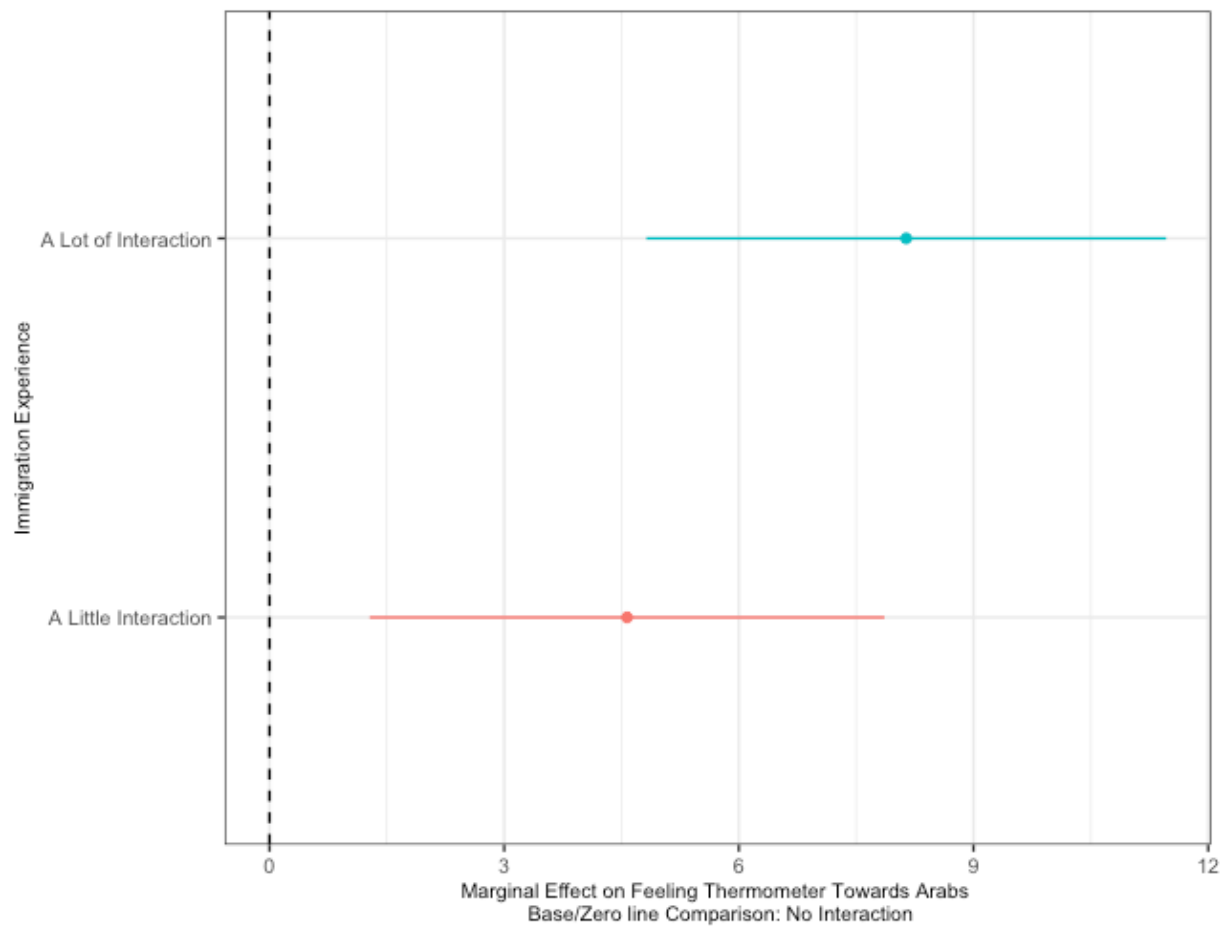
Second, while previous attitudes toward Arabs could affect the type of media consumed by an individual, media is a critical factor in the breadth of information consumed. Because of the media bias that controls the amount of information and language attached to that information, people can be influenced by the media, regardless of why they choose that type of media consumption in the first place. Third, while experiments are fundamental to understanding political issues, it is also critical to understand the current attitudes and language sentiments about problems outside of the purview of an experiment. As this thesis measures attitudes and language sentiments toward Arabs outside of an experiment, it offers important insights about these measures in Spain that can be used to further research in prejudice reduction. There are valid insights about attitudes and language sentiments in Spain and how they are likely affected by immigrant interactions and media consumption despite the possibility of a selection bias.

I first present results from tests of the first hypothesis: Individuals with regular personal interactions with Arabs will be more likely to report positive attitudes toward Arabs and use pleasant language in their survey responses. To test this hypothesis, I estimated two separate regressions. The first regressed the feeling thermometer attitudes measure on a measure of personal contact with immigrants,

including the control variables just described, and the second regressed the sentiment measure on these same variables.

Figure 1 presents the feeling thermometer and immigration experience results, showing a statistically significant correlation between personal contact with immigrants and Arab attitudes. The baseline comparison is no interaction with immigrants. As neither confidence interval crosses the baseline, there is evidence that the more individuals have interacted with immigrants, the more likely they are to report positive attitudes. This correlation suggests that people with frequent contact with immigrants are more likely to meet the criteria of prejudice reduction set forth by the contact theory framework. The significance of this correlation is strengthened because significant demographic variables—gender, age, ideology, and education are controlled variables in the regression. As Figure 1 shows, there is a statistically significant shift from no interaction to a little and a lot of interaction—with predicted reported attitudes two to twelve points higher on the feelings thermometer—however, there is no statistically significant shift between a little and a lot of interaction. Thus, any frequency of personal interaction with immigrants predicts higher reported attitudes towards Arabs than individuals who have no interaction.

Figure 1: The Marginal Effect of Personal Interactions on Attitudes Toward Arabs

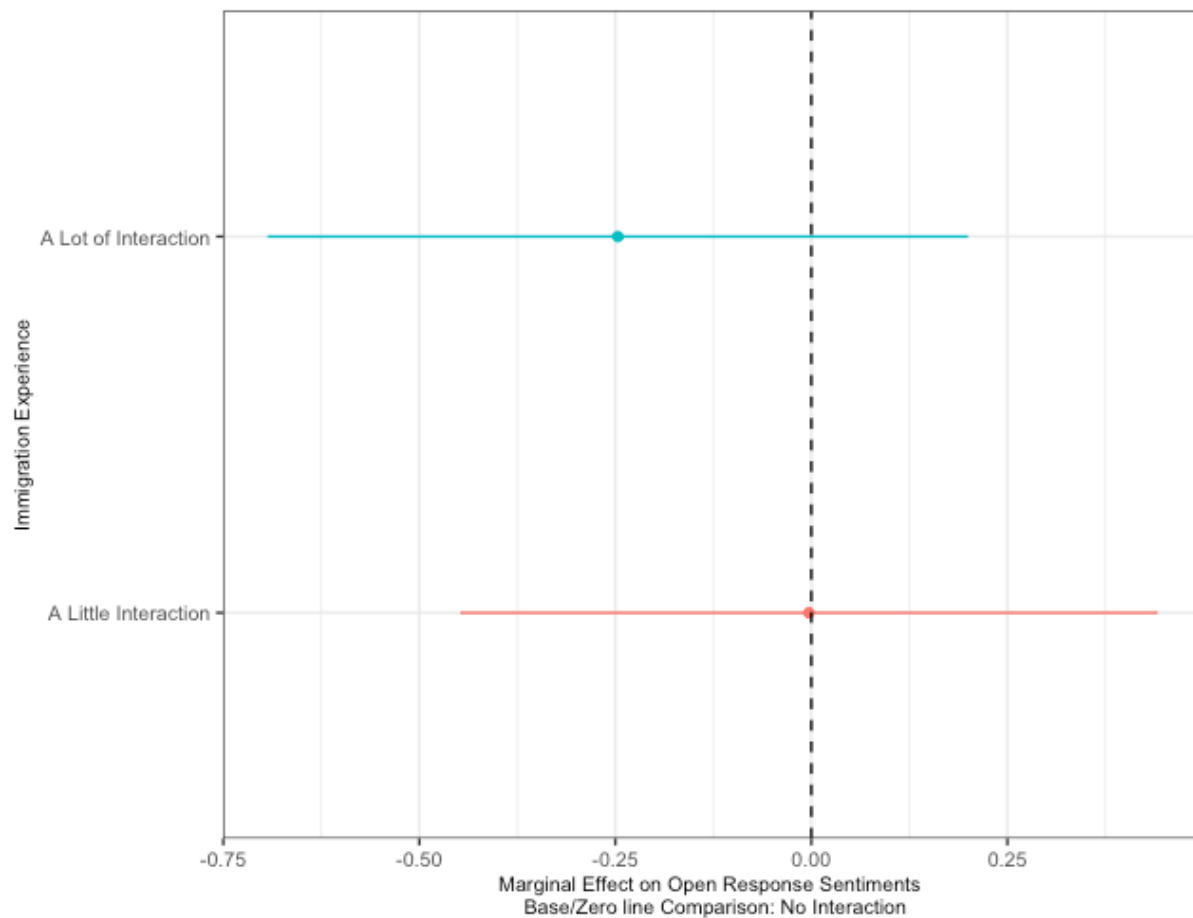


The statistically significant marginal effects on attitudes provide validity for the contact theory framework at the core of my first hypothesis. Because these results measure Arab attitudes before the treatment intervention of the survey, it is expected that the results are long-lasting as they were not a product of a one-time experiment. As such, the feeling thermometer results provide evidence of the importance of contact outside of experiments. While experiments significantly contribute to our understanding of intergroup contact and prejudice, little evidence supports the longevity of attitude changes. In contrast, these results provide

evidence that real-life personal contact with immigrants is a significant factor in predicting attitudes and give evidence for the importance of immigrant interactions outside of social and political experiments.

Figure 2 presents the sentiment analysis and personal contact results. It does not show a statistically significant correlation between personal contact with immigrants and the use of pleasant sentiments toward Arabs. The baseline comparison is no interaction with immigrants, and because both confidence intervals cross the line, there is no evidence that personal interaction predicts pleasant sentiments toward Arabs. While it was predicted that individuals who had experienced personal contact would show an increased likelihood of using pleasant language sentiments, there is no evidence to support this hypothesis.

Figure 2: The Marginal Effect of Personal Interactions on Sentiments Toward Arabs



As shown in Figure 2, there is not a statistically significance shift from the baseline toward pleasant or unpleasant sentiments used in the open responses. Individuals who experienced a little interaction with immigrants are just as likely as those with no interaction to use pleasant or unpleasant sentiments toward Arabs. While it is insignificant, there is some evidence that individuals with a lot of interaction are slightly more likely to use more negative sentiments than those with no interaction, a deviation from the predicted behavior in my hypothesis.

There are several possible explanations for this outcome. First, there was no measure of how positive or negative an individual viewed their interactions with

immigrants. The contact theory framework dictates that contact should be positive for there to be a reduction in prejudice. The same could apply to the language sentiments. Second, it is possible that individuals who have a lot of interaction with immigrants are competing for the same jobs and resources. If that is the case, those who have more frequent contact would be less likely to use pleasant sentiments than those with fewer immigrant interactions. Although further research could be applied to this issue, the results from this analysis show no statistical correlation between contact and sentiments. Thus, any frequency of personal interaction with immigrants is not a predictor of pleasant sentiments and language about Arabs.

I now present results from tests of the second hypothesis Individuals who engage with selective right-wing media sources will be less likely to report positive attitudes toward Arabs and use pleasant language and sentiments in the open responses. Individuals who engage with selective left-wing media sources will be more likely to report positive attitudes and use pleasant language and sentiments in their open responses. To test this hypothesis, I estimated two separate regressions. The first regressed the feeling thermometer attitudes measure on a measure of media consumption, including the control variables that have been described, and the second regressed the sentiment measure on these same variables.

Figure 3 presents the feeling thermometer and media consumption results. Because right-wing selective media was used as the baseline comparison for each regression, both selective media consumption and cross-cutting media consumption are shown. This section will focus on the attitude shift between right-wing and left-wing media consumption.

Figure 3: The Marginal Effect of Media Consumption on Attitudes Toward Arabs

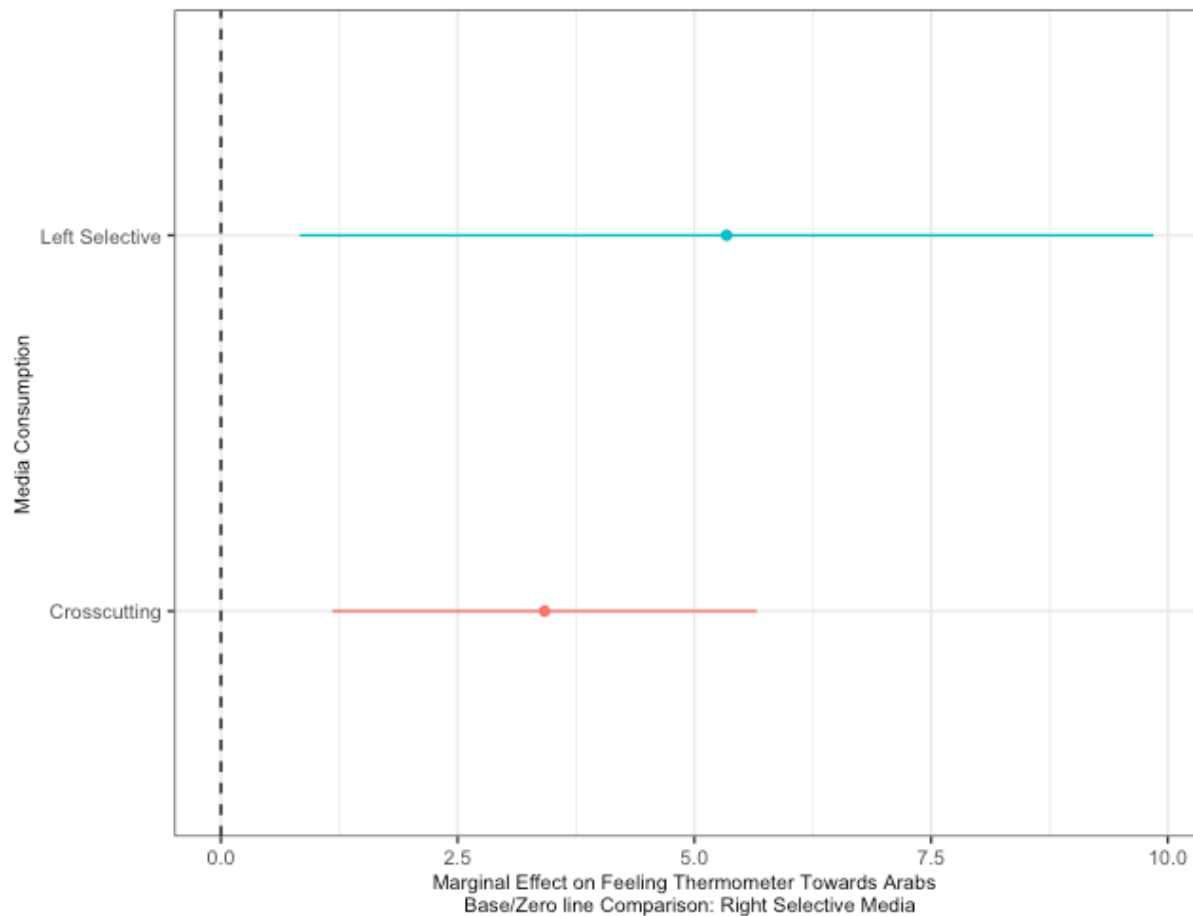


Figure 3 shows a statistically significant correlation between the types of selective media consumption and attitudes toward Arabs. As the confidence interval for left selective does not cross the baseline, there is evidence that individuals who consume left-wing media content on a daily and weekly basis are more likely to report higher attitudes toward Arabs than individuals who consume right-wing media content on a daily and weekly basis. The regression predicts that individuals who consume left-wing media are likely to report attitudes toward Arabs five points higher (with confidence intervals ranging two to ten) than individuals who consume right-wing media. Thus, the type of selective media

consumption predicts reported attitudes toward Arabs and the statistically significant marginal effects on attitudes provide validity for the selective media framework at the core of my second hypothesis.

The statistically significant correlation shown in Figure 3 could be due to the interaction between type of media consumption and political ideology.² Individuals who consume right-wing media are more likely to adhere to conservative ideologies and those who consume left-wing media are more likely to adhere to liberal ideologies. There is a significant difference in social and political positions toward specific issues, such as immigration, between conservatives and liberals and these views are likely to be frequently expressed on news sites. My analysis provides evidence that the type of selective media consumption can predict reported attitudes and it is possible that the political nature of the media predicts attitudes toward political issues, such as immigration.

Figure 4 presents the sentiment analysis and media consumption results. As with Figure 3, right-wing media is the baseline comparison, so selective media consumption and cross-cutting media consumption are shown. This section is focused on the sentiment shift between right-wing and left-wing media consumption.

² Ideology was added as a control variable in the regressions, so the results shown in Figure 3 are still statistically significant.

Figure 4: The Marginal Effect of Media Consumption on Sentiments Toward Arabs

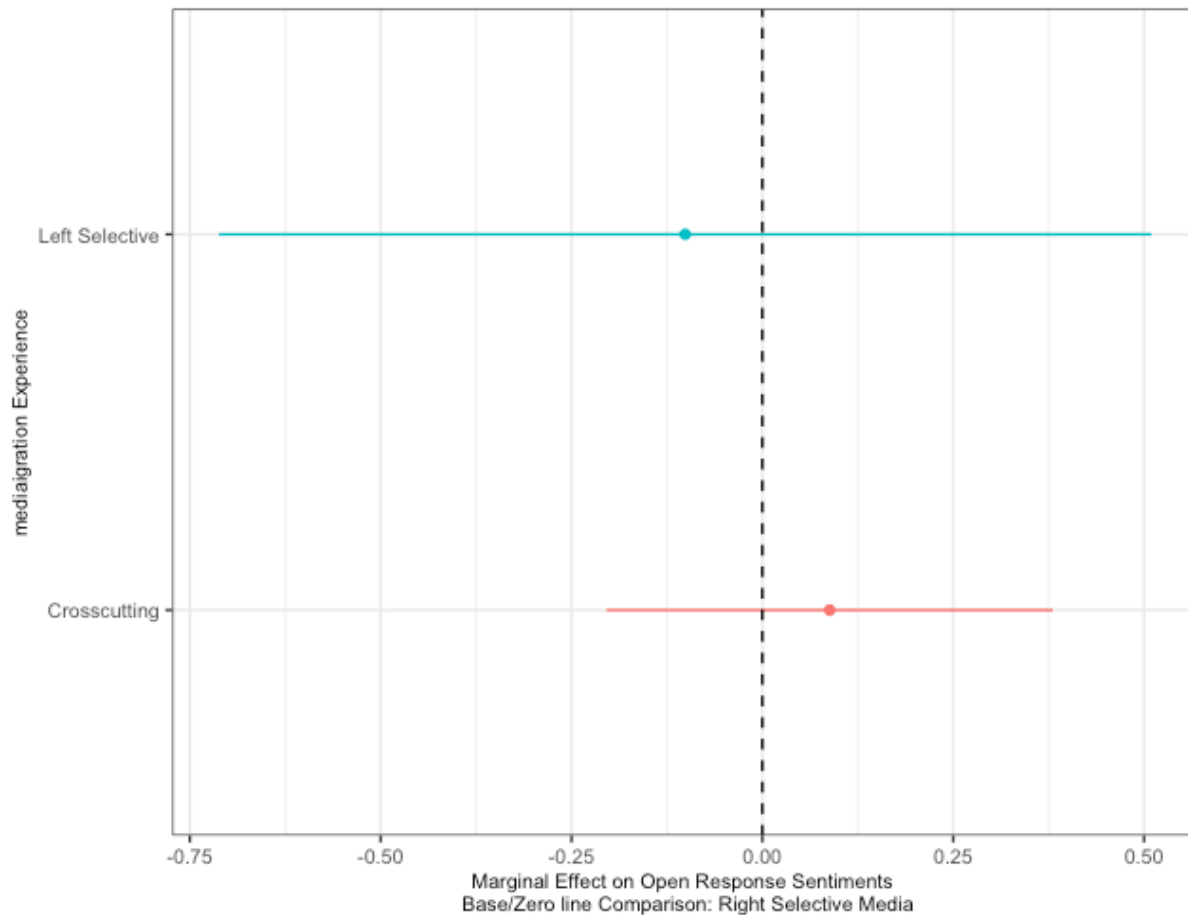


Figure 4 shows that there is no statistically significant shift of left-wing selective media from the baseline comparison of right-wing selective media. Individuals who engage in right-wing selective consumption are just as likely to use pleasant sentiments as those who engage in left-wing selective consumption. Thus, there is no statistically significant correlation between selective media consumption and language sentiments and there is no evidence that selective media consumption can be used as a predictor for language sentiments.

This result was somewhat surprising, especially because there is evidence that individuals who engage in left-wing selective consumption are more likely to

report higher attitudes toward immigrants than individuals who engage in right-wing selective consumption. Figure 4 shows that the left selective confidence interval crosses the baseline, so there is no marginal effect of selective media consumption on the open response sentiments. Furthermore, Figure 4 shows that individuals who engage in left-wing selective consumption might be slightly less likely to use pleasant sentiments than individuals who engage in right-wing selective consumption. While this result is not statistically significant, more sentiment analysis could provide evidence of the validity or invalidity of my hypothesis and explore how selective media consumption predicts sentiments toward Arabs.

Finally, I present results from tests of the third hypothesis: Individuals who engage in cross-cutting media consumption will be more likely to report positive attitudes and use pleasant language and sentiments in their open responses than individuals who engage in right-wing selective media consumption. To test this hypothesis, I estimated two separate regressions, the same that were regressed in the previous hypothesis. As right-wing media consumption was used as the baseline comparison in the regression, it was unnecessary to complete a separate regression for cross-cutting media.

Figure 3 presents the feeling thermometer and cross-cutting media consumption results and shows a statistically significant correlation between cross-cutting media consumption and attitudes toward Arabs. Individuals who consume right-wing and left-wing media on a daily and weekly basis are more likely to report higher attitudes toward Arabs than individuals who exclusively consume right-wing

media. The regression predicts that individuals who engage in cross-cutting media consumption are more likely to report attitudes toward Arabs 3 points higher (with a confidence interval ranging two to six) than individuals who engage in right-wing media consumption. While this result is statistically significant, the shift toward pleasant attitudes from the baseline is not as great as left-selective media consumption. Thus, there is evidence that cross-cutting media consumption moderates attitudes toward Arabs, as individuals who engage in this type of media consumption are more likely to report higher attitudes toward Arabs than right-wing media consumers and less likely to report higher attitudes than left-wing media consumers. Cross-cutting media consumption can be used as a predictor of attitudes toward Arabs and the statistically significant marginal effects on attitudes provide validity for the cross-cutting media theory framework at the core of my third hypothesis.

Figure 4 presents the sentiment analysis and cross-cutting media results and does not show a statistically significant relationship between cross-cutting media and pleasant sentiments toward Arabs. Figure 4 shows that there is no statistically significant shift of cross-cutting media from the baseline comparison of right-wing selective media. Individuals who engage in this type of media consumption are just as likely to use pleasant sentiments as individuals who engage in right-wing selective media. While there is a slight shift toward more pleasant sentiments when individuals engage in cross-cutting media consumption, the results are not statistically significant. Again, this result was unexpected due to the evidence that

cross-cutting media consumption is a significant predictor of pleasant attitudes toward Arabs compared to right-wing selective media consumers.

Conclusion

In this thesis, I have outlined the existing theories on prejudice reduction and media consumption. Using these theories as the framework for my analysis, I conduct analysis using feeling thermometer and language sentiment measures to establish a measure by which contact theory and media consumption theory can be tested. Employing the measures of attitudes and sentiment scores, I address contributing factors to prejudice toward Arabs in Spain.

I find marginal support for my three hypotheses. I find that there is a statistically significant correlation between attitudes toward Arabs and the other measures I employ in my analysis. Thus, the frequency of interactions with immigrants and type of media consumption are significant predictors of attitudes toward Arabs. However, there is no statistical evidence that supports a correlation between language sentiments toward Arabs and other measures. With right-wing media sentiments as the baseline comparison, there is no statistically significant shift, positive or negative, that would suggest that left-wing and cross-cutting media consumption are predictors of language sentiments.

There are several possible explanations for why immigrant interaction and media consumption are not significant predictors of language sentiments toward Arabs (the reasons specific to immigrant interaction are discussed in the results section.) First, while the returned surveys provided enough data to provide an analysis, the survey was not specifically designed with this research in mind. While

I have confidence in the validity of my results based on the data available to me, further study could provide results that further prove the legitimacy or illegitimacy of testing sentiments with the measures in my analysis.

Second, sentiment analysis is still relatively new, especially in political science research. While I strove to complete the best analysis possible, it is likely that sentiment analysis frameworks will improve over time, which could affect the results of a similar study. Furthermore, I used the best Spanish sentiment dictionary available, yet there likely is human error that factors into these results. There is no sentiment dictionary that was made for Spanish, so each word was translated and coded based on English sentiment and translated into Spanish. This disregards linguistic variations between cultures. Again, continued progress in the sentiment analysis measure will allow for a better analysis in the future.

Third, the statistically significant marginal effects on attitude and the insignificant marginal effects on sentiments in all three hypotheses could be evidence of social change and not political change. This was the conclusion of Green and Paluck's Rwanda study (Green & Paluck 2009). They found that there was a social change because individuals changed their attitudes concerning social issues, but this did not affect policies or political ideologies.

Individuals and the media are changing the way they talk about immigration issues. Recently, news sites have had to be more careful about how they discuss sensitive topics to avoid the backlash that extremist views can cause. We have seen this phenomenon in the United States. News outlets that do not use politically correct language are labeled extremist and demonized. Spain's media is known for

being relatively politically centered; however, because of the distrust and allegations of corruption, the media outlets must be more careful not to lose their consumer base. It seems likely that, despite the recent emergence of extremist right-wing political groups in Spain, the media is careful how they discuss immigration. Thus, it is possible that the language sentiments expressed by the individuals in the survey are a reflection of changing social attitudes toward Arabs.

Furthermore, it is possible that the attitude measure in my analysis reflects how individuals feel about Arabs based on their political ideologies. Individuals who subscribe to political ideologies will have different attitudes toward immigration policies. This would be why left-wing and cross-cutting media consumers are more likely to report higher attitudes toward Arabs than right-wing media consumers. While this possible explanation could provide further evidence of Green and Paluck's social change conclusion, further research is required to offer confirmation that this phenomenon is occurring with the feeling thermometer and sentiment analysis measure.

The limitations of this study also generates the possibility of future research. Though my results offer substantial support for effects on attitude on all three hypotheses, all my findings are correlative, so I cannot claim causality. Additionally, there are adjustments that can be made to better test the effect of my measures on sentiment analysis, to either provide evidence for my hypotheses or offer confirmation of Green and Paluck's conclusion. Further study about immigration issues in English-speaking countries would allow for the confirmation of the

usefulness of sentiment analysis in prejudice reduction research, as this would absolve the issues with sentiment dictionaries.

This thesis expands the research on prejudice reduction and provides possible explanations as to why there were statistically significant marginal effects on attitudes and not language sentiments. Furthermore, it evaluates the efficacy of using sentiment analysis in prejudice reduction research. While there were no statistically significant correlations between the measures and sentiment analysis, further research on its validity could provide evidence of social change on sensitive issues. While there are limitations to my study, these limitations provide a substantial reason to pursue further research of contact theory and types of media consumption, and further use of language sentiment measures.

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APPENDIX

Table 2: Interaction with Immigrants Measure

g_imexp ★

¿Cuántas experiencias personales ha tenido con inmigrantes?

☐ Muchas

☐ Pocas

☐ Ninguna

Table 3: Media Consumption Measure

media 💡 ★ 🔗

¿Con cuánta frecuencia ha escuchado o leído a las siguientes fuentes de noticias en el pasado año?

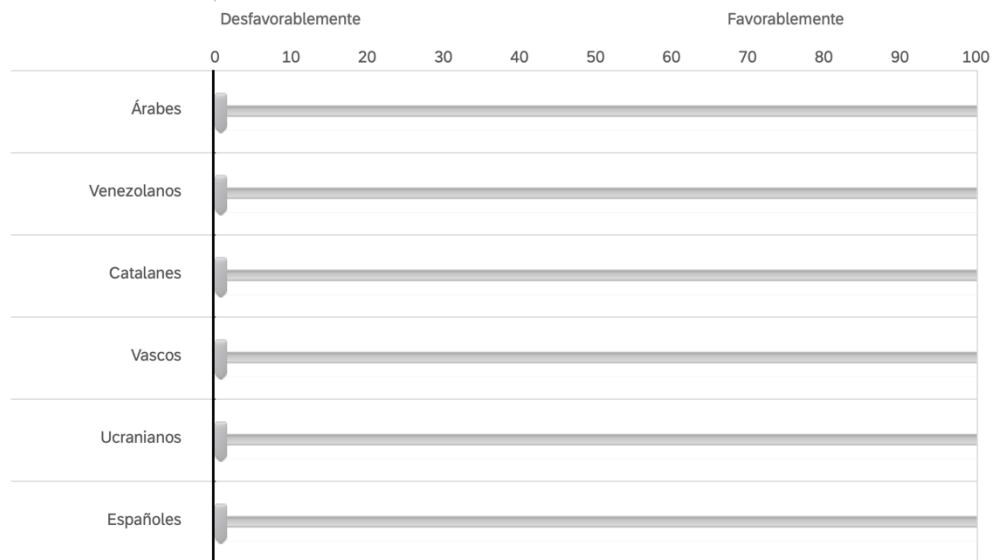
	Para nada	Mensualmente	Semanalmente	Diariamente
Antena 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TVE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
El País	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
El Mundo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
El Diario	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ABC	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
La Vanguardia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Público	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Table 4: Feeling Thermometer Measure³

g_prat

✱ ✂

En esta parte de la encuesta, nos interesa sus sentimientos hacia varios grupos en España. Por favor utilice los controles deslizantes a continuación para indicar qué tan favorablemente se siente hacia cada uno de estos grupos.



³ Only the measure of attitudes toward Arabs was used in this thesis from the feeling thermometer.

Table 5: Immigration Experience and Attitudes Regression

```
Call:
lm(formula = g_prat_1 ~ imexp + age + gender + ideology_2 + education,
    data = g2.df)

Residuals:
    Min       1Q   Median       3Q      Max
-69.654 -22.666   0.112  19.527  79.128

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)   46.2205     3.1608   14.623 < 2e-16 ***
imexpA Little   4.5710     1.6783    2.724 0.006490 **
imexpA Lot      8.1400     1.6954    4.801 1.64e-06 ***
age            -1.3399     0.3144   -4.262 2.08e-05 ***
gender          3.6464     0.9755    3.738 0.000188 ***
ideology_2     -3.6936     0.1976  -18.691 < 2e-16 ***
education       2.2801     0.3515    6.488 9.95e-11 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 28.85 on 3509 degrees of freedom
(1423 observations deleted due to missingness)
Multiple R-squared:  0.134,    Adjusted R-squared:  0.1325
F-statistic: 90.51 on 6 and 3509 DF,  p-value: < 2.2e-16
```

Table 6: Immigration Experience and Sentiments Regression

```
Call:
lm(formula = sentiment_scores ~ imexp + treatfact + age + gender +
    ideology_2 + education, data = thesis.df)

Residuals:
    Min       1Q   Median       3Q      Max
-13.0799 -1.4468 -0.1356  1.5047  10.9165

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)   1.068558   0.418818   2.551  0.0108 *
imexpA Little  -0.003099   0.226867  -0.014  0.9891
imexpA Lot     -0.246838   0.227954  -1.083  0.2790
treatfactPleasant Reflection  0.706534   0.154458   4.574 5.14e-06 ***
treatfactUnpleasant Reflection -0.856097   0.155669  -5.499 4.41e-08 ***
age            0.008890   0.039860   0.223  0.8235
gender         0.049449   0.126092   0.392  0.6950
ideology_2     -0.041708   0.025367  -1.644  0.1003
education      0.060648   0.046687   1.299  0.1941
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.562 on 1635 degrees of freedom
Multiple R-squared:  0.06267,    Adjusted R-squared:  0.05808
F-statistic: 13.66 on 8 and 1635 DF,  p-value: < 2.2e-16
```

Table 7: Media Consumption and Attitudes Regression

Call:

```
lm(formula = g_prat_1 ~ media + imexp + treatfact + imexp + age +
    gender + education + ideology_2, data = g2.df)
```

Residuals:

Min	1Q	Median	3Q	Max
-69.376	-22.216	-0.014	19.613	79.269

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	48.6053	3.8509	12.622	< 2e-16 ***
mediaCrosscutting	3.4181	1.1434	2.989	0.00282 **
mediaLeft Selective	5.3395	2.3008	2.321	0.02038 *
imexpA Little	3.7644	1.9011	1.980	0.04779 *
imexpA Lot	7.5217	1.9258	3.906	9.62e-05 ***
treatfactPlacebo Control	-0.4886	1.7281	-0.283	0.77740
treatfactPleasant Reflection	-0.3615	1.7140	-0.211	0.83296
treatfactPure Control	-0.1623	1.7009	-0.095	0.92397
treatfactUnpleasant Reflection	0.3672	1.7275	0.213	0.83167
age	-1.1840	0.3595	-3.294	0.00100 **
gender	2.7235	1.1045	2.466	0.01373 *
education	1.6856	0.3959	4.258	2.14e-05 ***
ideology_2	-3.7072	0.2236	-16.579	< 2e-16 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 28.62 on 2776 degrees of freedom

(2150 observations deleted due to missingness)

Multiple R-squared: 0.1355, Adjusted R-squared: 0.1317

F-statistic: 36.24 on 12 and 2776 DF, p-value: < 2.2e-16

Table 8: Media Consumption and Sentiments Regression

Call:

```
lm(formula = sentiment_scores ~ media + imexp + treatfact + imexp +
    age + gender + education + ideology_2, data = thesis.df)
```

Residuals:

	Min	1Q	Median	3Q	Max
	-12.9635	-1.4205	-0.1062	1.3625	11.0849

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	1.117817	0.495442	2.256	0.0242 *
mediaCrosscutting	0.088064	0.149170	0.590	0.5551
mediaLeft Selective	-0.101059	0.311656	-0.324	0.7458
imexpA Little	-0.083973	0.258359	-0.325	0.7452
imexpA Lot	-0.380784	0.260383	-1.462	0.1439
treatfactPleasant Reflection	0.769483	0.173175	4.443	9.62e-06 ***
treatfactUnpleasant Reflection	-0.941441	0.174818	-5.385	8.59e-08 ***
age	0.005914	0.045928	0.129	0.8976
gender	0.086084	0.140972	0.611	0.5415
education	0.047735	0.052592	0.908	0.3642
ideology_2	-0.036305	0.028664	-1.267	0.2055

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.545 on 1284 degrees of freedom

(349 observations deleted due to missingness)

Multiple R-squared: 0.07598, Adjusted R-squared: 0.06879

F-statistic: 10.56 on 10 and 1284 DF, p-value: < 2.2e-16