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Empathic stories to address intergroup discrimination towards undocumented Latinx Immigrants: Stories when we cannot live experiences

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Abstract

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A growing body of research in social psychology focuses on ameliorating intergroup discrimination. A substantial amount of this work originates from the contact hypothesis (Allport, 1954). However, many indirect contact studies utilize stories as interventions or cite other studies that use stories. The work in narrative psychology shows that stories provide consumers the opportunity to rehearse intergroup interactions (Oatley, 1999), induce empathy that allows for understanding and feeling the experiences of others (Van Laer et al., 2014), and provide mental experiences felt as if truly occurring (i.e., transportation; Green & Brock, 2000, 2002). Two focal questions of the current research are whether stories and their processes are already effective in reducing intergroup discrimination and whether stories and indirect contact strategies might overlap. The current study explored the effectiveness of stories in reducing different aspects of discrimination (i.e., behaviors, attitudes, and perceptions) towards both undocumented Latinx immigrants (i.e., a group) and to an undocumented Latina immigrant (i.e., an individual), while testing transportation as a driver of the effect. This between subjects design compared three stories including A) a story with somatosensory cues (i.e., in-depth physiological descriptions of the experience of an undocumented Latina immigrant, *non-DACA recipient*), B) the same story without somatosensory cues, and C) positive statistics and facts about immigrant's contributions to the US, as a comparison group. The hypotheses tested included: First, the effectiveness of stories in inducing transportation, influencing monetary donations to an

immigrant fund, increasing ratings of warmth and competence, and inducing more positive attitudes, compared to the provision of supportive statistics. Second, the effectiveness of the enhanced stories, over statistics, in inducing transportation, donations, increasing ratings of warmth and competence, and in inducing more positive attitudes. Third, the effectiveness of the enhanced story, over the non-enhanced story, in inducing transportation, donations, increasing ratings of warmth and competence, and in inducing more positive attitudes to the character of the story. Finally, whether transportation would moderate the relationship between the clip condition and donations, ratings and warmth and competence, and attitudes to the central character's membership group—undocumented Latinx immigrants. These hypotheses were tested on a sample of MTurk workers (N= 572) over the age of 18 found in states with an overall population of Latinx below five percent. The results confirmed that individuals in story conditions did undergo more transportation and had higher average donations, but these did not differ in ratings of warmth and competence, or attitudes to undocumented Latinx immigrants. Regarding the character, participants in the enhanced story condition rated her as more competent and less negatively than those in non-enhanced story condition, while also rating her low in warmth. Finally, one moderation analysis showed that respondents in story conditions reported more positive attitudes towards undocumented Latinx immigrants only if they were more transported. Together, these results, indicate that stories could be effective in increasing positive attitudes towards groups that are targets of vitriol, and more importantly that a story process such as transportation may play a role in this positive attitude induction.

Key words: Stories, intergroup discrimination, undocumented Latinx immigrants

Dedication

I dedicate this dissertation to two people who made it possible for me to afford an undergraduate and graduate education, William Kelly and Tomas Fuller. I came to the US as a teenager without any "dreams" or aspirational pursuits. I only wanted to work and save money to help my mother economically. One day I made the decision to learn English hoping that it would open doors to more job opportunities. But I never imagined that my life would follow its current trajectory. I never dreamed of attaining a college education, much less of earning an MA or Ph.D.

Since choosing to learn English, my life took unexpected turns, and I had the fortune to meet such welcoming and generous individuals as Mr. Kelly and Mr. Fuller. Perhaps these are the reasons why I believe in humanity's capacity for goodness. When we met, Bill and Tom understood the hardships of being gay. I think that is why they opened their home doors to me. However, I happened to be an undocumented immigrant, too, so they became intimately acquainted with the immigration journey and its challenges. I had the fortune to sit at their table every holiday since I met them. That could only happen where diversity is welcome. Such actions are the only way to learn about others' lives and reasons for being and doing. It is the only way to achieve cultural integration. This attitude of openness and acceptance might be the birthplace of knowing a person for who he or she really is, and this opens space for less fear and less hatred in the world. This intimate form of knowing results in a profound connection. In turn, less fear and hatred are the reasons for this current work.

Thank you for trusting and believing in a stranger without any questions

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Pursuing a doctoral degree has been the most challenging endeavor I have ever undertaken thus far. The journey itself was challenging, but the situational challenges as an immigrant added as many barriers as it added richness. I was fortunate to meet kindhearted people throughout, which eased some of the struggles. The journey started with an innocuous dream that turned into an irrational ambition of paving the way for others in my situation, but it seems to be concluding with the realization that the impact on others begins with me, with my own sincere intentions and realistic aspirations. I am the only one who can derive meaning and value from every single thing I do. While the road ahead continues to be full of obstacles, I understand that whether I can find work or begin my career, I can derive worth from my Ph.D. solely from the completion of the task itself and make the attained lessons an approach to life.

First, I offer thanks to two people who made my journey through Claremont Graduate University possible in the first place. First and foremost, I want to thank Dr. William Crano who took me under his wing during the most vulnerable time of my educational journey. He saw value in my research and stuck with me through thick and thin. I realized what a difficult task it must be to mentor people going through one of their most vulnerable journeys—that of accepting their personal flaws and remaining open for growth. Mentoring is an art that Mr. Crano does well. Under his mentorship, I felt I had a shoulder to lean on and I feel fortunate to have worked under someone so compassionate and caring. I also want to thank Dr. Allen Omoto. I could not leave out the person who initially believed in my potential, opened the doors to the CGU community, and admitted me to his research lab, so I am also grateful for you.

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I also want to express my gratitude for all my mindfulness teachers. Without mindfulness, I could have never made space for learning, and I could not possibly see a way to live more aware, experience more joy and gratitude, and overall attain a healthier mental life

Preface

Perhaps the most characteristic aspect of the social animal is its group formation. These formations enhance group survival, as they provide strength in numbers, but this hallmark also can result in negative outcomes as well. Group affiliations provide meaning and identity, which create bias in favor of ingroup members. At the same time, such bias confines us to one experience and reality—the one lived, believed, and advocated by our ingroup. The ingroup's views and actions become what individual members see as reality. As we only belong to our ingroups, we are often unaware of an outgroup's way of seeing and experiencing the world, which could be detrimental in our treatment of outgroup members. Possibly this may serve as a source for outgroup mistreatment and discrimination. Outgroups might represent a threat to the majority group's norms, values, and future.

Empathy has been used effectively in decreasing negative attitudes and stereotypes that ingroup members express toward outgroup members, but due to group formation patterns, empathy alone cannot offset detrimental discrimination. What I mean is that asking any individual to take the perspective of any unlived experience (e.g., undocumented Latinx immigrants) might be like asking an individual to try to take the perspective of a cat. Individuals might not only lack the desire to empathize, but the ability to do so as well. Without a direct or indirect experience, we have limited imagination and are dependent on our biases. Yet, if a cat provided us with a story about its struggles, empathy could be possible, and it might impact a reader's attitudes about cats. In this case, it is like inserting novel information with images, feelings, values, actions, etc. into an individual's mind. On the contrary, we know how our "ingroups" feel, think, and the actions they want to take towards the ingroup and relevant outgroups. We live within these groups, but what about groups of which we are not a part?

Stories (i.e., fiction and personal or historical narratives) might provide that individual or group experience of which we might not have access otherwise. Keith Oatley puts it this way: "[Art] is a mode of amplifying experience and extending our contact with our fellow-men beyond the bounds of our personal lot." Thus, stories might input details about an experience that people do not undergo.

Human appreciation for storytelling might be more vital than it is currently esteemed. Steven Pinker, a cognitive psychologist and linguist, argues that humans do not have an instinct for language but for grammar. Understanding the relationship between subjects and objects increases survival. For example, in response to the sound of leaves crackling in a dense forest behind me, I could quickly cobble together a story explaining what could be occurring: a predator is hiding waiting for the perfect moment to jump on me and eat me alive. Of course, this could be very far from what is happening. It could just be a startled rabbit, but, evolutionarily, this ability to fabricate a narrative could save my life better than if the stimuli triggered no story and the threat turned out to be real. Humans do not live in the same conditions as in the past, but this story-making capacity is still present, and chronic in some, myself included. Today, I started cleaning up my desk, writing a goodbye letter to coworkers, and stressing about finding a new job after seeing my boss' upset face, but all of these actions took place solely in my mind (this is a fictitious example). Thus, consciousness could work by taking pieces of information (stimuli) from our environment and turning them into structured thoughts, images, feelings, and bodily sensations—a story in which we are the main character facing obstacles and struggles to achieve our goals.

If stories propel consciousness, what would an artistically-crafted story do to readers' viewers', or listeners' minds? Venturing into a character's narration of their challenges to

achieve a goal (i.e., the scholar definition of stories) can be a means to mentally live an experience otherwise impossible to undergo directly; this is also known as transportation. A story might provide a mental simulation of what it is to endure the undocumented Latinx immigrant journey from inception to crossing the border and beyond. Thus, stories might be the only way to undergo an experience that we otherwise could not, due to our group affiliations, physical and physiological boundaries, social situations, etc., which might result in attitude modification. For these reasons, this dissertation suggests stories as a mechanism to improve attitudes toward undocumented Latinx immigrants by inducing empathy via providing outgroups with a narrated experience. This is in line with the argument that the more fiction we read, the more information we have to understand various perspectives and social interactions than we can through our biased perceptions alone.

The present work does not directly study consciousness. However, by targeting Caucasians who do not typically interact with undocumented Latinx immigrants, any positive changes would imply that stories might work as proxies for experiences for individuals who have not undergone them. It would imply that providing experiences via stories impacts on our experiential blindness, empathy, attitudes, and treatment of others. Thus, the scope of the present project included looking at whether an empathic story of an undocumented Latinx immigrant could be used to change negative attitudes, improve person perception, and increase prosocial behaviors involving undocumented Latinx immigrants.

Findings in social psychology indicate that indirect contact strategies (e.g., imagining an interaction with an outgroup member) decrease prejudice by relying solely on the imagination of the target. However, I argue that using indirect contact strategies might overlap with the work on stories because stories go beyond imagination and are a way to mentally live an experience.

Consequently, the current work has implications for intergroup discrimination interventions in that it asks to rethink current approaches to perspective taking, and to bridge indirect contact strategies with narrative psychology.

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Chapter I.

Brief overview of intergroup discrimination and interventions

Favorability, deservingness, and allocation of resources are biased towards members of one's category. That might be why Central Americans seeking refuge from war, persecution, crime, and poverty are rejected, and undocumented immigrants have become the target of vitriol in the US. Many actions against perceived outgroups are contextual (Barrett, 2017), and stigma, prejudice, and discrimination from a group or person to another is not always about dispositional hatred, but rather can be a result of group processes. For example, once persons self categorize into a group and are aware of that categorization, it can lead to an intergroup bias: Individuals allocate more resources to ingroup members (Tajfel, Billing, Bundy, & Flament, 1971) and evaluate them more favorably than outgroup members (Brewer, 1979; Brewer & Silver, 1978). Also, members perceived as more prototypical (i.e., to more closely embody group norms) are considered more deserving of privileges and resources reserved only for the category (Wenzel, 2004).

Intergroup emotions are contextual as well (Mackie, Maitner, & Smith, 2009). Aside individual emotions, people experience emotions related to the group and category (Smith & Mackie, 2008). Thus, identity salience impacts people's emotions (Ray, Mackie, Rydell, & Smith, 2008). For example, if a conservative identity is salient, individuals could feel more anxiety when dealing with undocumented Latinx immigrants compared to a salient student identity, and the degree of identification intensifies the emotion (Maitner, Mackie, & Smith, 2007). Consequently, if a group perceives another as a threat, emotions could escalate to adverse actions (Smith, Seger, & Mackie, 2007). Thus, intergroup emotions theory's wide range could

partly explain the current vitriol towards undocumented Latinx immigrants (Spears et al., 2011; Kuppens & Yzerbyt, 2012). The stereotype content model holds similar predictions (Fiske, Cuddy, Glick, & Xu, 2002). For example, regarding a person as neither warm nor competent incites contempt towards them, which could lead to dehumanization (Hasslam, 2006) and facilitate atrocities like ethnic cleansing and genocide (Cuddy, Fiske, & Glick, 2008). Thus, contempt could easily facilitate closing the doors to immigrants' escaping war, persecution, and poverty.

Empathy is an emotion associated with prosocial behaviors that facilitate group functioning (Cikara, Bruneau, Van Bavel, & Saxe, 2014). Because of empathy, people are predisposed to alleviate others' suffering (Batson, 2009), but this predisposition shows an intergroup bias (Batson & Ahmad, 2009). People report less empathy for a stranger from a different race, political or social group if described as an outgroup than if described as an ingroup member (Cikara, Bruneau, & Saxe, 2011). Thus, the mere outgroup classification can thwart empathy (Cikara, Bruneau, Van Bavel, & Saxe, 2014). Cikara and colleagues (2014) add that besides the self-categorization effects on empathy, perceived competition might also hinder empathy to outgroups and might be the principal driver of Schadenfreude (i.e., taking pleasure in the suffering of outgroup members). As a result, lacking empathy or feeling Schadenfreude could lead to overlooking others' suffering and even inflicting harm on them (Cikara, Bruneau, Van Bavel, & Saxe, 2014). However, it might not be that undocumented Latinx immigrants represent competition to US Americans. Cikara and Fiske (2012) imply that the "mere perception" that undocumented Latinx immigrants are coming to harm and displace US Americans suffices. For example, a recent study, albeit with a different group, suggests that perceiving Syrian refugees as

dangerous is more predictive of negative attitudes to them than personality variables (Koc & Anderson, 2018).

Finally, the dominant (majority) group's perception and definition of truth/reality is vital in understanding intergroup conflict (Deutsch & Gerard, 1958). Once a majority has promoted a concept of reality and behaved accordingly, individual members may find it difficult to accept, or even see alternatives (Festinger, 1957). For example, negative attitudes towards homosexuality could come from long-ingrained Christian beliefs (Herek, 1986). Thus, even if people learn disconfirming information about homosexuality, their Christian identity could create dissonance deterring attitude change. Social stereotypes are shared beliefs held by one group about another group, which reflect a shared social reality (McGarty, Haslam, Turner, & Oakes, 1993; Vaughan, Tajfel, & Williams, 1981). Thus, intentional or unintentional lack of interaction with any outgroup could result in biased knowledge about them (Stephen & Stephen, 1985) and an experiential blindness (Barrett, 2017). This possibility is in line with Allport's (1954) definition of intergroup discrimination as a hasty generalization about outgroups based on incomplete and erroneous information. The rationale behind the contact hypothesis is that intergroup interactions result in learning about one another. Exposure to minorities would create positive feelings and attitude reappraisal (Pettigrew, 1998). Accordingly, learning sufficient new information through repeated and rewarding interactions could lead to dissonance resolution through a revision of attitudes (Pettigrew, 1998, p. 71).

Plenty of work has been conducted in social psychology to try to address intergroup discrimination. These include research on the contact hypothesis (Allport, 1954) and other indirect contact theories like the extended contact (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), imagined contact (Crisp & Turner, 2009), and parasocial contact (Schiappa, Gregg, &

Hewes, 2005). However, indirect contact strategies overlap with this paper's proposed intervention as many of them employ stories and TV shows widely. Therefore, this proposal tackles both an academic issue (i.e., possible overlapping lines of research) as well as a social issue (i.e., intergroup discrimination). The proposition is that stories are a compelling and possibly a more effective way of decreasing stigma, prejudice, and intergroup discrimination because they include direct and indirect discrimination reduction strategies, and they do so in a more effective manner bringing the interaction to people's homes and minds (Johnson, 2013). Also, connecting lines of research from sub fields, or entirely different fields, could yield more sound and effective psychological interventions in intergroup discrimination and understand its processes more in-depth.

Indirect contact strategies and stories

Often redundant lines of research develop in social science fields. One example is Grit (Credé, Tynan, & Harms, 2017). Schmidt and Colleagues (2018) find Grit's perseverance facets redundant with the pro-active facets of conscientiousness (i.e., industriousness and drive), one of the big five personality traits; these share 95 per cent of its variance. Redundant lines of research create stockpiles of literature that could be clearer and more valuable if compressed (Jarret, 2018). Indirect contact strategies also might overlap with the research on stories. To unpack this belief, here is a brief review of direct and indirect contact.

The contact hypothesis is a classic social psychological approach to addressing intergroup conflict (Oskamp & Jones, 2000). It is one of the most important contributions to decreasing prejudice (Dovidio, Gaertner, & Kawakami, 2003). Allport (1954) believed that bringing conflicting groups together would result in more positive relations between them. Meta-analyses support those predictions, in particular those that involve cross group friendships

(Pettigrew & Tropp, 2006). However, bringing adverse groups together is not always feasible and can fail (Brown & Hewstone, 2005).

Fortunately, contact can be induced indirectly. Wright and colleagues (1997) showed that extended contact: learning that a group member has a positive relationship with an outgroup member reduces prejudice (see also Turner, Hewstone, Voci & Vonofakou, 2008). It reduces outgroup prejudice by decreasing intergroup anxiety (Paolini, Hewstone, Cairns, & Voci, 2004). However, cross-group friendships do not always develop. An alternative is *imagining* a positive social interaction with an outgroup member (Crist & Turner, 2009). For instance, heterosexual men imagining a positive interaction with gay man appears to improve their views of them (Turner, Crisp, & Lambert, 2007), as opposed to imagining an outdoor scene. A meta-analysis showed that imagined contact reduced prejudice and increased positive intergroup behavior (Miles & Crisp, 2014). Similarly, the parasocial contact hypothesis states that processing a mass media interaction similar to a real-life interaction has the benefits of actual positive intergroup contact (Schiappa, Gregg, & Hewes, 2006). For instance, viewing frequency of *Will & Grace*, the TV show, was positively correlated with parasocial involvement (i.e., feeling like knowing the character/s, that they could be their friends, and thinking them similar) and negatively related to attitudes to gay people; the show seemed to have an effect on those without pre-existing contact with gay individuals, but not on those with pre-existing contact (see also Schiappa, Gregg, & Hewes, 2005). Thus, indirect contact strategies worked in reducing hostility between groups where direct contact was not feasible.

However, many indirect contact strategies cite research that used stories or use story interventions themselves. For instance, Crisp and Turner (2009) cite research in which reading stories about same-age teenagers engaging in close friendships with foreigners had an impact on

the teens in story compared to control conditions (Liebkind & McAlister, 1999). Schiappa, Gregg, and Hewes' (2005) findings on the parasocial contact hypothesis come from analyzing research participants' responses to various TV genres (fiction, reality, and comedy). A more recent example is one showing that a four-hour ally certification workshop called DREAMzone, an initiative started at Arizona State University to reduce stigma and discrimination to undocumented immigrants, and a 30 min documentary chronicling the life of five undocumented immigrants improved attitudes toward undocumented immigrants compared to attitudes of a control group (Cadenas, Cisneros, Todd, & Spanierman, 2018). A growing literature in narrative psychology shows that stories reduce intergroup discrimination for reasons that go above and beyond those mentioned in indirect contact, so it is important to ask if this research overlaps with story research. While the transportation imagery model (Green & Brock, 2002) specifies various attributes of the stories and of the receiver that modulate mentally living stories and merging with characters (for a detailed meta-analysis see Van Laer, de Ruyter, Visconti, & Wetzels, 2014), the foci of this proposal are processes like simulation, empathy, and transportation that elucidate how a story can direct the consumer to imagining, visualizing, and feeling as if living the experience of another.

Story derived psychological processes

Simulation

Typically, fictional stories depict interpersonal and intergroup interactions in which characters have intentions and goals, which is the essence of human life (Mar, Oately, Hirsh, De la Paz, & Peterson, 2006). Reading stories could provide mental rehearsals of experiences and interactions depicted in them (Oatley, 1999). The analogy is that stories work as simulators (Speer, Reynolds, Swallow, & Zacks, 2009) like those that help pilots learn to land an airplane

(Mar et al., 2006). The more individuals simulate landing a plane, the more they prepare to land a real one without the terrible consequence of crashing it. In this view, fiction is a practice of understanding others by continually simulating ourselves in interactions (Oatley, 2016) without consequences (Kidd & Castaño, 2013; Pino & Mazza, 2016) like being shamed (by family or ingroup members) for interacting with those they might find undesirable. Some argue that simulation can occur through reflections (Baumeister & Masicampo, 2010) or conversations (Rimé, 2009). Simulation might help people feel others' emotions (de Vignemont & Singer, 2006), and understand other people's thoughts (Goldman, 2009; Harris, 1992).

Videogames are quintessential examples of simulations. They are environments with opportunities for modeling, rehearsal, and reinforcement (Greitemeyer & Osswald, 2010). Videogames tweaked with a prosocial context increase pro-social behaviors (Greitemeyer & Osswald, 2010). Recently, Kral and colleagues (2018) developed a videogame, Crystals of Kandor, with a prosocial narrative to study it as an empathy training mechanism, compared to a commercial video game and a control group. Players engaged in rewarding prosocial tasks and emotional feedback with the avatars residing in the game, which served as a reinforcement and engagement in perspective taking through emotion recognition. Compared to the other two conditions, players of Crystals had more brain activity in empathic accuracy related areas, more connectivity in empathy related circuits (posterior cingulate-medial prefrontal cortex; MPFC), and better emotion regulation (amygdala-MPFC).

Empathy

Empathy enables the anticipation of other people's cognitions, desires, and intentions (Davis, 1983) and facilitates feeling what another person is feeling (deVigemont & Singer, 2006). Also, it induces prosocial behaviors (Eisenberg & Miller, 1987; Masten, Morelli, &

Eisenberger, 2010), which positively impacts on group functioning (Zaki & Ochsner, 2012). Empathy reduces prejudice to stigmatized groups like the homeless (Batson et al., 1993). Stories alone are said to be a practice of social relations (Oatley, 2016) and exercises in perspective-taking (Kidd & Castaño, 2013). Story readers are better at interpersonal sensitivity skills (Fong, Mullin, & Mar, 2013; Mar, Oately, Hirsh, De la Paz, & Peterson, 2006; Mar, Oatley, & Peterson, 2009). Interpersonal sensitivity (i.e., recognizing people's emotions through their facial expressions) is an empathic mechanism, and it might be the only means to understand the cognition and the feelings of an entirely different being (Iacoboni, 2009). To understand another's cognitions and feelings, people observe their own mental and physical states and find analogies with those of others (Iacoboni, 2009). In other words, individuals compare what they have thought and felt to what they perceive in others' expressions to estimate what another being thinks and feels.

Research shows the effects of literary fiction, versus other types of text, on empathy. Participants in literary fiction conditions, compared to popular fiction, perform better at these tasks (Kid & Castaño, 2013; Mar, 2011; Zunshine, 2006). These effects are attributed to readers having to put themselves in the mind of the character while simultaneously holding various other perspectives (Kid & Castaño, 2013). Similar effects have been found in longitudinal studies (Bal & Veltkamp, 2013). Participants exposed to a short story, compared to an essay, improved in cognitive empathy, but only if they were low in openness, a personality trait (Djikic, Oatley, & Moldovean, 2013). Thus, stories could be particularly compelling on the less open-minded, like persons with strong anti-immigrant sentiments. In a larger project, Pino and Mazza (2016) compared the effects of reading a whole literary fiction book to non-fiction and science fiction on empathic abilities and also found improvements in empathy related skills.

Transportation

Narrative transportation can be defined with the analogy of a traveler that by his or her enactment of a story is able to engross in it creating distance from the world of origin and undergo changes from that journey (Gerrig, 1993). Hence, stories suspend persons from their present experience and reality (Gerrig, 1993). Story consumers become transported and start mentally living the stories as if taking part in them (Polichak & Gerrig, 2002). In a sense, they merge with the character (Oatley, 1999). Via transportation, stories take individuals into non-existing worlds and experiences while feeling like real experiences (Gerrig, 1993). Van Laer, De Ruyter, Visconti, and Wetzels (2014) argue that transportation is a result of the consumer trying to empathize with the story and characters by attempting to understand the experience of and feel the world as the character had, and through imagery they feel they are experiencing the events themselves. That is the transportation tripartite (i.e., absorption, imagery, and feelings) championed by Green and Brock (2000). In turn, transportation impacts how much story readers', viewers', or listeners' attitudes align with those pushed by the story (Green & Brock, 2000; Green, Garst, & Brock, 2004). For instance, participants were more restrictive in letting psychiatric patients out on day passes after reading a story about a patient who killed a girl in his day out (Green & Brock, 2000). When consumers transport into the story their attitudes and intentions change to reflect that story (Green, 2008), and some research shows that the effects become stronger over time (i.e., sleeper effect; Appel & Ritcher, 2007).

Transportation modulates empathy. Research shows that subjects were more emotionally transported into fiction (versus non-fiction), and showed higher empathy scores over a week (Bal & Veltkamp, 2013). On the contrary, those less emotionally transported became less empathic, which did not occur in the control group. Johnson (2012) showed participants more transported

into a story reported more situational empathy (Batson, Early, & Salvarni, 1997) and were more likely to pick up pens dropped by a confederate experimenter. Thus, transportation may modulate empathy and prosocial behaviors, too. Johnson and colleagues (2013) showed that participants in an imagery (versus non-imagery) condition reported more transportation, more affective empathy, and were three times more likely to help a new professor who needed participants for a study. Finally, Barraza and colleagues (2015) showed that stories laden with emotions affected autonomic nervous system and endocrine activity, and this activation was correlated with increased charity donations.

Stories as intervention strategy

While contact is critical for an individual to learn about an outgroup member's experience, a story about the experience can provide contact, information needed to understand the experience, and what it is like to undergo the experience (i.e., empathy). Direct interactions with outgroups are often undesirable and risky, but a story about it is not (Kidd & Castaño, 2013; Oatley, 2016; Pino & Mazza, 2016). Stories can be an imagined, but guided from the point of view of a character who can be a counter-stereotypical exemplar while providing context into his/her culture, personality, values, intentions, and goals (Johnson, 2013). Frequently, the only way for an individual to undergo another's experience might be through a story. For example, only a transgender individual can undergo what is like to feel that their gender expression and identity do not match. In such cases, persons have no other way of learning about or undergoing these feelings.

Stories do not just serve as means of indirect contact. They work through mechanisms such as simulation, empathy, and transportation, and have been employed in reducing intergroup discrimination. For instance, Johnson (2013) showed that those more transported into a story of a

counter-stereotypical Muslim woman saw Arab-Muslim as less aggressive, and affective empathy (e.g., tender, warm, moved) mediated the transportation and stereotype reduction relationship. In this way, story consumers may undergo empathic growth (Mar & Oatley, 2008). In a second study, those more transported into the Muslim story showed lower levels of anti-Arab/Muslim attitudes as a group (e.g., warm-cold, positive-negative, unfriendly-friendly), and affective empathy also mediated this effect. Johnson, Hoffman, and Jasper (2014) showed that those in a story condition rated Arabs as less angry, compared to a synopsis condition (the story content but leaving out the descriptive language, monologue, or dialogue) or a control group (a short history of the automobile). Also, Green (2004) showed that participants with more gay friends or family members and those familiar with Greek life were more transported, and the more transported, the more consistent were their beliefs with those of the story. Thus, stories do reduce negative views of stigmatized groups, and personal experiences augment the impact of the story.

Getting persons to process the story of the disliked other

An advantage of stories over contact interventions is that even if they are about a disliked outgroup, people seek stories out for entertainment, and this reduces counter-arguing or resisting their message (Dal Cin, Zanna, & Fong, 2015; Slater, Rouner, & Long, 2006; Zwarun, & Hall, 2012). Thus, often readers do not perceive stories as persuasion attempts. Changes in attitudes from stories work like misdirecting the message to non-targets so that the target does not fend off the message, thus reducing counter-arguing (Crano, Siegel, Alvaro, & Patel, 2007). Also, audiences suspend reality and their self-concept can take on that of the character (Busselle & Bilandzic, 2008; Kaufman & Libby, 2012), so they are distant from their beliefs (Green, 2004; Green & Brock, 2000). For example, before a mirror, participants failed to incorporate the

character's central traits, but in its absence, they assumed the character's traits and simulated its thoughts, behaviors, and goals (i.e., experience taking; Kaufman & Libby, 2012). Also, Kaufman and Libby (2012) showed that awareness that the story is about an outgroup hinders experience taking (a concept related to transportation and perspective taking) but delaying that information solved that issue. A study showed that revealing that a character was gay late compared to earlier in the story resulted in higher experience-taking in addition to more favorable attitudes toward gay people. A replication study using a Black character also found higher experience taking and lower hostility ratings of Blacks in Black-late compared to Black-early revelations. In the present dissertation, delayed information was used to mimic these latter studies. For example, the character stated moving North but did not stay from where and the unlawful status was not revealed until later in the story. Thus, the studies described in this section are critical because they show that stories could impact empathy and attitudes towards stigmatized groups, as long transportation is increased and threatening information (e.g., outgroup status) is delayed. Thus, indirect contact strategies might need to consider the story processes in explaining their findings.

Goals and Hypotheses

The vitriol to undocumented Latinx immigrants is evident in the treatment of Mexicans during the 2016 US presidential campaign, and in current events like the incredible reactions reported by some in their response to the caravan of refugees from Central America (Averbuch & Malkin, 2018). We propose that stories can address intergroup discrimination through story process because stories, as opposed to indirect contact, can feel real and can simulate social interactions. Stories transport individuals with a moderating impact on their attitudes about a disliked outgroup because the more transported, the more aligned readers will become with the character's intentions, goals, context, and culture of the outgroup. Also, we expect that because

story readers, listeners, or viewers are typically attracted to stories seeking entertainment, they will be less likely to resist or counterargue messages within stories because transportation results in readers distancing from their attitudes and not scrutinizing the story (Dal Cin, Zanna, & Fong, 2015; Van Laer, 2015). However, to get an individual to voluntarily process a story about an outgroup (someone they might dislike) involves delaying the information that they are about to be exposed to a disliked group or group member enough to increase transportation and decrease resisting the story.

Although the primary goal of this proposal is to test that story processes have better outcomes compared to non-story processes, an innovative component is whether the use of somatosensory cues can enhance the emotional resonance with story characters. To elaborate, because of the established a connection between empathy and mimicry (Iacoboni, 2009), the more particulars of precisely what the character is undergoing (i.e., somatosensory cues) are included in the story, the more the listeners will process the story physiologically and thus be more impacted by the emotions of the character. Similarly, the somatic marker hypothesis (SMH; Damasio, 1994) might be in line with this proposition. The SMH states that individuals' brains trigger somatic markers like raised heart rate and have skin conductance responses unknowingly when they are undergoing an emotion (see also Bechara & Damasio, 2005; Cantarella, Hillenbrand, Aldridge-Waddon, & Puzzo, 2018). For these reasons, in the present research, we compare a story with somatosensory cues to a story without somatosensory cues. Additionally, narrated statistics about immigrants are used as a comparisons group. First, statistics can be discounted more easily than life experiences (Salter, 2002). Secondly, stories are said to be a character's narration of her or his struggles in pursuit of her or his goals (Haven, 2007). Thus, by definition, a narrative without a character is not a story. Also, stories, but not

essays, improve social reasoning (Mar, 2007). Finally, psychology researchers have traditionally favored factual information over stories designed to induce attitude change. However, novels such as Uncle Tom's Cabin are credited with aligning people's attitudes in favor of abolition (Brock, Strange, & Green, 2002).

Hypotheses

Hypothesis 1: Stories will result in greater transportation, higher ratings of warmth and competence, and more prosocial behaviors toward undocumented Latinx immigrants, compared to a non-story.

Sub-hyp 1a: A story with physiological descriptions of emotions (i.e., somatosensory cues) experienced by an undocumented Latina immigrant will result in more transportation compared to the same story without somatosensory cues, or to a non-narrative (i.e., a narration of positive contributions of immigrants).

Sub-hyp 1b: A story with somatosensory cues will result in more positive attitudes to the character (i.e., an undocumented Latina immigrant), higher ratings of warmth and competence, and more prosocial behaviors than a story without somatosensory cues.

Sub-hyp 1c: A story with somatosensory cues will result in more positive attitudes to undocumented Latinx immigrants, higher ratings of warmth and competence, and more prosocial behaviors to undocumented Latinx immigrants, compared to the story without somatosensory cues and the non-narrative.

Sub-hyp 1d: Transportation moderates the relationship between story and immigrant attitudes, ratings of warmth and competence, and prosocial behaviors to undocumented immigrants.

Chapter II.

Methods

Participants

A total of 572 respondents completed the current study in full. They were recruited from Amazon's online service, Mechanical Turk from March 20, 2019 to April 19, 2019. Respondents were preselected with three initial questions asking their ethnicity plus two misleading questions: The type of computer they used and if they resided in one of four random *red states*. The latter two were included to diminish the possibility of their figuring out the basis on which they were selected—race. That is, only Caucasians over the age of 18 in states with relatively few Latinx immigrants were allowed to continue to the full survey. The rest were thanked and politely informed they did not meet the characteristics sought. This demographic was targeted because antagonism to undocumented Latinx immigrants seems to come from secluded White segment of the US population (Edsall, 2017). With White Republicans, the 2016 presidential candidate Donald Trump outperformed the 2012 candidate Mitt Romney only within the whitest suburbs and small towns (Drum, 2017). Some of these areas are undergoing shifts and growth of minority group members (Orfield & Luce, 2013). Minority growth may generate anger, fear, and animosity toward immigrants in ultra-White communities that were supposedly more insulated against those threats (Edsall, 2017). Areas traditionally and mostly Caucasian have a stronger reaction to an immigrant influx than those with a history of immigration (Newman, 2012). Therefore, candidate Trump's anti-immigrant message resonated most among those living in the least diverse, and most racially isolated white communities (Edsall, 2017). In contrast, he underperformed in states more exposed to immigrants such as California, Arizona, New Mexico, and Texas (Drum, 2017). For these reasons, it was strategic to collect data only in states that

report fewer overall Latinx populations. An intelligent cut off of fewer than five percent was deemed reasonable. Focusing data collection on insulated Caucasians was a way to ensure more accurate testing of the goal to create an intervention aimed at decreasing intergroup discrimination, and to decrease selection bias (i.e., that more empathic and tolerant individuals participate in the study), which might occur when a totally open selection process were used (e.g., Cadenas et al., 2018).

Materials

A story about an undocumented Latina immigrant was written specifically for this study and put into audio format (see APPENDIX C for written version of the audio clips). Briefly, the character relates her journey North. In the opening, her direction and point of departure are purposely ambiguous to retain the listener's attention (Kaufman & Libby, 2012). She states her motives for immigrating, which are to help her economically struggling parents and siblings. She believes that anyone would take a similar action to help his or her family. Although she acknowledges that immigrating without documents is not correct, she provides input into the arduous and lengthy process of applying for legal status to the US, for Mexicans. There were two versions of this story that differed only in the detailing of the emotions the character is undergoing. For instance, the less detailed story read, “I cried while leaving my mom at the airport,” and the more detailed story read, “tears were rolling down my face as I waved my mom goodbye at the airport.” To contrast these two story versions, an expository text narrating the positive contributions of immigrants and statistics about immigration from the Economics Policy Institute was used. Overall, this design resulted in three story clip conditions, Clip A (somatosensory cues), Clip B (no somatosensory cues), and Clip C (Statistics). All stories are

audio recorded and are similar in length, each lasting around eight minutes. The text version of these clips is provided in APPENDIX C under Story A, Story B, and Story C.

Procedures

All the data were analyzed using SPSS 20. Before full data collection, a pilot test was conducted on 10 respondents to ensure that the clips and everything else regarding the survey was working properly. The pilot test ensured that the story clips were functioning properly. The participants in the pilot study did not report any problems.

The study took the form of a survey with randomized story conditions implemented through MTurk. Before launching the survey, all materials were submitted to the Institutional Review Board (IRB) of Claremont Graduate University to ensure that they met the highest ethics and standards for human subjects protection. The institution deemed the current research except from IRB oversight.

During recruitment respondents were invited to evaluate the impact of different audio story elements to encourage participation into the present study. They were told that they would evaluate random stories and informed that they needed no experience for the task. In other words, the participants were not informed that that they would listen to a story related to immigration. This decision was taken to address the issue of self-selection. That is, this deception prevented collecting data on a sample of participants who might not have a problem listening to an immigrant story and who might be more positively bias toward immigrants.

The survey was planned as a posttest-only (non-longitudinal) design because once participants answered immigrant-related pretest questions, they would understand the purpose of the study when the treatment was introduced, which would affect their later responses (see Crano, Brewer, & Lac, 2015). The three stories were randomized to ensure respondents would

have an equal opportunity to be in the treatment group (the story with somatosensory cues), which was compared to a story without somatosensory cues, and a non-narrative stimulus. Thus, in all, the study was set up as a between-groups comparison, posttest-only design.

After consenting to participate in the study, participants answered a few non-threatening demographic questions like sex, age, and education to ease them into the task of the study. Then, to familiarize them with the task at hand (i.e., listening to a story), participants begun by listening to a short (nine-seconds) audio clip recorded using the voice-recording tool (female version) from Microsoft office word. Survey instructions informed participants that they would listen in to a test, and they could proceed after they complete it. The idea behind this was to have participants engage in a similar task to the actual task but a neutral one to avoid influencing their mood as much as possible. After this, the participants were presented with the instructions for the actual task. Again, they were told that they would listen to the story to evaluate different story elements—to withhold telling them the real purpose of the study. They were informed that expertise in evaluating stories was not required and that their task consisted only in listening attentively.

After participants heard the story assigned randomly, they responded to four dependent variables (see Table 1 APPENDIX A). These were presented randomly to avoid possible order effects. Towards the end, participants completed further measures such as trait empathy (i.e., perspective taking and empathic concern) that would be used to control for potential effects of dispositional empathy, and conservatism to control for ideology in the between subjects analyses. We asked participants to tell us whether they were in a quiet room alone or if they had headphones at the time of the survey. Also, we included an open-ended question welcoming any

input while they completed the survey. Finally, they were debriefed by informing them that the study was intended to affect the respondent's views of undocumented Latinx immigrants.

Variables

Dependent Variables

Transportation. This is a measure composed of three dimensions meant to assess engagement into, amount of imagery experienced, and feelings regarding the story. The scale used in this survey was the short version by Appel, Gnambs, Richter, and Green (2015). It included items such as "While I was reading the narrative, I could easily picture the events in it taking place" and "While listening to the narrative, I had a vivid image of the main character." These were assessed on five-point Likert-type items 1 (Not at all) to 5 (Very much). In the present MTurk sample, Cronbach's alpha for this variable was strong ($\alpha = .82$), according to convention.

Prosocial behaviors. To evaluate prosocial behaviors, participants were asked to indicate their willingness to donate to a pro-immigrant fund. They were told that the researchers would match their donating amount. Participants could donate .00 to .75 cents. This measure was a continuous ratio scale, and the reported results are mean average donations. However, the percentage of people who donated is also reported (see Table 2). Many more participants than expected (about one third) chose to donate a quantity of zero. Thus, the distribution for this variable appeared bimodal at the tails. While it was transformed to address the kurtosis, it was also dichotomized to conduct a categorical classification analysis.

Warmth and competence. Another dependent variable was an assessment of the warmth and competence (Fisk, Cuddy, Glick & Xu, 2002) of both the character of the story and immigrants in general (separately). Hence, it was adopted to assess (potentially biased)

perceptions of undocumented Latinx immigrants and the character of the story. Competence was assessed with five adjectives including competent, confident, independent, competitive and intelligent. Warmth was assessed with four adjectives including tolerant, warm, good-natured, and sincere. Respondents could rate these adjectives in a scale from 1 (*Not at all*) to 5 (*A great deal*). In the present MTurk sample, the Cronbach's alpha was high for warmth ($\alpha = .90$) and for competence ($\alpha = .78$), according to convention.

Negative attitudes to immigrants. Respondents also completed an assessment of their negative attitudes towards immigrants (Varela, Gonzalez, Clark, Cramer, & Crosby, 2013). It included items like "Immigrant's do not have valid reasons for leaving their native country" and "Immigrants are a threat to national security." Although this scale was aimed at assessing negative attitude to immigrants in general, participants were told to use this scale to assess undocumented Latinx immigrants specifically. This is a 12-item scale that makes use of five-point Likert-type ratings from 1 (*Completely disagree*) to 5 (*Completely agree*). Note that the higher end of the scale indicates more negative attitudes toward undocumented Latinx immigrants. One exception is the first item, "Immigrants should be given the same rights as native citizens." For the purpose of interpretation, this scale was reversed such that lower scores by item indicated more negative attitudes and the higher scores indicated more positive attitudes. In essence, it was turned into a positive attitudes scale. In the present MTurk sample, the Cronbach's alpha for this scale was high ($\alpha = .92$), according to convention.

Negative attitudes to the character. This was assessed with three adjectives including whether the respondents would deem the character cold, immoral, and untrustworthy. Respondents could rate these adjectives in a scale from 1 (*Not at all*) to 5 (*A great deal*). In the present MTurk sample, the Cronbach's alpha for this scale was high ($\alpha = .89$), according to

convention. Note that higher scores on this scale indicated more negative attitudes to the character and this scale was not reversed.

Independent Variables

Clip type. The independent variable was formed on the basis of three audio-narrated story clips. Clip A (i.e., the story with somatosensory cues), Clip B (i.e., the story without somatosensory cues), and Clip C, (i.e., the story with the positive statistics about immigrants and undocumented immigrants). Initially, Clip A was coded as 1, Clip B as 2, and Clip C as 3. Sometimes these were dichotomized. To compare somatosensory cues versus no somatosensory cues, Clip A was coded as 1, and Clip B and C as 0. To compare stories versus statistics, Clip A and B were coded as 1, and Clip C as 0. Another version was Clip A as 1, Clip B as 2, and Clip C as system missing to compare the enhanced story to the non-enhanced story alone.

Transportation. This is the same scale as above, but it was also used as a predictor variable in the hierarchical linear regression analysis.

Covariates

Trait empathy. Trait empathy was assessed with two subscales from the Interpersonal Reactivity Index (Davis, 1980, 1983): *Perspective taking* (PT), which measures people's ability to step into another's shoes. It includes items such as "I sometimes try to understand my friends better by imagining how things look from their perspective" and "When I'm upset at someone, I usually try to 'put myself in their shoes' for a while." The other subscale is *Empathic concern* (EC), which purports to measure people's ability to understand another's feelings. It includes items such as "I often have tender, concerned feelings for people less fortunate than me" and "When I see someone being taken advantage of, I feel kind of protective towards them." Both scales are Likert-type and rated on 5-point scales. The version used in this study was the

Interpersonal Reactivity Index--Brief Form BIRI (Ingoglia, LoCoco, & Albiero, 2016). Hence, both scales only included four items each. In the present MTurk sample, the Cronbach's alphas for both PT ($\alpha = .87$) and for EC ($\alpha = .86$) were considered high, according to convention.

Political conservatism. This was an evaluation of political orientation. It assessed party preference, outlook toward the economy, and outlook toward social issues (Kim & Tidwell, 2014). It included items like, "How would you describe your political party preference" and "How would you describe your political outlook with respect to economic issues?" It was a three-item measure rated on a seven-point scale from 1 (*Very Liberal*) to 7 (*Very Conservative*). In the present MTurk sample, Cronbach's alpha for this variable was high ($\alpha = .94$), according to convention.

Environment. Finally, an assessment of the environment in which respondents completed the survey was included in the survey. It included two items: "Were you in a room alone?" and "Were you wearing headphones. Participants could answer these two items as "False" or "True." The purpose of these items was to assess issues of transportation if too many respondents took the survey in a noise environment.

Analysis and Predictions

In the first hypothesis, the prediction was that respondents in the story clip conditions, whether with somatosensory cues or not, would report higher scores on all four dependent variables (i.e., transportation, warmth and competence, prosocial behaviors, and positive attitudes) toward undocumented Latinx immigrants compared to those who heard the statistics clip. To test this, a variable was created where both stories (i.e., somatosensory cues and no somatosensory cues combined) were coded as 1 (N = 391) and statistics as 2 (N = 181). Then, we compared stories versus non-stories on the four dependent variables via an omnibus

multivariate analysis of covariance (MANCOVA), while controlling for the effects of covariates such as age, sex, education level, trait empathic concern and perspective taking, and political conservatism. While MANCOVAs do exert stricter experimental control, control for confounding variables, and return a purer measure of the treatment (Field, 2013; Miller & Chapman, 2001), they might be more effective for variables that are more clearly related such as different components of a measured variable. It the present study, the outcome variables were related but not as strongly as different components of a variable. For these reasons, the same analyses were confirmed via univariate ANCOVAs.

In a second hypothesis (1a), the prediction was the story clip conditions with somatosensory cues (i.e., the clips with physiological descriptions of emotions experienced by the character) would be particularly effective on inducing transportation on the respondents compared to both the story without the somatosensory cues combined with the statistics. To test this, a variable was created where somatosensory cues as 1 (N = 207) and both the story clip without the somatosensory cues and the statistics combined were coded as 2 (N = 365). Then, an omnibus multivariate analysis of covariance (MANCOVA) compared the somatosensory cues versus the no somatosensory cues conditions on transportation, while controlling for the effects of covariates such as age, sex, education level, trait empathic concern and perspective taking, and political conservatism. For this hypothesis, the same analyses were also tested via univariate ANCOVAs for the same reasons as explained previously.

The goal of hypothesis 1b was to distinguish the effects that the treatment (i.e., stories with somatosensory cues) would have on an individual undocumented Latina immigrant, the subject of the story, as opposed to the group, undocumented Latinx immigrants. The prediction was that the story with somatosensory cues would induce more transportation and it would also

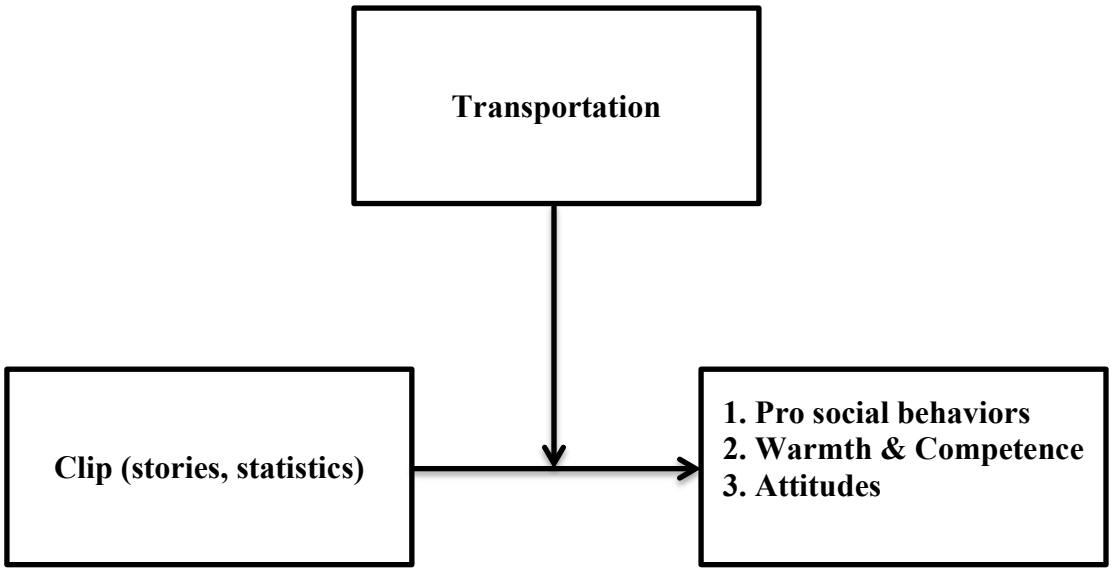
be particularly effective on affecting the respondent's attitudes, prosocial behaviors, and ratings of warmth and competence toward the "character of the story," compared to the story without the somatosensory cues. These clips were not compared to the statistics clip because it did not have a character. To test this hypothesis, a dichotomous clip type variable was created where the clip with the somatosensory cues was coded as 1 (N = 207), the clip with no somatosensory cues was coded as 2 (N = 184) and the clip with the statistics was coded as missing (system missing). Then, a one-way omnibus MANCOVA compared the somatosensory cues versus no somatosensory cues conditions on four depending variables (i.e., transportation, prosocial behaviors, negative attitudes, ratings of warmth and competence toward the character of the story), while controlling for the effects of covariates such trait empathic concern and perspective taking as well as political conservatism. In this analysis, the interaction between clip and empathic concern was also controlled. The reason for this was a violation of the homogeneity of the regression of slopes, an assumption that must be met to conduct multivariate analysis. Again, the same analyses were tested via univariate ANCOVAs.

Similarly as in hypothesis (1a), it was also predicted in hypothesis (1c) that respondents in the story clip conditions with somatosensory cues (i.e., the clips with physiological descriptions of emotions experienced by the character) would report more positive attitudes, prosocial behaviors, and higher ratings of warmth and competence, compared to both the story clip without the somatosensory cues in conjunction with the statistics clip. To test this, the same independent variable used in the hypothesis 1a analysis was used where clip type (Cues = 1, No cues = 0). Then, an omnibus one-way MANCOVA was used to compare somatosensory cues versus no somatosensory cues on the three dependent variables while controlling for the effects of covariates such as age, sex, education level, trait empathic concern and perspective taking, and

political conservatism. Again, the same analyses were tested via univariate ANCOVAs for reasons explained earlier.

The final hypothesis (1d) attempted to address the idea that a tool in reducing discrimination to a group might be one from story processes such as transportation rather an effect such as indirect contact to an individual or group. Therefore, the prediction was that transportation would moderate the relation between stories and the dependent variables. To run these analyses, we used a variable where the clip with no stories was coded as 0 (i.e., the statistics clip) and clips with both somatosensory cues and no somatosensory cues were coded as 1. Because the moderating effects were predicted on multiple dependent variables, various hierarchical regression analysis were conducted where all the continuous variables (i.e., transportation, prosocial behaviors, warmth, competence, and attitudes) were centered to reduce multicollinearity, and an interaction term between stories and transportation was created. Analyses for this hypothesis were conducted using hierarchical linear regression.

Moderation Model



Chapter III.

Results

Demographic results

In total 572 respondents took part in the present study. The average age for participants was about 37 years old (SD, 11.94). Most participants were between 18 and 50 years old (see Table 2 for all demographic results). The present sample contained slightly more females (54.2%) than males. Also, the sample was relatively educated. About 40% of participants had a four-year college degree.

In regards to the environment, while completing the survey, 546 of 572 respondents (about 95%) reported being in a room alone and 422 (73%) reported wearing headphones. Of those who were in a room alone, 406 (74.4%) of them were also wearing headphones. Only 4 of 20 respondents not in a room alone (0.7%) were also not wearing headphones, and 16 of 20 respondents were not alone (3%), but they wearing headphones. Thus, noise might not have played a major role in affecting transportation since most people reported being alone. Regarding issues with the clips or the survey, some participants reported noticing the clips sounded sped up, in the overall example, but not in the pilot test.

Table 2

Demographic Characteristics of Participants (N = 572)

	n	Mean or %	SD
Age at time of survey (years)			
18-30	234	40.9%	
31-50	243	42.5%	

51-73	95	16.6%	
Total	572	36.75	11.97
Sex			
Male	263	46.0%	
Female	309	54.0%	
Donations	517		
Yes	333	64.4%	
No	184	35.6%	
Education			
Less than high school	2	0.3%	
High school graduate	73	12.8%	
Some college	133	23.3%	
2 year degree	46	8.0%	
4 year degree	229	40.0%	
Professional degree	78	13.6%	
Doctorate	11	1.9%	

Note: Numbers without percentage symbols are averaged

Hypothesis 1 results

The first hypothesis compared stories versus statistics predicting that stories would result in greater transportation, higher ratings of warmth and competence, and more prosocial behaviors to undocumented Latinx immigrants. The efficacy of the intervention on all outcome variables was first assessed using a one-way multivariate analysis of covariance (MANCOVA).

Age, sex, education level, perspective taking, empathic concern, and political conservatism were statistically controlled. The analysis returned a statistically significant difference between the clip types on the combined dependent variables after controlling for the covariates, $F(5, 389) = 11.305$, $p < .001$, Wilks' $\Lambda = .87$, partial $\eta 2 = .13$. However, examining the results by each of the outcome variables separately, the clip conditions only appeared to differ in transportation and prosocial behaviors. To confirm these results and because the MANCOVA is a very conservative test and it reduced the current results by about 33% (due to missing data), univariate analyses were performed. The same results were confirmed, controlling for the covariates, respondents in the story condition ($M = 3.66$, $SD = .88$) reported higher means in transportation compared to those in the statistics condition ($M = 3.15$, $SD = .87$), $F(1, 531) = 53.769$, $p < .001$, partial $\eta 2 = .093$ (see Figure 1 APPENDIX B). Also those in story conditions ($M = .89$, $SD = .73$) reported higher average donations ($M = .79$, $SD = .74$), $F(1, 531) = 2.807$, $p < .05$, partial $\eta 2 = .006$, particularly when the donations variable was log transformed. However, those in story conditions did not report higher ratings of warmth and competence (separately) or more positive attitudes to undocumented Latinx immigrants, than those in the statistics clip condition (see Table 3 for univariate results).

Table 3.

Mean differences toward undocumented Latinx immigrants as a function of clip

	Stories		Statistics				
Measure	Mean	(SD)	Mean	(SD)	*p*	*F(1, 512)*	η^2
Transportation	3.67	0.88	3.15	.87	.001	53.77	.093
Prosocial behaviors	21.47	25.70	18.52	24.50	.076	2.072	.004

Prosocial behaviors Log	.89	.73	.79	.74	.047	2.807	.006
Warmth & Competence to ULIs	3.26	0.77	3.27	0.73	.384	0.088	.000
Competence	3.17	0.76	3.27	0.73	.075	2.08	.004
Warmth	3.36	0.92	3.28	0.89	.161	.99	.002
Attitudes to ULIs	3.32	1.02	3.40	1.02	.245	.478	.001

Note: The means reported are not estimated marginal means, so they do not account for covariate effects. P values reported represent one directional value.

Hypothesis 1a and 1c results

Hypotheses 1a tested the idea that the clip with the somatosensory cues would increase the effects of transportation on respondents, compared to both the story without the somatosensory cues or the statistics clips. Hypothesis 1c asserted similar predictions that respondents hearing the clips with somatosensory cues would donate more, rate undocumented Latinx immigrants warmer and more competent, and also would report higher scores on the reversed negative attitudes scale (i.e., more positive attitudes). Thus, hypotheses 1a and 1b were tested together. The efficacy of the somatosensory cues on the outcome variables was assessed using a one-way MANCOVA with age, sex, education, perspective taking, empathic concern, and political conservatism as covariates. The results showed a statistically significant difference between the clip types on the combined dependent variables after controlling for the covariates, $F(5, 389) = 3.544$, $p < .01$, Wilks' $\Lambda = .96$, partial $\eta 2 = .045$. Again, univariate analyses were performed controlling for the covariates. Similarly as the previous analysis, the results showed that respondents in the somatosensory cues condition (i.e., the enhanced condition; $M = 3.63$,

SD= .86) reported higher means in transportation compared to those in the no somatosensory cues condition (*M*= 3.41, *SD*= .92), $F(1, 531) = 12.614$, $p < .001$, partial $\eta 2 = .024$ (see Figure 2 APPENDIX B). The results for donations followed the same patter. Those in the enhanced conditions had higher average donations (*M*= .91, *SD*= .74) compared to those in the non-enhanced condition (*M*= .83, *SD*= .74), $F(1, 531) = 3.80$, $p < .05$, partial $\eta 2 = .007$. Again, those in story conditions did not significantly report higher ratings of warmth, and competence (separately) or more positive attitudes to undocumented Latinx immigrants (see Table 4 for overall results).

Table 4.

Mean differences toward undocumented Latinx immigrants as a function of clip

	Somatosensory Cues		No Somato-sensory Cues				
Measure	Mean	(SD)	Mean	(SD)	*p*	*F(1, 512)*	η^2
Transportation	3.63	0.86	3.42	0.92	.001	12.61	.024
Prosocial behaviors	21.91	25.66	19.73	25.16	.047	3.37	.006
Prosocial behaviors LOG	.91	.74	.83	.74	.026	3.80	.007
Warmth & Competence	3.29	0.75	3.25	0.77	.212	.643	.001
Competence	3.23	0.74	3.19	0.74	.183	.819	.002
Warmth	3.35	0.88	3.33	.91	.161	.99	.002
Attitudes	3.25	0.98	3.40	1.02	.111	1.50	.003

Note: The means reported are not estimated marginal means, so they do not account for covariate effects. P values reported represent one directional value.

Hypothesis 1b results

Hypothesis 1b compared enhanced stories (i.e., those with somatosensory cues) to non-enhanced stories anticipating that enhanced stories would result in greater transportation, more donations, higher ratings of warmth and competence, and less negative attitudes to the character in the story, an undocumented Latina immigrant. The efficacy of the intervention on all outcome variables was first assessed using a one-way MANCOVA. Age, sex, education level, perspective taking (PT), empathic concern (EC), and political conservatism were statistically controlled as well as the interaction between EC and clip type. A statistically significant difference between the clip types on the combined dependent variables after controlling for the covariates, $F(5, 272) = 3.005$, $p = .012$, Wilks' $\Lambda = .95$, partial $\eta 2 = .06$ emerged. Examining the outcome variables independently the clip conditions only appeared to differ in warmth and competence to the character. Another exception might be negative attitudes since it was close to reaching statistical significance (see APPENDIX A for a description of the variables used in this analaysis). To confirm the multivariate findings, univariate tests were performed. The analyses confirmed two hypothesized predictions. Controlling for the covariates, respondents in the enhanced story condition ($M= 3.85$, $SD= .65$) reported higher means in ratings of competence to the character compared to those in the non-enhanced story ($M= 3.81$, $SD= .65$), $F(1, 334) = 6.262$, $p < .05$, partial $\eta 2 = .019$ (see Figure 4 APPENDIX B). Also, participants in the enhanced story condition ($M= 1.55$, $SD= .94$) displayed lower means in negative attitudes to the character compared to those in the non-enhanced story condition ($M= 1.62$, $SD= .65$), $F(1, 334) = 3.841$, $p = .026$, partial $\eta 2 = .012$ (see Figure 5). A finding at odds with hypothesized predictions is that respondents in the enhanced story condition ($M= 4.02$, $SD= .80$) reported lower means in ratings of warmth to the character compared to those in the non-enhanced condition ($M= 4.08$, $SD= .78$), $F(1, 334) = 12.291$, $p < .01$, partial $\eta 2 = .036$.. Finally, these two story conditions did not

significantly differ, as opposed to predictions, in transportation or prosocial behaviors toward the character of the story (see Table 5 for all univariate results).

Table 5.

Mean differences toward an undocumented Latina immigrant as a function of clip

	Story A		Story B				
Measure	Mean	(SD)	Mean	(SD)	*p*	*F(1, 334)*	η^2
Transportation	3.84	0.86	3.69	0.90	.240	0.500	.001
Prosocial behaviors	21.91	25.66	20.96	25.82	.352	.145	.000
Competence	3.85	0.65	3.81	0.65	.006	6.26	.019
Warmth	4.02	0.80	4.08	0.78	.001	12.29	.036
Attitudes	1.55	0.94	1.62	0.96	.026	3.841	.012

Note: Note: The means reported are not estimated marginal means, so they do not account for covariate effects. P values reported represent one directional value.

Hypothesis 1d results

The last hypothesis predicted that transportation would enhance the effects of stories on the outcome variables. In other words, those in the story condition who scored higher on transportation would donate more, rate undocumented Latinx immigrants as more warm and competent, and would score higher on the positive attitudes scale, compared to participants who received the statistics intervention. To test this hypothesis, a hierarchical linear regression was performed. The first step tested the unique effects of stories on prosocial behaviors. The second step tested the unique effects of stories when transportation was added in the model. Finally, the last step tested the unique effects of the interaction between stories and transportation on the outcome variable. To perform these analyses, the clip type (stats = 0, stories =1) was first entered

as a predictor of prosocial behaviors. Then clip type was entered as predictor along with transportation. Finally, clip type was entered as an interaction term with transportation.

A layered cross-tabulation was performed as well, to better understand any interaction patterns in the data. Because these were not planned analyses, no formal categorical tests of the relationship were performed. In this procedure, the classifications of clip type and three dependent variables (prosocial behaviors, warmth, and competence) were assessed separately for two levels of transportation (low, high). The outcome variables were dichotomized. For example, scores of competence between 1 and 3.15 (about 43%) were coded as 0 and the rest coded as 1 for a dichotomous variable: competent (no = 0, yes = 1). Scores of transportation between 1-3.40 (about 48%) were coded as 0 and the rest as 1 for a dichotomous variable: transportation (low = 0, high = 1). Warmth was coded similarly as competence, and prosocial behaviors were coded into donated (no = 0, 1 = yes). These variables were split where the distribution naturally approximated 50% on the lower and upper halves (i.e., mean split). It is worth nothing that distribution of respondent's responses for the outcome variables (warmth and competence in particular) was concentrated around the middle. Most people chose neutral scores.

Prosocial behaviors

In the first step, the results show that clip type did not significantly predict donations to an immigrant fund, $R^2 = .002$, $F(1, 481) = 1.021$, $p = .313$. At step two, transportation was entered to look at the effects of transportation over and above clip type. After controlling for the effects of clip type, transportation accounted for a significant proportion of variance in donations, $\Delta R^2 = .061$, $F(2, 481) = 31.223$, $p < .001$ (see Table 6 for overall results).. Specifically, as can be observed in the second step, only transportation significantly uniquely predicted donations ($\beta = .256$, $p < .001$), beyond clip type. At step three, the interaction term did

not account for any significant proportion of donation variance, ΔR^2 = .0001, $F(3, 481)$ = .005, p = .944. When the continuous variables were centered to reduce multicollinearity, the interaction term is more related to donations (r= .21, $p < .001$) than when is not centered (r= .12, $p < .01$). Also, even when the continuous variables are centered, the relationship between the interaction term (story x transportation) and transportation is very highly correlated (r= .82, $p < .001$). The correlation changes from .54 (uncentered) to .82 (centered). Thus, this might be affecting whether the unique contribution of the interaction can be observed. All the analyses were performed both with centered and uncentered variables making little difference in the results. For these reasons, the numbers in the tables represent uncentered results.

Table 6

Moderation Effects of Clip Type on Transportation in Predicting Prosocial Behaviors (N=493)

Step	Variable	r	ΔR^2	B	SE_B	Beta
1	**Clip (Stats = 0, Stories = 1)**	**.046**	**.002**	**2.52**	**2.50**	**-.046**
2	Clip			-1.02	2.50	-.019
	Transportation	**.25*****	**.061*****	**7.25*****	**1.30**	**.256*****
3	Clip			-.372	9.55	-.007
	Transportation			7.38***	2.28	.260***
	Transportation x Story	**.12****	**.0001**	**-.196**	**2.77**	**-.014**
	Constant			-4.36***	7.48	

Note: *$p < .05$; **$p < .01$; ***$p < .001$; Cumulative R^2= .063; Adjusted R^2= .057 are from the final model at step 3.

Looking at how the data for prosocial behaviors were distributed, about a third of respondents in this sample chose 0 cents as their amount of donation. For observation purposes,

this variable was dichotomized by 2 (donations: No, Yes) and cross-examined with clip type 3 (A, B, C) by transportation 2 (level: high, low). This classification analysis showed that higher percentages of people donated if they saw the clip A but only at high levels of transportation (see Table 6.1). Thus, this could indicate that the data is trending towards an interaction of clip type and transportation, where those in story conditions (i.e., clip A and B) who are also more transported might donate more toward an immigration fund. At the same time, it might indicate a trend towards an effect of the enhanced stories as well (i.e., clip A; see Figure 4a & 4b APPENDIX B).

Table 6.1

Donations by Clip Type by Transportation Level (N = 481)

Transportation			Clip Type		
			A	B	C
Low	Donated	No	32 (31.7%)	27 (26.7%)	42 (41.6%)
	Donated	Yes	38 (29.5%)	34 (26.4%)	57 (44.2%)
High	Donated	No	27 (38.0%)	26 (36.6%)	18 (21.1%)
	Donated	Yes	78 (43.3%)	64 (35.6%)	38 (21.1%)

Note: The percentages provided are row percentages

Warmth

The results for warmth were similar to the results for prosocial behaviors. In the first step, the results show that clip type did not significantly predict ratings of warmth to undocumented Latinx immigrants, R^2 = .001, $F(1, 481) = .297$, $p = .586$. At step two, transportation was entered to consider its effects over and above clip type. After controlling for the effects of clip type, transportation accounted for a significant proportion of ratings of warmth variance, ΔR^2 = .120, $F(2, 481) = 65.633$, $p < .001$ (see Table 7 for overall results). This would indicate that those who were more transported rated undocumented Latinx immigrants higher in warmth. Specifically, only transportation significantly, uniquely predicted ratings of warmth toward undocumented Latinx immigrants (β= .36, $p < .001$), beyond clip type. At step three, the interaction term did not account for any significant proportion of warmth variance, ΔR^2 = .0001, $F(3, 481) = .106$, $p = .745$. These results did not differ when the continuous variables were centered to reduce multicollinearity. However, when the continuous variables were centered, the interaction term (story x transportation) and transportation were highly correlated ($r = .83$, $p <$ .001). The correlation increases from .57 to .83. Thus, this might be affecting whether the unique contribution of the interaction can be observed. Again, Table 6 results were generated with uncentered variables.

Table 7

Moderation Effects of Clip Type on Transportation in Predicting Warmth (N=485)

Step	Variable	r	ΔR^2	B	SE_B	Beta
1	**Clip (Stats = 0, Stories = 1)**	**.025**	**.001**	**.048**	**.088**	**.025**
2	Clip			-.144	.086	-.074

	Transportation	**.34*** **	**.12*** **	**.357*** **	**.044**	**.360*** **
3	Clip			-.247	.329	-.128
	Transportation			.335***	.081	.338***
	Transportation x Story	**.14** **	**.0001**	**.031**	**.097**	**.065**
	Constant			2.231***	.263	

Note: *$p < .05$; **$p < .01$; ***$p < .001$; Cumulative R^2= .121; Adjusted R^2= .115 are from the final model at step 3.

A similar classification analysis was conducted for observation purposes. The warmth construct was dichotomized by 2 (warm: No, Yes) and cross-examined with clip type 3 (conditions: A, B, C) by transportation 2 (level: high, low). These classification analysis revealed that higher percentages of people rate undocumented Latinx immigrants as warm if they saw clip A, but only at higher levels of transportation (see Table 7.1). Again, this might indicate that the data is trending towards an interaction of clip type and transportation, where those in story conditions (i.e., clip A and B) who are also more transported might rate undocumented Latinx immigrants as warmer (see Figure 5a & 5b APPENDIX B).

Table 7.1

Ratings of Warmth by Clip Type by Transportation Level (N = 485)

			Clip Type		
Transportation			A	B	C
Low	Warm	No	42 (34.1%)	33 (26.8%)	48 (39.0%)
	Warm	Yes	21	35	53

			(19.3%)	(32.1%)	(48.6%)
High	Warm	No	34 (41.0%)	29 (34.9%)	20 (24.1%)
	Warm	Yes	72 (42.4%)	63 (37.1%)	35 (20.6%)

Note: The percentages provided are by row

Competence

The results of the first step of the hierarchical regression show that the variability in ratings of competence accounted for by clip type was not statistically significant, R^2 = .005, F(1, 485) = 2.288, p = .131. At step two, transportation was entered to consider its effects over and above clip type. After controlling for the effects of clip type, transportation accounted for a significant amount of variance in ratings of competence, ΔR^2 = .087, F(2, 485) = 45.975, p < .001 (see Table 8 for overall results). Controlling for the effects of clip type, transportation significantly predicted ratings of competence of undocumented Latinx immigrants (β= .31, p < .001), and controlling for the effects of transportation, clip type also significantly predicted ratings of competence (β= - .15, p < .001). While these results indicate that more transported individuals rate undocumented Latinx immigrants as more competent, these results also indicate that respondents in the statistics condition rate undocumented Latinx immigrants higher in competence. In the third step, the interaction term did not add significant variance to the model (ΔR^2 = .0001, p > .05). When the continuous variables were centered, the only difference was that the interaction term was significantly related to ratings of competence (r = .24, p < .001); it was not when uncentered (see Table 8). Also, even when the continuous variables are centered,

the relationship between the interaction term (story x transportation) and transportation is very highly correlated (r= .83, p < .001). The correlation increased from .57 (centered) to .83 (uncentered). Thus, this might be affecting whether the unique contribution of the interaction can be observed.

Table 8

Moderation Effects of Clip Type on Transportation in Predicting Competence (N=485)

Step	Variable	r	ΔR^2	B	SE_B	Beta
1	**Clip (Stats = 0, Stories = 1)**	**-.07'**	**.005**	**-.109**	**.072**	**-.069**
2	Clip			-.243***	.072	-.153***
	Transportation	**.26*** **	**.09*** **	**.25*** **	**.037**	**.306*** **
3	Clip			-.222	.276	-.139
	Transportation			.255***	.068	.312***
	Transportation x Story	**.03**	**.0001**	**-.007**	**.081**	**-.017**
	Constant			2.467***	.220	

Note: *p < .05; **p < .01; ***p < .001; Cumulative R^2= .091; Adjusted R^2= .086 are from the final model at step 3. 'p = .066

Again, for observation purposes, the competence variable was dichotomized (competent: No, Yes) and cross-examined by clip type 3 (condition: A, B, C) by transportation 2 (level: high, low). These data showed that higher percentages of people rate undocumented Latinx immigrants as competent if they saw the clip A and at higher levels of transportation (see Table 8.1). Thus, this could also indicate a trend towards an interaction of clip type and transportation, where those in story conditions who are also more transported might rate undocumented Latinx immigrants as more competent (see Figure 6a & 6b APPENDIX B).

Table 8.1

Ratings of Competence by Clip Type by Transportation Level (N = 485)

Transportation			Clip Type		
			A	B	C
Low	Competent	No	39 (31.7%)	40 (32.5%)	44 (35.8%)
	Competent	Yes	24 (22.0%)	28 (25.7%)	57 (52.3%)
High	Competent	No	39 (42.4%)	40 (43.5%)	13 (14.1%)
	Competent	Yes	67 (41.6%)	52 (32.3%)	42 (26.1%)

Note: The percentages provided are by row

Positive attitudes

At the first step, the variability accounted by clip type in positive attitudes was not significant, R^2 = .002, $F(1, 493) = .964$, $p = .327$. When transportation is added to the model at step two, it accounted for significant variance in predicting positive attitudes to undocumented Latinx immigrants, ΔR^2 = .016, $F(2, 493) = 7.884$, $p = .005$. Further, when the interaction term was added to the model controlling for clip type and transportation, the interaction term also accounted for significant variance, ΔR^2 = .017, $F(3, 493) = 8.401$, $p = .004$ (see Table 9). Specifically, the interaction significantly predicted positive attitudes to undocumented

immigrants over and above (β = .59, p = .004) clip type (β = -.57, p = .001) and transportation (β = -.06, *n/s*). In this latter step, the unique contribution of transportation was not significant (β = -.06, p = .435). These analyses would indicate that at low levels of transportation, the statistics intervention induced more positive attitudes, but at high levels of transportation, respondents in the story condition had more positive attitudes to undocumented Latinx immigrants (see Figure 3 APPENDIX B). All the analyses were also performed with centered continuous variables to detect any effects that could have been weakened by multicollinearity. When the continuous variables were centered, the correlation between transportation and the interaction term increases from .56 to .82. However, in this case, the interaction makes a unique contribution whether the model is performed with centered variables or not.

Table 9

Moderation Effects of Clip Type on Transportation in Predicting Positive Attitudes (N=493)

Step	Variable	r	ΔR^2	B	SE_B	Beta
1	**Clip (Stats = 0, Stories = 1)**	**-.044**	**.002**	**-.097**	**.099**	**-.044**
2	Clip			-.174’	.102	-.079’
	Transportation	**.11****	**.016****	**.147****	**.052**	**.131****
3	Clip			-1.243***	.382	-.566***
	Transportation			-.072	.092	-.063
	Transportation x Story	**.028**	**.017****	**.323****	**.111**	**.585****
	Constant			3.628***	.299	

Note: *p < .05; **p < .01; ***p < .001; Cumulative R^2 = .034; Adjusted R^2= .028 are from the final model at step 3. ‘p = .088

Chapter IV. Discussion

Multivariate and Univariate Effects

The aim of testing the first hypothesis was to establish that stories—the clips where a character narrates her struggles to achieve a goal—would result in transportation, more prosocial behaviors, higher ratings of warmth and competence and more positive attitudes towards undocumented Latinx immigrants, compared to a clip with an unseen moderator discussing statistics on immigration. These variables were selected to encompass different components of stigma/discrimination toward an outgroup, including attitudes (i.e., how respondents evaluate undocumented Latinx immigrants), behaviors (i.e., whether respondents would donate to an immigrant fund), and perception (i.e., how undocumented Latinx immigrants are categorized). For this hypothesis, significant results were attained on the combined outcome variables. However, when the outcome variables were analyzed individually, the results only confirmed aspects of the predictions. Respondents who heard the audio stories of an undocumented Latina immigrant were more transported than those who heard the clip with positive statistics about the targeted group, and these individuals also exhibited higher average donations. However, the stories themselves did not have a statistically significant effect on the respondents rating undocumented Latinx immigrants as warmer or as more competent or did it increase their positive attitudes to them.

It is worth pointing out that non-statistical significance does not mean that the relations between these variables are non-existent; non-significance could also indicate issues with power in detecting the effects or other issues (McClelland & Judd, 1993). The same analysis performed with a logarithmic transformation of the prosocial behaviors measure brought the difference between stories and statistics in prosocial behaviors to trend significance. Performing a

transformation on this variable was not necessary as there were no serious violations of normality according to SPSS. However, about 36% of respondents chose zero as their donating amount. While it appears that too many respondents chose not to donate, about 66% of donated. Independently, this variable did not follow a normal bell shape distribution of responses, and it might better represent a dichotomous variable where some people donated and others did not. Other reasons for lack of statistical significance could be related to the treatment not being strong enough to produce detectable differences. In this data, one thing is certain. The analysis presented here provides statistical results for a posttest-only design (non-longitudinal). Thus, we cannot assess possible delayed effects of the treatment.

The purpose of testing hypothesis 1a and 1c was to show that stories could be enhanced with physiological descriptions of emotions (i.e., somatosensory cues) and that this enhancement would produce a mimicking effect. That is, respondents would be more prone to feel physiological descriptions mentioned in the audio clip. In turn, respondents in the enhanced condition would score higher on the outcome variables particularly more transportation. However, only hypothesis 1a was confirmed. Again, significant results were attained on the combined outcome variables. But when these were considered individually, the clip with the somatosensory cues only produced more transportation, in comparison to the other two clips (i.e., the other two clips were combined because neither were enhanced). Aside from this, the only other noteworthy result was that when comparing enhanced clips to non-enhanced clips on a logarithmic transformed measure of prosocial behaviors, the differences between conditions also reached statistical significance. Thus, participants in the enhanced clip conditions donated in higher averages than those in the non-enhanced story conditions. A larger trend for those in the

enhanced clip conditions to donate more compared to the other clips might have emerged with a larger sample.

One study that might be important to bring into this discussion is that of Krause and Rucker (2019). They argue that in persuasion attempts individuals presented with strong facts do not generate as many thoughts as to when the facts are weak. In their experiments, they found that their participants were more persuaded by embedded facts within a story if the facts were weak, but if the facts were strong, the facts were enough to persuade participants. Thus, one possibility is that the statistical facts presented in the present work were strong and outweighed the stories. However, as discussed earlier, the somatosensory cues almost differed from the statistic condition in donations when it was transformed to reflect a more normal distribution. It is important to note that the research by Krause and Rucker deal with topics where there might not be as much vested interest (Crano, 1997) by respondents as in the present work. In addition, transportation played a large role in this research as will be discussed in the moderation effects below.

The idea behind testing hypothesis 1b was to examine localized versus generalized effects. To elaborate, sometimes treatments or interventions can produce statistically significant effects but only on a segment of the targeted group and not on the whole group of interest (see Batson et al., 1997). For these reasons, the tests here included whether respondents in the enhanced stories would be more transported, donated more, rated an undocumented Latina immigrant (i.e., the character) higher in warmth and competence, and would also express less negative attitudes toward her, after controlling for age, sex, education level, perspective taking (PT), empathic concern (EC), and political conservatism. In this case, the effects of the interaction between EC and clip were also statistically controlled. The analysis showed as

predicted that respondents in the clip conditions appeared to rate the character as more competent and expressed less negative attitudes, compared to those in then non-enhanced story condition. Contrary to predictions, participants rated the character as warmer if they were in the non-enhanced story condition.

Regarding the protagonist of the story, the enhanced story clips appear to have produced a change in her categorization. Currently, people unexposed undocumented Latinx immigrants or "their story" might not trust them and regard them as a threat to their resources because of the way they are described in the media. In this research, the protagonist was an undocumented Latina immigrant who overcame obstacles of unlawful status, learned a new language, and became a Ph.D. candidate could have elicited the affective feeling of envy (Caprariello, Cuddy, & Fiske, 2009; Fiske, Cuddy, Glick, & Xu, 2002). To elaborate, studies under the framework of the SCM show that perceived intergroup competition reduces an outgroup's stereotypic warmth and their perceived status can affect their stereotypic competence (Cuddy et al., 2007). The analyses for the hypothesis at hand showed that respondents in the enhanced story condition rated the character as lower in warmth than those in the non-enhanced stories, which would initially make it seem as if the enhanced story was not able to promote the sense that the undocumented Latina immigrant was in the US with positive intentions (i.e., to cooperate or help). Furthermore, they rated the character as competent, which would indicate that they perceived her as able to carry her, what could be negative, intent. However, another result would indicate that the respondents did not perceive her as having ill intent since those in enhanced story condition exhibited lower means on the negative attitudes scale (i.e. cold, immoral, untrustworthy), which in accordance with the SCM would indicate that respondents do not perceive the character as having negative intentions (Caprariello, Cuddy, & Fiske, 2009). For

these reasons, low ratings of warmth and high ratings of competence might be a result of envy, an emotion that stems from a contrastive, upward social comparison (Smith, Parrott, Ozer, & Moniz, 1994). This affective reaction might have prevented the respondents from rating the character as warmth. What is important is that an undocumented Latina immigrant could have been held in contempt for coming into the US with ill intentions (to steal jobs) and being able to carry her intentions through. However, it seems that the character is being held in high regard to the point of eliciting envy and considered competent, which seems to be an effect of the story.

It is also important to mention that the sample collected to test this hypothesis did not turn out as large as desired (N= 334). Thus, a similar study with larger sample size is necessary. Additionally, the treatment (i.e., the enhanced story) might not have differed enough from the non-enhanced story, which was also an empathic story. Thus, this study needs to contrast the empathic stories to a control group, which we were unable to do because the control group in this study did not have a character.

Moderation Effects

Positive attitudes

Much of the existing research in reducing intergroup discrimination has been conducted using the contact and indirect contact hypothesis techniques. Therefore, the purpose of testing hypothesis 1d was to test whether story processes like transportation would be effective in improving views towards undocumented Latinx immigrants. The results for the proposed moderation of transportation were supported in several of the analyses. For instance, the interaction of clip type and transportation in predicting positive attitudes towards the undocumented Latinx immigrants was statistically significant, which was aligned with some predictions made in this dissertation. What seemed to be happening is that at low levels of

transportation, there was a negative association between clip type and positive attitudes. That is, those in the statistics clip condition scored higher in positive attitudes, in comparison to those in the story clip condition only at low levels of transportation. However, at high levels of transportation, the negative relation with positive attitudes is reversed. That is, respondents in the story, as opposed to the statistics conditions had more positive attitudes toward undocumented Latinx immigrants, but only if they were more transported. These results are important because it is possible that with more data, the enhanced stories might be more effective in reducing certain aspects of discrimination (these latter relations were neither predicted or tested). But what is most significant is that these results were achieved through a story for respondents, in traditionally red states, who were more transported.

Prosocial behaviors

The interaction between story and transportation in predicting donation amount to undocumented Latinx immigrants was not statistically significant. Transportation was a good predictor of donations to undocumented Latinx immigrants, but there was no statistically significant difference between stories and statistics in predicting donations. Considering a three layer cross tabulation of this data (i.e., donations by clip type by transportation) seemed to show that at high levels of transportation, about 43 % donations come from respondents in clip A, about 36% from respondents in clip C, and about 21% from those in clip C (see Table 6.1). What is more, under low transportation the trend is almost reversed. At low levels about 44% of donations came from those in clip C, about 26% from those in clip B, and about 29% from those in the clip A condition. However, it is worth stressing that these percentages do not indicate statistically significant differences. Since no chi square analyses were planned or conducted, these percentages are provided with the aim of understanding the data. For these reasons, it is

possible that with a larger sample or a longitudinal design, the predicted effects of transportation as a moderator of stories and prosocial behaviors might emerge (see Figures 6a and 6b APPENDIX B).

Warmth and competence

The results of the hierarchical linear regression analyses for both warmth and competence almost mirror the results of prosocial behaviors. Again, transportation was a good predictor of subjects' ratings of warmth or competence of undocumented Latinx immigrants but the clip types were not. One difference regarding competence is that the results do show a significant negative relationship between clip type and ratings of competence; that is, respondents in the statistics condition rated the undocumented Latinx immigrants as more competent. This could be similar to what is happening with the positive attitudes outcome variable, where if the interaction were to be statistically significant, higher transportation would reverse this negative relationship. For example, when warmth and competence were dichotomized like donations to run a classification analysis, the cross-tabulation analyses showed the same picture as that of donations. That is, it could also be observed that higher ratings of warmth and competence came from respondents in story conditions, in particular for clip A, but only at high levels of transportation (See Figures 7a, 7b, 8a, and 8b).

Implications and Future Directions

First, the present work has some implications for the research in intergroup discrimination. Some current results showed that individuals highly transported into a story reported less negative attitudes towards undocumented Latinx immigrants and more donation, actual behavior. Stories might be valuable in introducing individuals to experiences that others

cannot undergo directly (e.g., being an undocumented Latinx immigrant) which might allow them to revise preconceived notions (e.g., an undocumented Latinx immigrant does not represent a criminal threat to the country). Relatedly, the present work might have implications for perspective taking since stories might help individuals take a less biased perspective of what if feels like to undergo an unlived experience. At the same time, this work might have implications for the stereotype content model since stories could help change perceived categorizations and affective reactions. This is because it was shown in hypothesis 1b that the enhanced story (i.e., those where the character described her emotions more in depth) resulted in less negative attitudes and higher ratings of competence to the undocumented Latina immigrant. She was held in high regard to the point of eliciting envy (as opposed to contempt) and considered competent. Additionally, she was not considered untrustworthy, immoral, or cold. However, these latter findings were localized to the individual and not towards the whole group of undocumented immigrants.

Secondly, to draw more definite conclusions on stories as an effective method of intergroup discrimination, more research is needed. One idea would be to conduct additional work using a different target group and a story written by a professional creative writer. One reason is that in the case of undocumented Latinx immigrants, it might be tricky to conduct longitudinal designs without biasing participants' responses. Thus, using a different target group and a different story might draw clearer outcomes. At the same time, it might also be important to compare the intervention to a control story that is not related to the target group rather than to statistics, as was done in the current work. Also, to draw more direct conclusions on the overlap between story processes and direct and indirect contact strategies, more research is needed. One idea would be to run a mediation analysis predicting that transportation would mediate the

relationship between measures of parasocial contact and measures of stigma and discrimination, for instance. In this case, a different target group and story would also be used. Another step that could be taken with the present data would be to extract some variance from the Education level using multilevel modeling. Thus, rather than controlling the education level, its effect could be extracted. Education could be split into low, moderate, and high levels to even out the cases per level. More possible ways to improve the current study would be going into the field for data collection. This would entail going to isolated White communities in known anti-immigrant regions and implementing story interventions there. Another improvement would be following respondents over time and understanding the long-term impact of stories on measures of stigma and discrimination toward the targeted group.

Limitations

Some aspects of the current research need improvement. First, the design of this project was a posttest-only design. While this design prevented issues like informing the respondents the purpose of the study and thus biasing their responses, it was difficult to claim that the stories affected respondents without understanding their previous sentiments to undocumented Latinx immigrants. However, the subjects were randomly assigned, and the data were collected in traditionally red states, which should address this concern. A more critical issue is that the data are non-longitudinal. We collected responses from participants at one point in time only. For these reasons, we do not know if any results were a short-lived priming of the study or long-lasting. Thus, we cannot examine any sleeper or boomerang effects, or the growth of treatment effects, which often prove more common than assumed.

Some other considerations for limitations include the platform itself—Amazon's Mecanichal Turk (MTurk). One of the concerns is more like a question than anything else. Can

data from this platform be considered truly random? For example, in a truly random sample, respondents from low levels of education would have equal chances of being in the present study. However, only two participants had an education level below high school, while 230 of them claimed a four-year college education. However, Johnson and Borden (2012) report that MTurk Data is comparable in reliability and gender and ethnicity to data collected at a laboratory, but participants are on average 10 years older. They also scored higher on some trait measures. Rouse (2015) also reports less reliable personality measures on MTurk compared to a community sample. However, in the present study reminders of honesty were implemented throughout the survey, which can increase reliability (Rouse, 2015).

Other issues regarding this platform are harder to detect. For example, some respondents in the sample tried or took the survey at least twice just to earn more money. This suspicion comes from realizing that some participants seemed to have entered the secret completion code, while their completion time indicated that they lasted 40 seconds. It was impossible to finish the survey in 40 seconds because the average audio length was six minutes. While these participants were removed from the analysis, it was impossible to detect participants who could have completed the whole survey again instead of just trying to enter the code. One possible reason why they could have had the secret code could be that they cleared their cookies after completing the survey or opened it again in a different computer or server. Thus if some participants were able to take the survey more than once, it would affect the independence of observations.

Finally, it is worth mentioning that there was missing data in this sample. Although missing data can be an issue, it might not have been as problematic in the present research. The data were missing at random. Because of a mistake in the survey flow, participants were only

seeing three of four dependent variables. Fortunately, this mistake was discovered early and corrected. Also, more data than initially planned were collected to overcome this issue.

Conclusions

The principal conclusions from the present data include the following. In the present sample, respondents who listened to a story and to an enhanced story of an undocumented Latinx immigrant were more transported than those who listened to a positive statistics clip about immigrants and undocumented immigrants. They also seem to induce more prosocial behaviors. However, there were no significant differences in subjects' ratings of warmth and competence, or positive attitudes as a function of the story clips alone. It is possible that the predicted trend might be shown more clearly with a longitudinal design.

A central finding was the moderation effect on attitudes. Respondents in the story condition, compared to a statistics one, reported more positive attitudes towards undocumented Latinx immigrants only if they were more transported. The data illustrated a pattern in which the clip type was negatively related to positive attitudes (see Figure 10a APPENDIX B). This indicated that those in the statistic conditions seemed to exhibit more positive attitudes, which was critical in interpreting the moderation effect. However, once the interaction between the clip type and transportation was introduced the previous relation was reversed. Thus, high levels of transportation—absorption, experiencing imagery and feelings related to the story—were critical for stories as an intervention in increasing positive attitudes towards undocumented Latinx immigrants, which is one aspect of discrimination, in this data. Nonetheless, the interaction was not significant in affecting other assessments such as person perception (i.e., warmth and competence) or prosocial behaviors. In interpreting any of the findings, one important highlight is the location(s) of data collection. The responses were collected in states where the percent of

the state population of Latinx ranged from one to five percent like Kentucky, Iowa, Main, Montana, etc. The reasoning behind this decision was to avoid testing the stories as intergroup discrimination interventions in states where individuals might already be more pro-undocumented immigrants, which arguably would have resulted in more powerful, but less meaningful effects than those found in the current research. For example, a reason is that Californians might already be more empathic toward undocumented Latinx immigrants is because they are more exposed to them.

In drawing further conclusions, it is important to highlight that intergroup contact has traditionally been the go-to method to reduce bias and break down barriers between hostile groups. Nevertheless, Pettigrew (2006) emphasizes that the kind of contact that reduces intergroup biases is one of prolonged contact, where people get to know one another. He stresses specifically that in cross-group friendships—when individuals can feel that "others" are just like "them"—prejudice is significantly reduced, even in areas of high conflict. By conducting the present research, what we wanted to stress can be exemplified with an anecdote. In her book, Sharon Salzberg (2017) shared a tale about hating one person from her yoga class. It was a very attractive female who produced contempt every time she saw her arrive in her expensive car. She imagined her life was perfect. At every encounter, she could not help it but be angry about how unfair life was. One time perchance, this other woman seemed slightly distraught. In a brief exchange, she revealed that she had lost her daughter to leukemia. This made Sharon feel that everyone struggles and that she had been wrong about this woman. This anecdote exemplifies that contact with an individual whose story we do not know can also serve to feed our hatred of them. However, an instant revelation of their struggles (i.e., their stories) can increase empathy and result in attitude revision. That is what was attempted in the present research, for the stories

of other individuals can also be lived by transporting ourselves into their character through imagery about what she or he is living as well as experiencing feelings related to their plight. In the present research, it was indeed transportation that interacted with stories to produce more positive attitudes toward undocumented Latinx immigrants. The story might provide both contact and the actual experience of their situations. One caveat is that more research is needed around these topics (see future directions).

Can we imagine experiences we have not undergone and we cannot undergo? Often, indirect contact strategies are offered as a way of using imagination and perspective taking to reduce intergroup discrimination. For example, an individual can be asked to imagine a positive interaction with another individual considered an outgroup member, or they can be asked to try to step into an outgroup member's shoes. One issue with this is that there are certain experiences which people cannot willingly imagine as they occur to others. For these reasons, we chose stories because, granted absorption, they can generate the missing imagery and feelings (i.e., transportation) about what if feels like to be an undocumented Latinx immigrant, as one example. Without that, individuals are left to their own biases and perceptions about others' experiences.

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APPENDIX A

Table 1

Information on measured variables

Measure	Scale range	Cronbach's α	Mean	SD
Transportation	1 (Not at all) to 5 (Very much)	0.82	17.47	4.52
Prosocial behaviors	Donate 0.00 to .75 cents to an immigration fund			
Warmth and competence to ULIs		0.90	29.35	6.86
Warmth	1 (Not at all) to 5 (A great deal)	0.90	13.33	3.62
Competence	1 (Not at all) to 5 (A great deal)	0.78	16.02	3.75
Warmth and competence to the character	1 (Not at all) to 5 (A great deal)	0.87	35.27	5.96
Negative attitudes to ULIs	1 (Completely Disagree) to 5 (Completely Agree)	0.92	31.75	11.33
Negative attitudes to the character	1 (Not at all) to 5 (A great deal)	0.89	4.80	2.96
Perspective Taking	1 (Does not describe me) to 5 (Describes me extremely well)	0.87	15.15	3.33
Empathic Concern	1 (Does not describe me) to 5 (Describes me extremely well)	0.86	15.19	3.50

Political Conservatism	1 (Very Liberal) to 7 (Very Conservative)	0.94	12.12	5.21

Note: measures not reporting alpha are single item

APPENDIX B

Figure 1

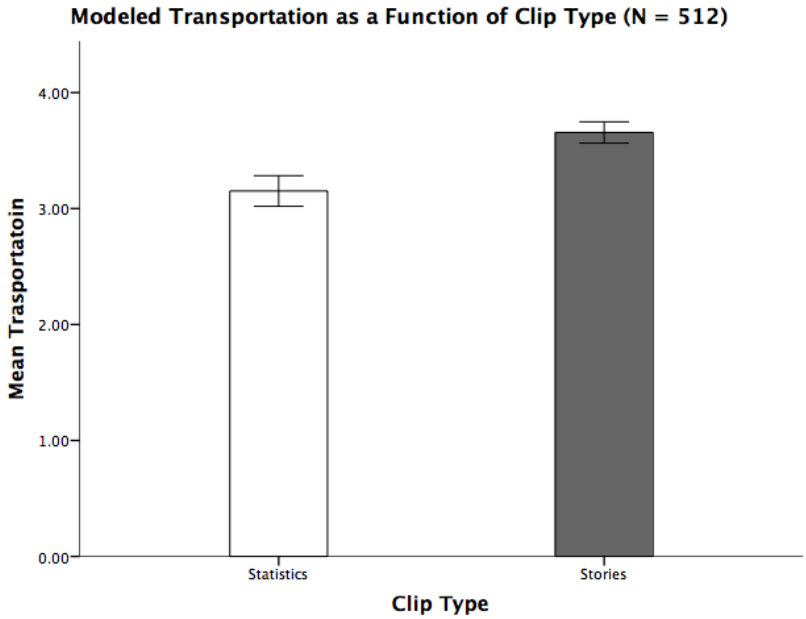


Figure 1. Average transportation (Error Bars: ± 2 SE) by clip, stories (n = 349) and statistics (n = 163)

Figure 2.

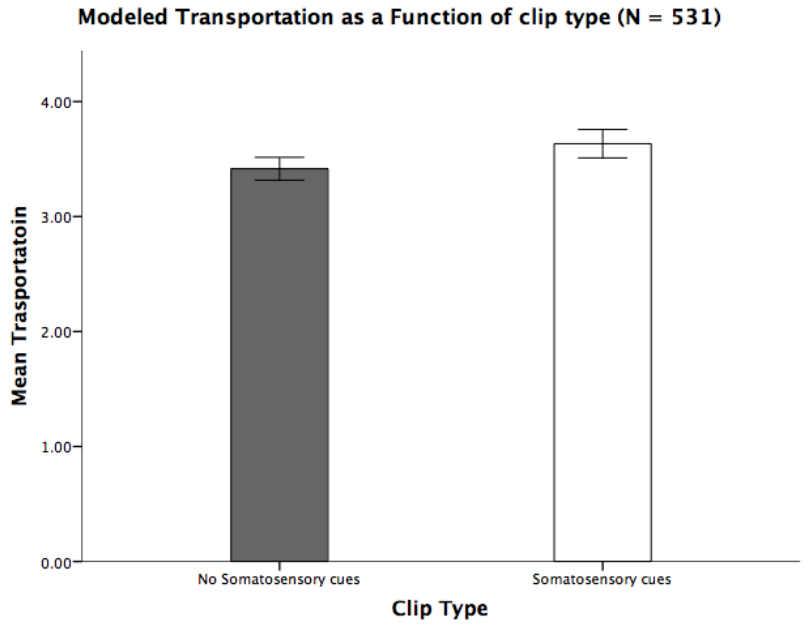


Figure 2. Average transportationn (Error Bars: ± 2 SE) by clip, somatosensory cues (n = 188) and no somatosensory cues (n = 343)

Figure 3.

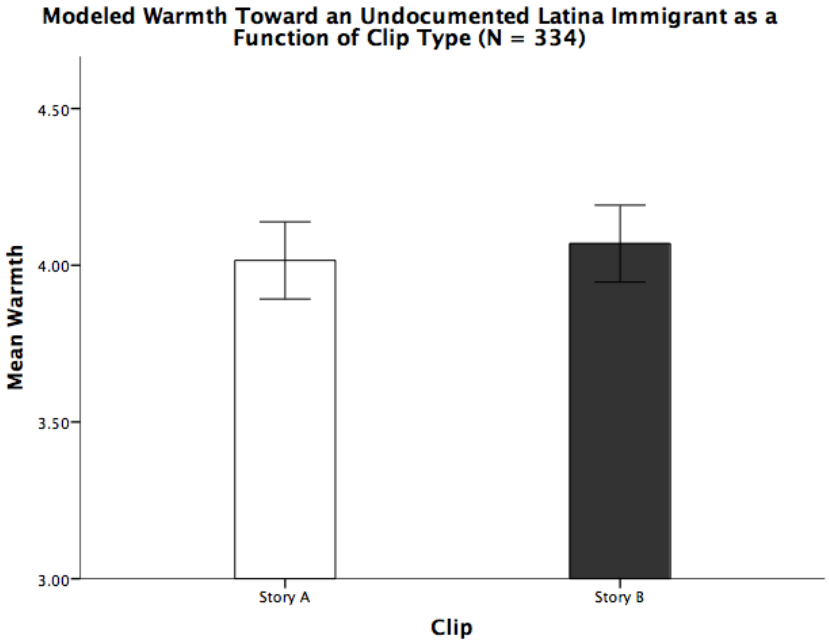


Figure 3. Average warmth (Error Bars: +/- 2 SE) by clip, somatosensory cues (n = 170) and no somatosensory cues (n = 164)

Figure 4

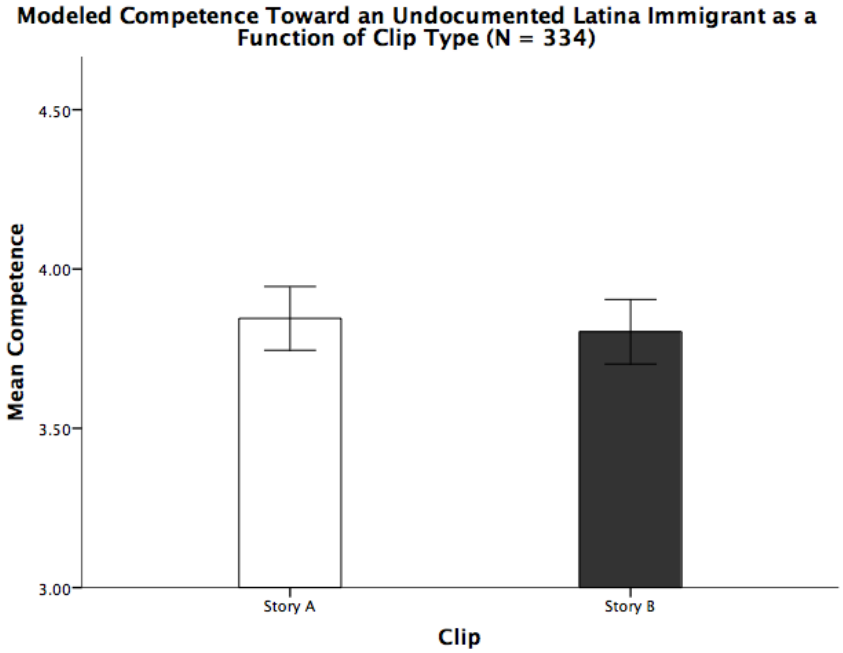


Figure 4. Average warmth (Error Bars: +/- 2 SE) by clip, somatosensory cues (n = 170) and no somatosensory cues (n = 164)

Figure 5

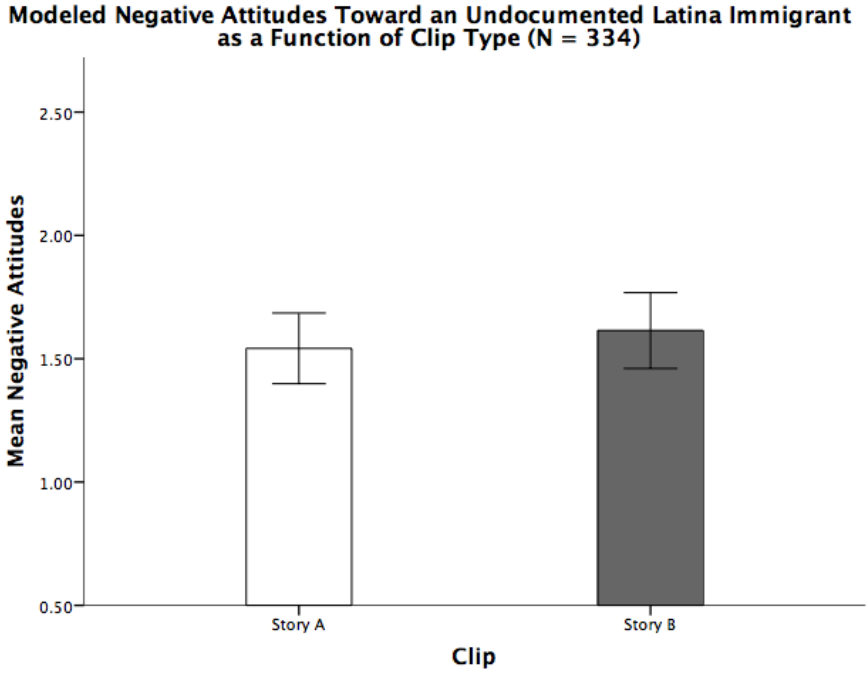


Figure 5. Average negative attitudes (Error Bars: +/- 2 SE) by clip, somatosensory cues (n = 170) and no somatosensory cues (n = 164)

Figure 6a and 6b

Figure 6a. Modeled Total Percentage of Donations by Low Levels of Transportation

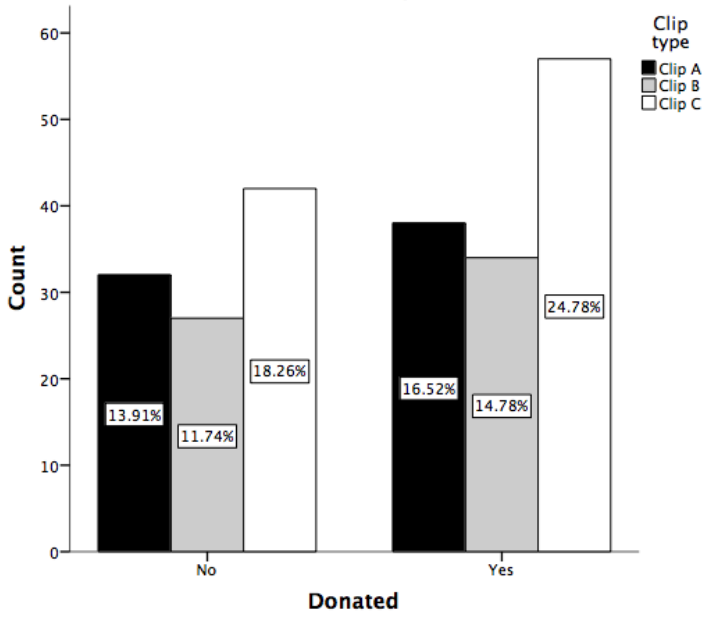


Figure 6b. Modeled Total Percentage of Donations by High Levels of Transportation

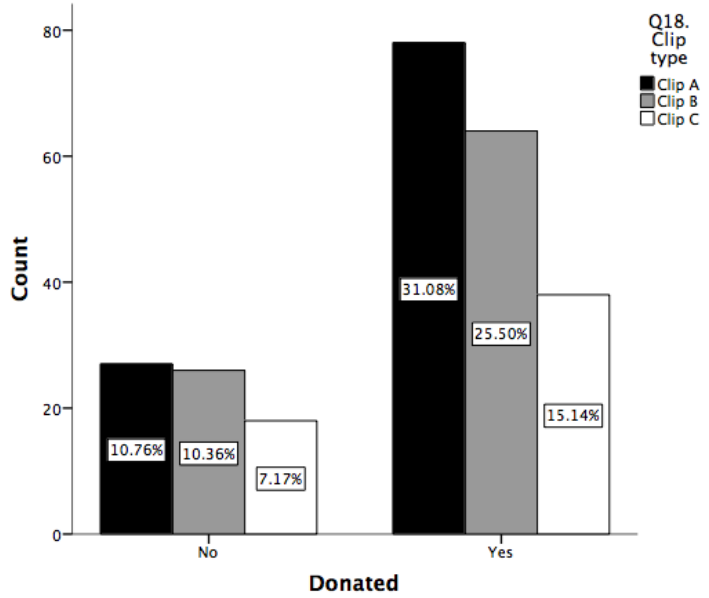


Figure 7a & 7b

Figure 7a. Modeled Total Percentages of Ratings of Warmth by Low Levels of Transportation

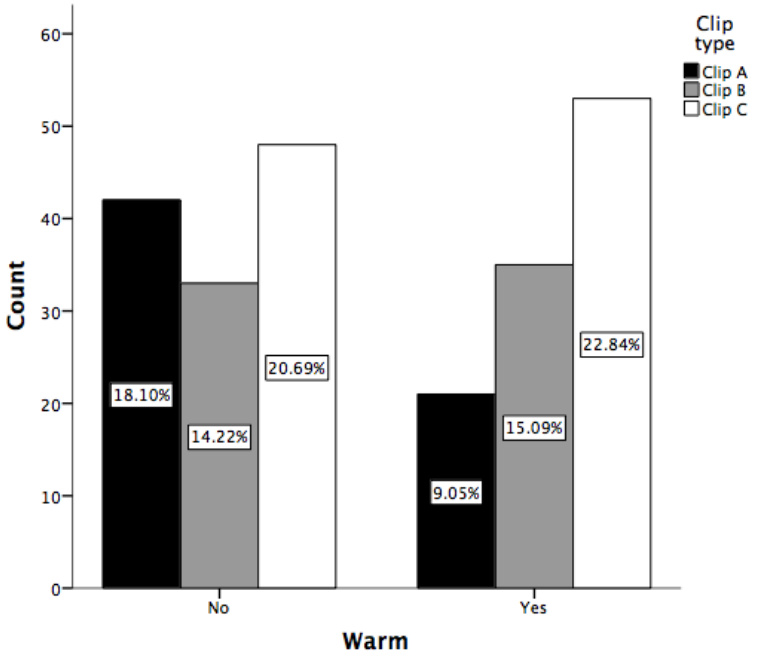


Figure 7b. Modeled Total Percentages of Warth by High Levels of Transportation

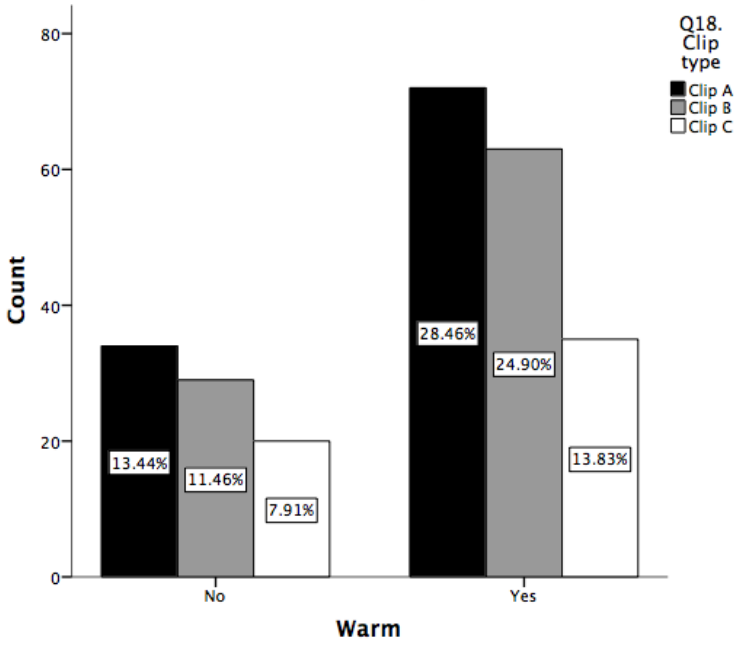


Figure 8a and 8b

Figure 8a. Modeled Total Percentages of Ratings of Competence by Low Levels of Transportation

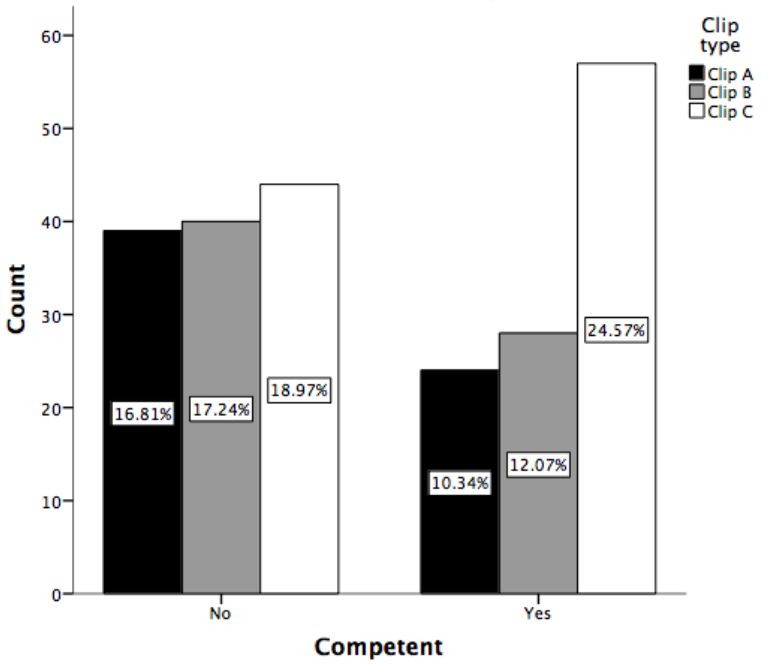
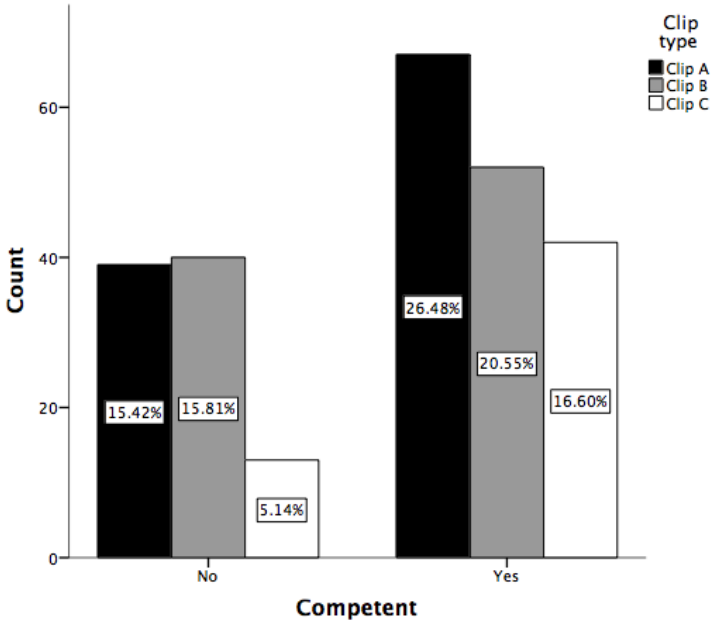
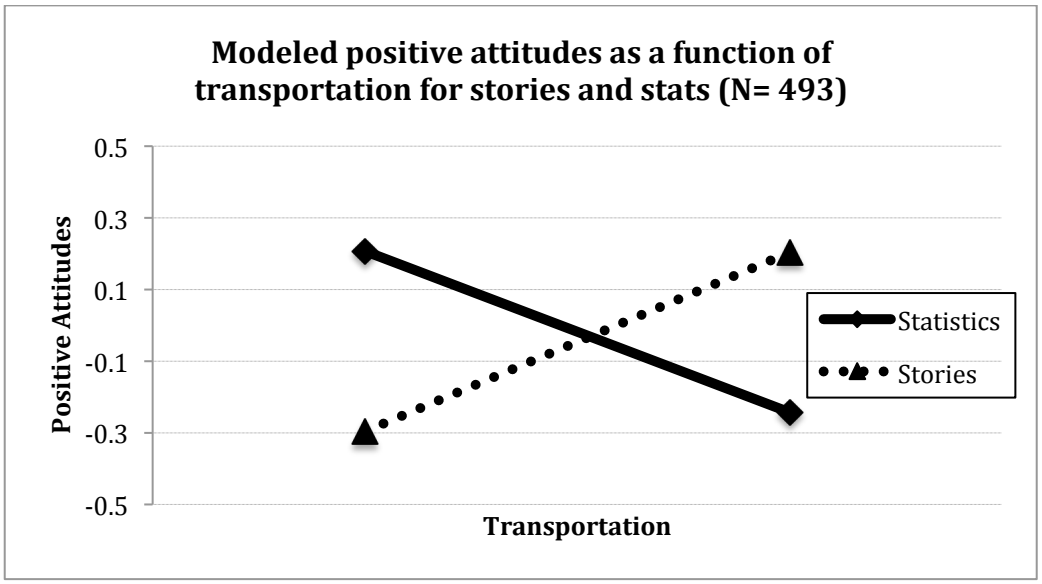


Figure 8b. Modeled Total Percentages of Competence by High Levels of Transportation



Figures 10a and 10b

Figure 10 a



APPENDIX C

Story A (8:06 minutes duration) [1]

I know it's too early to get personal, but my story is not about me or a place or time. It is about overcoming challenges, a story that is not strange to you. Call me Jessica.

My parents were milking cows since the age of nine. They barely finished third grade in elementary school. I sat patiently every day by the fire-pit in the kitchen, made of adobe, being warmed by the burning wood. In the meantime, my father would be gathering the cows from the smallholding for milking. Mom helped him milk the cows. She was the fastest at it. After milking, we had to rush to the road to be on time for the cheese makers to buy our milk. My mom and I carried the churns to the road while my father grazed the cows. One day we were running late, so we carried the milk churns for close to a mile on the hilly roads without stopping. When we got to the road, my mom held on to the milk churn and lowered her head. Her hair covered her face. "Mother, why don't you go home and rest a little. I'll sell the milk and take the containers back?" I offered. She looked up surprised and said, "Yeah. I'll go feed the chickens and pigs." Her face looked pale.

When people talk about big dreams, they often talk about attaining an education or a career. I don't imagine then that my parents could dream big dreams under their life circumstances. We lived day-by-day busy taking care of the immediate chores. Despite all of this, I think they did have, if not dreams, aspirations. They made sure that I finished elementary school, and they sent me to middle school, which I had to drop despite their blind efforts for me to continue.

I remember one day vividly, almost as it's happening right now. I came back earlier than usual, and through the corridor that connected to the dining room, I could hear my parents talking. They didn't see or hear me. My father said, "I'll have to head to the North." "Again with that story? Be patient. Things will get better this year," said mother. We weren't making enough money to survive. I couldn't imagine my mom and my little siblings coping with the uncertainty if my father left. All of the sudden, my stomach started turning, and my mind felt foggy for some days after. I couldn't bear the thought of my parents and little siblings feeling hunger in their bellies. **I dropped school, and I headed North instead of my father.** My school expenses were an extra burden, and I knew that a third income could ease some of the crisis.

In those days, my only dream was to help my parents and my little siblings. I would not rest until I had a livable income. I took a position washing dishes, and I eventually moved up to bussing tables. Then I became a cashier, and my manager recognized my hard work by eventually giving me an opportunity to serve tables. This was the best income I've ever earned. I was making $384 a week. I could afford to live in someone's living room, send money to my family, and go to school part-time. I couldn't dream of making that much in a month back home. The biggest problem there was that there were no other options. I had no skills to do anything else or opportunities to get an education. One could work daily, full-time shifts and still not earn a livable income there. But in California, I could even work part-time while, on the side, fulfilling requirements to complete a high school degree. So I did to increase my chances of retaining my position as a server.

One day, one of my teachers came up to me and said, "Have you started looking into college." I looked at her in awe. *I was just thinking, I don't know anyone who has gone to college*. Since I was close to finishing my diploma, my plan was to apply for a second job. My parents toiled like nobody else I knew, and, I was unintentionally doing the same thing. I don't think it was a life value, just a way to survive. Either way, I always thought that all I could do in life was hard work and nothing else. Then my teacher's words kept roaming in my head like when you get a song stuck in your head. *How does one apply to*

[1] Note: Blue highlights indicate differences in physiological descriptions between story A and story B.

college? I thought. I was curious why she had suggested it, but I never had the chance to ask. I applied to community college, not realizing how much I would love learning. Then, I had an insight: I was no longer worrying for my survival or that of my family's. I think I found myself dreaming for the first time. I dreamt that I could teach…perhaps… at a similar college or a university one day.

I would say that my home country, Mexico, is a terrible place to dream or accomplish any dreams, but my story helps me understand something else. I dare say that it isn't just Mexico that kills dreams. When you are born to laboring families, dreams are often limited to certain things. One dreams of ways out of poverty. One dreams of helping family and loved ones. Dreaming of something like a university education doesn't occur to those in life circumstances that become the dictator of your mind's work, the arduous task of survival. Simply put, living in worry limits your dreams, and it often happens to those of us living in poverty.

When people talk about immigrants, I think some don't realize how similar our struggles are to theirs. We all cross borders to achieve our dreams even if they're mental borders. It's true that crossing the U.S. border without legal documentation isn't lawful, but can you imagine anyone *refusing* to come here legally if it was an option? It's not an easy thing. I remember walking through the checkpoint and glancing back over my shoulders. Tears started rolling down my eyes from seeing my younger siblings and my mom. I didn't want to look. My chest felt heavy. Sometimes, I dream that I am back at home. In my own dream, I tell myself, "this time I am truly back." I look for signs that I am truly back. I start following paths to my favorite places. I try to touch the ground, but I wake up, and my heart is racing. It feels like part of my chest is on fire. Many people get hurt or worse crossing the border. Look at my arms. I get goose bumps just talking about it. If it wasn't out of necessity, I wouldn't have chosen this in a million years. Who would ever choose to lose their loved ones, homes, country, and struggle on purpose? There would be just too many painful challenges to bear if it wasn't out of necessity.

My only goal in moving to California was to improve my life and the lives of my loved ones, and this became a turning point in my life. However, if I could change anything, I would definitely come here with a visa and…I would definitely dream… dream big. I would go to school and become involved in decreasing the poverty in my home country (at least in my area) so that others do not have to experience similar fates.

I have not realized my dream of decreasing poverty, yet, but I am doing something impactful. This year I am completing my final requirements to receive my PhD in psychology. During this time, I've been working with a community of poor, working class people, and I learned that psychological health is a luxury. Psychological information mostly arrives to those who can afford to pay counselors and those who take classes at universities. It should not be that way. Those of us working long hours to support our families are the ones who most need it. Psychology helps us deal with life stressors, enjoy fruitful relationships, and raise healthy children, all of which make this world a better place. With some friends, we started a grassroots organization, which will provide free talks in psychology and group and individual counseling, which will also create jobs for people who work to aid our communities.

You know my story. I bet is a lot like yours. We live to help our loved ones no matter the struggle or the challenges.

Only today, I received a letter from my university. A letter that sent shockwaves through my body. I feel like I can't move from the weight of this news. As if all of the sudden weight made me immobile. They wont grant me a PhD because of my status. I don't understand. I never hid it from them, and I followed every rule they gave me. I've been waiting over 10 years for a visa, a process that takes up to 18 years for Mexicans. Even those who wait that long don't always get approved.

Story B (8:00 minutes duration)

I know it's too early to get personal, but my story is not about me or a place or time. It is about overcoming challenges, a story that is not strange to you. Call me Jessica.

My parents were milking cows since the age of nine. They barely finished third grade in elementary school. I sat patiently every day by the fire-pit in the kitchen, made of adobe, being warmed by the burning wood. In the meantime, my father would be gathering the cows from the smallholding for milking. Mom helped him milk the cows. She was the fastest at it. After milking, we had to rush to the road to be on time for the cheese makers to buy our milk. My mom and I carried the churns to the road while my father grazed the cows. One day we were running late, so we carried the milk churns for close to a mile on the hilly roads without stopping. When we got to the road, my mom held on to the milk churn and lowered her head. Her hair covered her face. "Mother, why don't you go home and rest a little. I'll sell the milk and take the containers back?" I offered. She looked up surprised and said, "Yeah. I'll go feed the chickens and pigs." She didn't look her normal color.

When people talk about big dreams, they often talk about attaining an education or a career. I don't imagine then that my parents could dream big dreams under their life circumstances. We lived day-by-day busy taking care of the immediate chores. Despite all of this, I think they did have, if not dreams, aspirations. They made sure that I finished elementary school, and they sent me to middle school, which I had to drop despite their blind efforts for me to continue.

I remember one day vividly, like it's happening right now. I came back earlier than usual, and through the corridor that connected to the dining room, I could hear my parents talking. They didn't see or hear me. My father said, "I'll have to head to the North." "Again with that story? Be patient. Things will get better this year," said mother. We weren't making enough money to survive. I couldn't imagine my mom and my little siblings coping with the uncertainty if my father left. All of the sudden, I felt sick to my stomach. I could not think straight for some days after. I couldn't bear the thought of my parents and little siblings not having food at the table. **I dropped school, and I headed North instead of my father.** My school expenses were an extra burden, and I knew that a third income could ease some of the crisis.

In those days, my only dream was to help my parents and my little siblings. I would not rest until I had a livable income. I took a position washing dishes, and I eventually moved up to bussing tables. Then I became a cashier, and my manager recognized my hard work by eventually giving me an opportunity to serve tables. This was the best income I've ever earned. I was making $384 a week. I could afford to live in someone's living room, send money to my family, and go to school part-time. I couldn't dream of making that much in a month back home. The biggest problem there was that there were no other options. I had no skills to do anything else or opportunities to get an education. One could work daily, full-time shifts and still not earn a livable income there. But in California, I could even work part-time while, on the side, fulfilling requirements to complete a high school degree. So I did to increase my chances of retaining my position as a server.

One day, one of my teachers came up to me and said, "Have you started looking into college." I looked at her in *disbelief. I was just thinking, I don't know anyone who has gone to college*. Since I was close to finishing my diploma, my plan was to apply for a second job. My parents toiled like nobody else I knew, and, I was unintentionally doing the same thing. I don't think it was a life value, just a way to survive. Either way, I always thought that all I could do in life was hard work and nothing else. Then my teacher's words kept roaming in my head like when you get a song stuck in your head. *How does one apply to college?* I thought. I was curious why she had suggested it, but I never had the chance to ask. I applied to community college, not realizing how much I would love learning. Then, I had an insight: I was no longer

worrying for my survival or that of my family's. I think I found myself dreaming for the first time. I dreamt that I could teach…perhaps… at a similar college or a university one day.

I would say that my home country, Mexico, is a terrible place to dream or accomplish any dreams, but my story helps me understand something else. I dare say that it isn't just Mexico that kills dreams. When you are born to laboring families, dreams are often limited to certain things. One dream is a way out of poverty. One dream is helping family and loved ones. Dreaming of something like a university education doesn't occur to those in life circumstances that become the dictator of your mind's work, the arduous task of survival. Simply put, living in worry limits your dreams, and it often happens to those of us living in poverty.

When people talk about immigrants, I think some don't realize how similar our struggles are to theirs. We all cross borders to achieve our dreams even if they're mental borders. It's true that crossing the U.S. border without legal documentation isn't lawful, but can you imagine anyone *refusing* to come here legally if it was an option? It's not an easy thing. I remember walking through the checkpoint and glancing back over my shoulders. I was crying from seeing my siblings and my mom. I didn't want to look. I felt a weird sensation in my chest. Sometimes, I dream that I am back at home. In my own dream, I tell myself, "this time I am truly back." I look for signs that I am truly back. I start following paths to my favorite places. I try to touch the ground, but I wake up, and am pretty worked up. I feel pressure in my chest. Many people get hurt or worse crossing the border. Talking about it makes me feel uncomfortable. If it wasn't out of necessity, I wouldn't have chosen this in a million years. Who would ever choose to lose their loved ones, homes, country, and struggle on purpose? There would be just too many painful challenges to bear if it wasn't out of necessity.

My only goal in moving to California was to improve my life and the lives of my loved ones, and this became a turning point in my life. However, if I could change anything, I would definitely come here with a visa and…I would definitely dream… dream big. I would go to school and become involved in decreasing the poverty in my home country (at least in my area) so that others do not have to experience similar fates.

I haven't yet realized my dream of decreasing poverty, yet, but I am doing something impactful. This year I am completing my final requirements to receive my PhD in psychology. During this time, I've been working with a community of poor, working class people, and I learned that psychological health is a luxury. Psychological information mostly arrives to those who can afford to pay counselors and those who take classes at universities. It should not be that way. Those of us working long hours to support our families are the ones who most need it. Psychology helps us deal with life stressors, enjoy fruitful relationships, and raise healthy children, all of which make this world a better place. With some friends, we started a grassroots organization, which will provide free talks in psychology and group and individual counseling, which will also create jobs for people who work to aid our communities.

You know my story. I bet is a lot like yours. We live to help our loved ones no matter the struggle or the challenges.

Only today, I received a letter from my university. It was shocking. It made me feel powerless. They wont grant me a PhD because of my status. I don't understand. I never hid it from them, and I followed every rule they gave me. I've been waiting over 10 years for a visa, a process that takes up to 18 years for Mexicans. Even those who wait that long don't always get approved.

Story C (6:43 minutes duration)

Immigration Statistics from the Economics Policy Institute (2014)

More than 40 million immigrants resided in the United States as of 2012, accounting for about 13 percent of the total U.S. population. Of these roughly 40 million immigrants, slightly less than half (46 percent) are naturalized U.S. citizens.

There were an estimated 11.7 million unauthorized immigrants in the United States as of 2012. Unauthorized immigrants account for about 3.7 percent of the total U.S. population and about 5.2 percent of the labor force. Note that unauthorized immigrants are a larger share of the labor force than of the total population because the vast majority of unauthorized immigrants are working-age adults.

Contrary to popular perception, less than half (46 percent) of all immigrants in the United States are Hispanic or Latino. Roughly one-fifth of all immigrants are non-Hispanic white (19.2 percent), about 8 percent are black, and just over a quarter (26.3 percent) are Asian or of some other race/ethnicity.

When it comes to unauthorized immigrants, the overwhelming majority are indeed Latino—primarily from Mexico and Central America. There are, however, also populations of unauthorized immigrants from Asia, South America, Europe and Canada, and the Caribbean.

One way to quantify immigrants' contribution to the U.S. economy is to look at the wages and salaries they earn, as well as the income of immigrant-owned businesses, as a share of all wages, salaries, and business income in the United States. For the United States as a whole, immigrants' share of total output was about 14.7 percent over 2009–2011. Note that this is actually larger than immigrants' 13 percent share of the population.

Immigrants have an outsized role in U.S. economic output because they are disproportionately likely to be working and are concentrated among prime working ages. Indeed, despite being 13 percent of the population, immigrants comprise 16 percent of the labor force. Moreover, many immigrants are business owners. In fact, the share of immigrant workers who own small businesses is slightly higher than the comparable share among U.S.-born workers. (Immigrants comprise 18 percent of small business owners).

In the United States as a whole, there are almost as many immigrants in white-collar jobs (46 percent) as in all other occupations combined. In some states, more than half are in white-collar jobs. However, not all white-collar jobs pay well, and the share of U.S.-born workers in white-collar jobs is even higher. Still, the perception that nearly all immigrants work in low-wage jobs is clearly inaccurate.

The same can be seen by looking at immigrants' levels of educational attainment. While immigrants are less likely than native-born citizens to have gone to college, 46 percent of immigrants have at least some college education.

Immigrants may be overrepresented in some jobs and underrepresented in others, but the difference between the U.S.- and foreign-born shares is rarely as dramatic as is often assumed. Immigrants are strongly represented in some high-wage jobs, and play a significant role in many middle-wage jobs. For example, 22 percent of dental, nursing, and health aides are immigrants, as are 31 percent of computer software developers—well above immigrants' 16 percent share of the labor force. While immigrants are overrepresented in low-wage occupations, immigrants are a part of the top, middle, and bottom of the economic ladder.

There is broad agreement among academic economists that in the long run, immigration has a small but positive impact on the labor market outcomes of native-born workers, on average.11 There is some debate about whether, within the overall small positive effect, certain subgroups are harmed, in particular native-born workers with low levels of education.

The evidence shows that in the long run, immigrants do not reduce native employment rates. But some

evidence suggests that in the short run, immigration may slightly reduce native employment, because the economy takes time to adjust to new immigration. Importantly, this effect varies according to the broader economic environment. In particular, when the economy is growing and the labor market is adding jobs, new immigration creates enough jobs even in the short run (and even for the less-educated) to cause no harm to the net employment of native-born workers. But during economic downturns, things do not adjust as quickly. When the economy is weak, new immigration has a small negative impact in the short run on the employment of native-born workers.12

The United States could benefit enormously from an immigration system that is more responsive to broader economic conditions. In our current immigration system, legal immigrant flows are essentially unresponsive to the business cycle. In particular, Congress has set a yearly limit on the number of new permanent and temporary immigrants who may enter the country legally in order to work, and these limits do not fluctuate based on the state of the labor market. For example, in 2010, the unemployment rate in construction was over 20 percent, but the Department of Labor nevertheless certified thousands of temporary foreign worker visas for the construction industry.

Unauthorized immigrants are a net positive for public budgets because they contribute more to the system than they take out. Unauthorized immigrants generally cannot receive benefits from government programs, except in some cases, such as when unauthorized immigrant children receive public education, and in some states that allow unauthorized immigrants to attend state colleges at in-state tuition rates. Nevertheless, most of these unauthorized immigrants will still pay taxes. The vast majority pay sales taxes in states with sales taxes, and property taxes through properties that they own or rent. Additionally, most unauthorized immigrant workers also pay payroll and income taxes. The Social Security Administration estimates that 75 percent of unauthorized immigrants are actually on formal payrolls, either using fraudulent Social Security numbers or Social Security numbers of the deceased. Unauthorized immigrants pay into Social Security via automatic payroll deductions, but they can never claim Social Security benefits. In 2005, it was estimated that unauthorized immigrants paid about $7 billion per year in Social Security taxes that they will never be able to reclaim.

While it is possible that an unauthorized immigrant could benefit from a U.S. citizen or legal permanent resident family member receiving income support through a federal or state program, unauthorized immigrants themselves by and large are ineligible for programs [like welfare, unemployment insurance, and food stamps] because of their immigration status.