THE EFFECTS OF BILINGUALISM ON PREJUDICIAL TENDENCIES IN UNIMODAL BILINGUALS

By

ALEX TITUS

A thesis submitted to the

Graduate School-Camden

Rutgers, The State University of New Jersey

In partial fulfillment of the requirements

For the degree of Master of Arts

Graduate Program in Psychology

Written under the direction of

Robrecht van der Wel, Ph.D.

And approved by

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Robrecht van der Wel, Ph.D.

____

Ioana M. Latu, Ph.D.

____

Sean Duffy, Ph.D.

Camden, New Jersey

May 2017

THESIS ABSTRACT

The Effects of Bilingualism on Prejudicial Tendencies in Unimodal Bilinguals

by ALEX TITUS

Thesis Director:
Robrecht van der Wel, Ph.D.

Previous research has examined how cognitive processes may change as a function of acquiring a second language. More concretely, it has been demonstrated how processing in a second language may broaden the scope of one's cognitive ability beyond communication. Findings have shown 2nd language (L2) learners to demonstrate a reduction in decision biases, increased perspective taking during joint tasks, and enhanced cognitive control. This study investigated the differences in prejudicial tendencies of monolinguals and those who acquire a second language (L2), using a mouse tracking software. The software measured individuals' implicit thoughts towards out-group and in-group members by capturing the movements involved in categorization of these groups with positively/negatively valanced words. Compared to the traditional implicit association tests, this measure captured hand movements from when the stimulus was presented until the final categorization, providing greater insight into the cognitive processes involved. This study revealed that monolinguals and bilingual's initial movement was not significantly different. Bilinguals demonstrated slower time to completion on all conditions compared to monolinguals, but not significantly.

Introduction

The increase in globalization over the past decades has created a need or desire for many people to learn multiple languages. For example, the United States held the second largest Spanish-speaking population in the world, with 48.4 million or 16% of America's total population according to the U.S. Census Bureau (2010), a number that continues to grow. Research has focused on the possible cognitive advantages bilingualism affords, (Bialystok, 2009; Luk, Pyers, & Bialystok, 2008). Changes to cognitive control mechanisms have specifically received much attention (Kaushanskaya, Blumenfeld, & Marian, 2011; Linck, Hoshino, & Kroll, 2008), stemming from the recognition that bilingualism creates a constant need to switch between languages. Previous research has shown that bilinguals' languages share networks that interact during the processing and production of both written (Dijkstra & van Heuven, 2002; Martin, Dering, Thomas & Thierry, 2009; Midgley, Holcomb, van Heuven & Grainger, 2008; van Heuven, Dijkstra & Grainger, 1998) and spoken language (Shook & Marian, 2012).

These interactions show a persistent need for conflict resolution to select appropriate words from their native (L1) lexicon (e.g., rabbit, coward) and their second (L2) lexicon (e.g., conejo, cobarde). This conflict resolution has been postulated to enhance cognitive control (Bialystok, 2009). Monolinguals do not encounter such conflict resolution across languages. Recent work has demonstrated that the need for suppressing another language may result in cognitive advantages that go beyond just speaking multiple languages. For example, bilinguals have been found to outperform monolinguals on tasks requiring conflict resolution for example Stroop (Bialystok, 2006; Bialystok & DePape, 2009), and Simon tasks (Bialystok, Craik, Klein, & Viswanathan, 2004; Salvatierra & Rosselli, 2011; Schroeder & Marian, 2012). Better cognitive control in bilinguals relative to monolinguals is thought to emerge over time (e.g., Bialystok & Craik, 2010; Green, 2011; Kroll, 2008), especially with daily immersion in both language contexts (e.g., Tao, Marzecova, Taft, Asanowicz, & Wodniecka 2011). In general, these benefits of bilingualism are referred to as the bilingual advantage (Bialystok, 2009; Bialystok, Craik & Luk, 2008; Bialystok et al., 2004).

The natural intuitive responses we experience on a daily basis have been shown to be different amongst bilinguals because of their enhanced cognitive control as well. One example of such differences comes from research on parallel word activation in two languages and the competition it creates, which ultimately is resolved depending on the context of language. Linck, Kroll and Sunderman (2009) observed this language competition in immersed second-language learners (L2) because of a lack of access, or inhibitory control, to their native-language (L1). The same effect was found in domestic, L2 learners, but to a lesser extent. These same inhibitory processes were found in bilinguals to reduce the impact of the *Framing Effect* on risk attitudes (Kahneman & Tversky, 1979) in the Asian disease scenario and in monetary betting where the risk of betting placements were understood with a positive expected value (Keysar, Hayakawa, & An, 2012). Specifically, their studies found support for the idea that when presented with scenarios in a foreign language, participants became less risk averse and were less impacted by framing manipulations.

As evidenced in earlier research, the amount of cognitive resources that an individual has, is limited when having to assess a situation and act (Sweller, 1988). This can also lead us to make uninformed, implicitly biased decisions, rightfully or wrongfully. Another difference can be found in bilingual's enhanced cognitive functions to suppress heuristics and react with more executive control. Emmorey et al. (2008) demonstrated this by measuring the accuracy and speed to recognize the direction of a red chevron arrow in a go-no-go task. The results showed bilinguals had a greater accuracy and quicker response times. The same enhanced ability to process information while suppressing natural intuitions will be expected during the categorization of words in the current study.

Bilingualism and Executive Functioning

The focus in bilingual literature has centered around the *Bilingual Cognitive Advantage hypothesis* (Bialystok, 2009; Bialystok et al., 2008; for a review Kroll & McClain, 2013; Bobb, Wodniecka & Kroll, 2013). The hypothesis theorizes that bilinguals will typically outperform monolinguals during conflict resolution tasks (i.e., Stroop task) as well as non-linguistic executive control tasks such as attentional flanker tasks (Costa, Hernandez, Costa-Faidella, & Sebastian-Galles, 2009) and Simon task (Bialystok et al., 2008; Bialystok et al.,2004).

These tasks can be further separated based on the type of conflict resolution that presented. The Stroop task (Macleod, 1991; Stroop, 1935) presents stimuli with no perceptual overlap of conflict resolution (stimulus shape and stimulus location). On the contrary, the Simon-type inhibition task (Simon & Rudell, 1967) uses stimulus-stimulus conflict resolution. This means that the stimuli presented during the tasks share two dimensions: the color of the word (e.g., **red**, **green**) and the meaning (e.g., red, green). Both tasks can be explained through the perspective of the Dimensional Overlap Model (Kornblum, Stevens, Whipple & Raquin, 1999). The typical paradigms associated with these tasks are eye-tracking or button pushing, which are akin to the classic Implicit Association Test (IAT). The current study uses a continuous measure to examine implicit biases, and does so in a similar manner to Stroop task inhibitory control tasks. The stimuli in this experiment share no dimensional overlap (faces and words), but because of cognitive biases, share an associative overlap of race and word valance.

Implicit Biases

Research suggests that individuals generally have difficulties adjusting from their heuristics, especially when hurried for a response. A well-known theory of perception, and a possible reason for prejudice, is the *Anchoring and Adjustment Theory* (Kahneman & Tversky, 1974), which suggests that we tie all of our present interactions to ones from our past in order to make decisions. Some research suggests, it is because people are typically egocentrically anchored (Epley, Keysar, Van Boven, & Gilovich, 2004), which they subsequently adjust from, until common ground is established between two people. This system may fail when interacting with minorities because of the lack of perspective an individual may have about another. It can then be said that an initial anchor could be more biased because of a limited knowledge, which may lead to unfounded assumptions or prejudice. If the proposed prediction is supported, it would extend the previous research to include bilinguals as being able to more aptly adjust their perspectives to out group members due to their less egocentric anchor, helping to reduce prejudicial tendencies.

Two notes should be taken into account when discussing this study. First, bilingual advantages are not always found in young adults (e.g., Hilchey & Klein, 2011). Secondly, it is important to point out the growing literature of opposition towards bilinguals' advantage in executive processing (see Paap & Greenberg, 2013), which has shown that there may not be definitive evidence towards enhanced executive processes in bilinguals. It is then more apparent that more research must be done to understand the effects bilingualism has on executive process.

While the literature on the bilingual advantage in executive processes may suggest a reduction in implicit biases in bilinguals versus monolinguals, such a difference may not be expected based on some of the social psychology literature on biases. In particular, social psychology has put forward the idea that motives, beliefs and attitudes can function outside of cognitive control (Bargh & Chartrand, 1999). From this perspective then, it may be that implicit biases are not impacted by the bilingual the bilingual advantage.

Measuring Biases with a Continuous Measure

Studies of racial bias within social psychology focused on attitudes, rely on interviews and self-report questionnaires that result in very few participants preferring one group of people to another (Fazio, Jackson, Dunton, & Williams, 1995; Wittenbrink, Judd, & Park, 1997). Building upon previous work on duel processes and temporal dynamics (Wilson, Lindsey, & Schooler, 2000; Devine, 1989; Smith & Decoster, 2000; Judd, Drake, Downing & Krosnick 1991) the current research tracks the cognitive processes related to conflict resolution (Conrey & Smith, 2007) of race and word balance and the influence a second language may have on them with a continuous response measurement paradigm.

Previous research in social cognition has demonstrated the dynamic process underlying the categorization, specifically social preferences and person construal (Wojnowicz, Ferguson, Dale & Spivey, 2009; Freeman, Ambady, Rule & Johnson, 2008). This same finding was extended to ethnic groups and attitudes of like and dislike (Wojnowicz et al., 2009). Using mousetracking software, hand-movement trajectories were able to reveal the dynamic subtleties of associative attitudes towards race (e.g., “Black People”, “White People”, “African-Americans”, “Caucasians”). There was greater curvature, when participants were shown the words “Black People” and the categories of “like” and “dislike”, compared to the presentation of the word “White People”. This increased curvature was argued to reflect increased competition between response alternatives. This provides support for the associative differences individual’s may have towards one group or another, when presented with conflicting choices. Similarly, the principle of inhibitory control that occurs during categorization, has been seen in individuals who speak more than one language. Specifically, this has been demonstrated during cognitive specific non-linguistic tasks (e.g., Stroop and Simon) as well as linguistic tasks (e.g., phonetic conflict).

Predictions

From the perspective of the bilingual advantage literature, we predicted that bilinguals would show greater inhibitory control when presented with positive/negative valance words and paired association of valance word and race, in their second language when compared to monolinguals. In contrast, from the perspective of duel processing theory, enhanced cognitive control may not affect implicit biases in monolinguals and bilinguals.

To test these possibilities, we measured reaction time (RT) and area under the curve (AUC) in a mouse tracking paradigm. The RT in this study measures the amount of time it takes a to move the mouse from the original start point to final categorization as opposed to RT in the traditional IAT, which measures a momentary cognitive process. Also, to test if using a mousetracker paradigm provides greater information than a traditional IAT, we will also compare initial movement between groups. If the initial movement times do not differ between groups, but the RT and AUC are different, then the continuous measure will be accounting for differences that would have been unaccounted for with a traditional IAT. This measure's the time participants begin to move the mouse (initial movement) from when the stimuli appear on the screen, the same as the RT during a traditional IAT. Finally, this study sought to extend the current theory of the bilingual advantage to extend to cognitive biases of race.

Method

Participants

61 university students were recruited from Rutgers-Camden University and tested as either monolingual (*N* = 36, age = 22.06, Female = 94.4, Male = 5.6%) or bilingual (*N* = 25, age = 23.27 , Female = 88% ,Male = 12%). This study relied on convenience

sampling, with in-class announcements by faculty from the psychology and Spanish departments being the name source of recruitment. Students were given course credit in exchange for their participation. The bilingual participants were screened to ensure they grew up in a bilingual environment, with English as their second language or learned a second language through educational means. Spanish was chosen as the predominate heritage language because of the student population of the university, but other languages were included. The bilingual participants varied in the age of second language exposure as well as the way in which they learned English (i.e., moved from native country, early educational exposure, immersion through education, combination of all three.

The limited learned bilingual Spanish participants were pre-screened using a portion of the Diplma de Espanol como Lengua Extranjera (D.E.L.E.) exam (http://dele.cervantes.es). This was done to ensure their level of comprehension of Spanish vocabulary. The level of the exam was B1. The portion of the D.E.L.E. exam was printed out and distributed to all Spanish bilingual participants and assessed for proficiency. All participants scoring below a 4/6 were to be excluded from the study. No participants were scored below a 4/6 and thus, no participants were excluded based on this criterion.

Instruments/Materials

The test took place on a computer with a standard computer mouse already preloaded with the Mousetracker software (http://www.mousetracker.org/). All words were pretested for positive and negative valence (e.g., dangerous, ignorant, educated, wealthy) as well as the categories (i.e., African-American, European-American, positive word and negative word). They were also translated and back translated to ensure reliability. All participants who had Spanish as a second language took the entirety of the test in Spanish. The composite faces were taken from previous research that examined categorization of race using the same mouse tracking paradigm (Freeman et al., 2008; Wojnowicz et al., 2009).

Procedure

Words Only Practice Block

Participants were instructed on how to use the Mousetracker program (http://www.mousetracker.org/). First, the word START appeared in a box centrally located at the bottom of the screen. Participants needed to click START in order for the stimuli to appear. Participants had to move their mouse to either category at the top of the screen and click to end each trial. For example, if the word “apple” appeared, participants would have to move the mouse and click on the category of “FRUIT” at the top left or right of the screen. This process was repeated with images of fruits of vegetables. The cursor automatically reoriented to the START button after each categorization. The categories at the top of the screen remained on the screen during each block.

Images Only Practice Block

The second block had images of fruits and vegetables (N = 12) to be sorted to either the top left or right corner of the screen, matching the stimuli to the categories of FRUITS or VEGETABLES. The second block had words of the same fruits and vegetables (*N* =12) to be sorted to the same categories. These trials were meant to inform participants of the rest of the experiment.

Single Test Blocks

The next five blocks of trials used the same order as the traditional IAT. That is, the first two trials of the test blocks paralleled the first two practice blocks (e.g., using words or images only to match to single categories of race or word valance), but had computer generated composite images of African-American and European-American faces as well as a total of 56 positive and negative valance words. A total of six faces were presented of equal male, female, and race.

Mixed Test Block

The mixed block portion of the experiment had paired categories at the top of the screen instead of one (e.g., African-American/Positive Word & European-American/Negative Word). All of the previous words from the single test block were used and appeared in a randomized order (i.e., image of a face, positive valance word, negative valance word, image face) and had to be sorted to their correct categories (i.e., African-American, Positive word, Negative word, European-American). After completing the first mixed block, the paired categories switched (e.g., European-American/Negative Word & African-American/Negative Word). This was done to reacclimate the participants to the new category pairings. The final block showed the new category pairings with the same faces and words in a randomized order to counterbalance the original mixed block.

Data Analysis

The statistical analysis will focus on the area under the curve (AUC) as the main measure of prejudicial tendencies. The AUC represents the amount of attraction that is imposed onto the movement trajectories by the distractor item in the irrelevant target location. Thus, the program analyzes the temporal and spatial dynamics of the mouse movements. The program also computes indices of spatial attraction/curvature and complexity of trajectories, along with normalizing Z for distributional analyses (http://www.mousetracker.org/). In particular, a deviation score between the AUC in the control condition and the competitor condition (where there is the possibility for prejudicial bias) provides the central measure for the data analysis. AUCs for each trial will be extracted through the Analyzer software of the Mousetracker program. This software outputs an AUC for each trial. The data will then be averaged per participant per condition to provide one AUC score. A between-subject ANOVA will be conducted on the difference scores in AUC (ΔAUC), with the between-subject factor Language Group. This factor originally had three levels, Monolingual (ML), Heritage Language Bilingual (BNL), and Learned Language Bilingual (LLB). These groups were originally made because it has been found that heritage bilinguals and learned bilinguals differ in their proficiency as well as their language switching efficiency (for a review see, Bialystok, Craik, Green & Gollan, 2009; Kroll & Chiarello, 2015). Planned post-hoc comparisons both within and between each of the groups will indicate particular differences in prejudicial bias as a function of linguistic knowledge. The BNL and LLB were compressed to one group during the analyses because of the limited recruitment of LLB. We will also compare initiation movement and RT between groups and within.

Results

To analyze the data, we conducted a 2 (Language Group: monolingual versus bilingual) x 2 (Target race: African American versus European American) x 2 (Valence: positive versus negative) mixed measures ANOVA on the initiation times, task completion times, and Area Under the Curve (AUC). Below, the results of each of these analyses are reported separately. The assumption of sphericity was not violated for either of these analyses.

Initiation Times

Table 1 displays the means and standard errors for the initiation times. The results of the analysis indicated a main effect of word valance, $F(1, 59) = 16.77$, $p < .01$, indicating that participants initiated movement more quickly when positive words appeared (M = 164.85 , SE =13.72) than when negative words appeared (M = 180.26, SE = 14.91). Interestingly, this main effect was qualified by an interaction with race, $F(1, 59) = 4.35$ $p < .05$.

For the monolingual group and valance, participants initiated movement more quickly for positive word condition (M = 155.46, SE = 17.56) compared to bilinguals (M = 174.23, SE = 21.07). Monolinguals initiated movement quicker for the negative word condition (M = 161.46, SE = 19.09) than bilinguals (M = 198.97, SE = 22.90).

The initiation time analysis did not reveal any other main effects or interactions. Importantly, the factor Language Group did not modulate initiation times or interact with other factors, $F(1,59) = .982$ $p > .3$.

Table 1.

Mean initiation times for both language groups across all conditions

Group	Race	Valance	Mean	Std. Error
Monolingual	**African-American**	**Positive-Word**	**156.42**	**19.13**
		Negative-Word	**158.29**	**19.2**
	European-American	**Positive-Word**	**154.5**	**17.94**
		Negative-Word	**164.63**	**21.22**
Bilingual	**African-American**	**Positive-Word**	**184.47**	**22.95**
		Negative-Word	**179.13**	**23.03**
	European-American	**Positive-Word**	**164.0**	**21.52**
		Negative-Word	**218.73**	**25.46**

Task Completion Times

Figure 1 displays the means and standard errors for the task completion times. The results of the analysis indicated a main effect of word valance, $F(1, 59) = 27.85$, $p < .01$, indicating that participants varied on categorizations of positive words ($M = 1455.88$, $SE = 35.1$) than on negative words ($M = 1623.66$, $SE = 49.21$). Interestingly, this main effect was qualified by an interaction with race, $F(1, 59) = 13.20$, $p < .01$.

For the bilingual group categorizing valance words, participants completed the task more quickly for positive word valance of African-American ($M = 1549.72$, $SE = 52.23$). They performed more slowly for the negative condition of African-American ($M = 1954.44$, $SE = 109.52$).

The task completion time analysis did not reveal any other main effects or interactions. Importantly, the factor Language Group did not modulate task completion times or interact with other factors, $F(1,59) = 1.0$ $p > .321$ (see Figure 1).

Area Under the Curve

To study differences in movement trajectories, the Area Under the Curve was compared across conditions. Figure 2 displays the results. The results of the analysis indicated a main effect of word valance, $F(1, 59) = 11.214$, $p < .01$, indicating that participants differed in their categorization of positive words ($M = .971$, $SE = .069$) than on negative words ($M = 1.206$, $SE = .073$).

For the bilingual group, participants completed the task more quickly for positive words and European-American condition ($M = 1.037$, $SE = .104$). They performed more slowly for the negative word African-American condition ($M = 1.364$, $SE = .126$).

The AUC analysis did not reveal any other main effects or interactions. Importantly, the factor Language Group did not modulate task completion times or interact with other factors, $F(1,59) = .242$ $p > .62$. (See Figure 2).

Discussion

This study sought to identify possible differences in cognitive biases between monolingual and bilingual participants using a continuous measure. We specifically looked at the differences between initiation time, task completion time, and AUC. Based on our results we found that monolinguals and bilinguals did not significantly differ on initiation times, but did differ within each group when categorizing valance words and race. Overall, we found that task completion time differed between groups, with bilinguals taking more time to categorize across all conditions. Finally, AUC only differed between groups when categorizing valanced words. This finding along with the lack of difference in initiation times between groups suggests that bilinguals may be considering both categories longer, exerting more inhibitory control before finally deciding on one over the other.

The implications of this study are that bilinguals demonstrate a slower categorization of valance words and race, but show no significant difference on initiation time when compared to monolinguals. These data give support for the use of a continuous measure of cognitive biases rather than using the traditional IAT or simple reaction time measures. This is because during dynamic conflict resolution the brain goes through when determining a final decision between specific categories. Overall, these results should be taken as a first step towards a more interdisciplinary view of bilingual cognitive processes and incorporating a social cognition perspective.

To that end, future studies should add non-linguistic tasks (e.g., Stroop, Simon, number Stroop tasks) to first establish a cognitive difference between groups and then test possible differences of cognitive biases. This would demonstrate the bilingual advantage in a domain other than language specific tasks, but would add support for any future differences between monolingual and bilingual participants.

Also, these stimuli are not universally recognized as out-groups and could potentially have no positive or negative associations. This could have influenced the responses by the bilingual group because of the cultural variability within the sample. Future studies should consider the background of their participants and use culturally relevant biases and test associations. While we attempted to overcome this limitation by controlling for time spent abroad and if visits included countries whose main language is not English, future studies should attempt to use more culturally homogenous samples and use a more comprehensive survey. This is especially true for the bilingual participants, knowing that being exposed to a multicultural environment for extended time in life could have an influence on cognitive biases to out-groups.

There are a number of limitations to note with the current study. First, the bilingual participants did not have the same language background, either in language or how their second language was acquired. This has been shown to influence cognate effects and their level of proficiency. The latter influence has been demonstrated to alter the degree to which an individual can exert inhibitory control efficiently (Coderre, van Heuven, & Conklin, 2011; Kaushanskaya et al., 2011; Linck et al., 2008). Second, the inhibitory effects shown in this study were only demonstrated using a linguistic-tasks. Recent research, to help support the effect of language on cognitive processes, has joined linguistic and non-linguistic tasks (i.e., Stroop, Simon, number Stroop tasks). This is done to emphasize the possible differences in inhibitory control between and is highlighted during linguistic tasks (Blumenfeld & Marian, 2014; Blumenfeld & Marian, 2011; Coderre et al., 2011). Further research is then needed to first establish a difference in cognitive control between groups and then incorporate the current study and examine if the same inhibitory control is can be replicated with cognitive biases using this same paradigm.

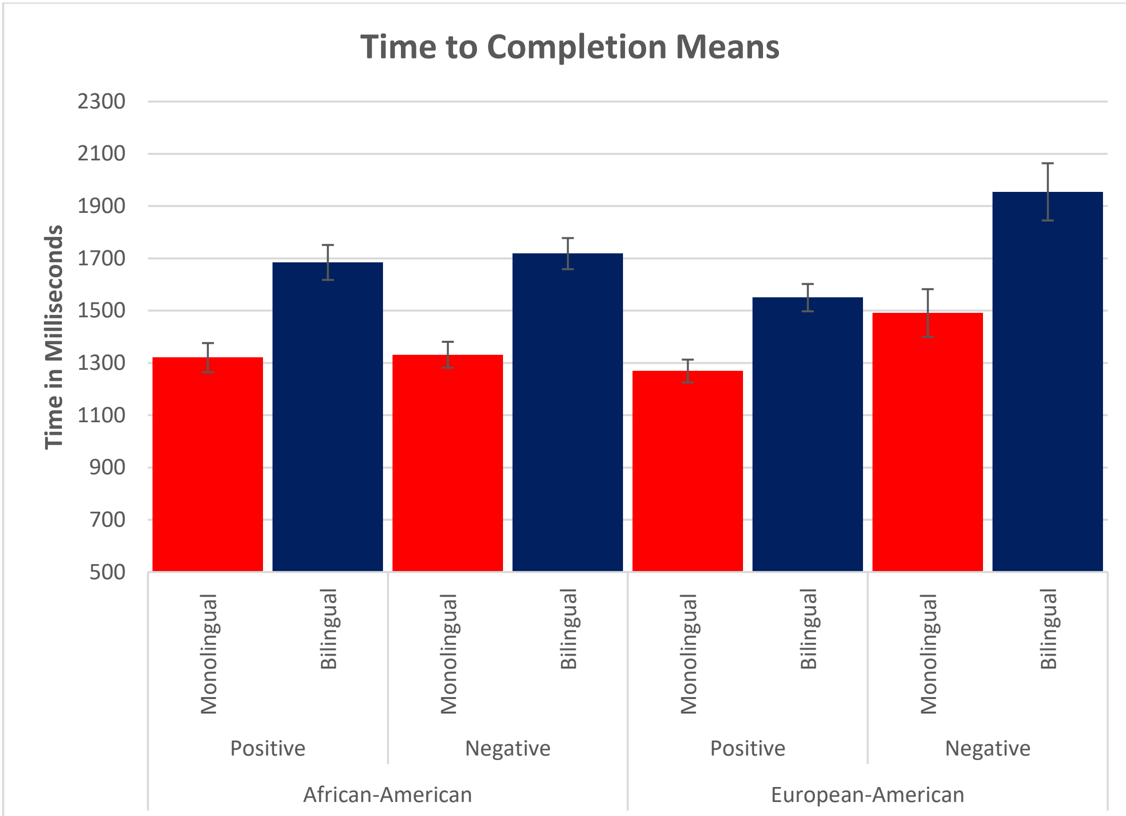
The purpose of this study was exploratory in nature and looked to combine findings from different theoretical fields in psychological science. Future studies could proceed in multiple directions, focusing within one field of study (e.g., bilingualism, cognition, social cognition) or continue in an interdisciplinary nature across these subdisciplines. Going forward, bilingual research should focus on the proficiency and limit bilingual participants to two or three languages. Proficiency has been shown to moderate the efficiency to which bilinguals can inhibit irrelevant information during cognitive control tasks. Also, limiting the amount of languages used by bilinguals limit the confounding cognate words that emerge in certain languages (e.g., English/Chinese or Chinese/English) or account for these effects (e.g., English/Spanish or Spanish/English) (Keysar et al., 2012; Kroll, Bobb, & Hoshino,2014; Kroll, Misra, & Guo, 2008). Within the realm of social cognition, incorporating more characteristics of participants (e.g., culture, language) could better inform the cognitive roots of our prejudicial tendencies. As an interdisciplinary study, taking each of these elements and using multilevel modeling to account to account for the differences each sub-discipline has stressed in their respective studies. In summation, this study looked to provide a unique interdisciplinary perspective on inhibitory control bilinguals have been shown to exert during cognitive tasks with the conflict resolution that takes place during categorizations of race and word valance stimuli.

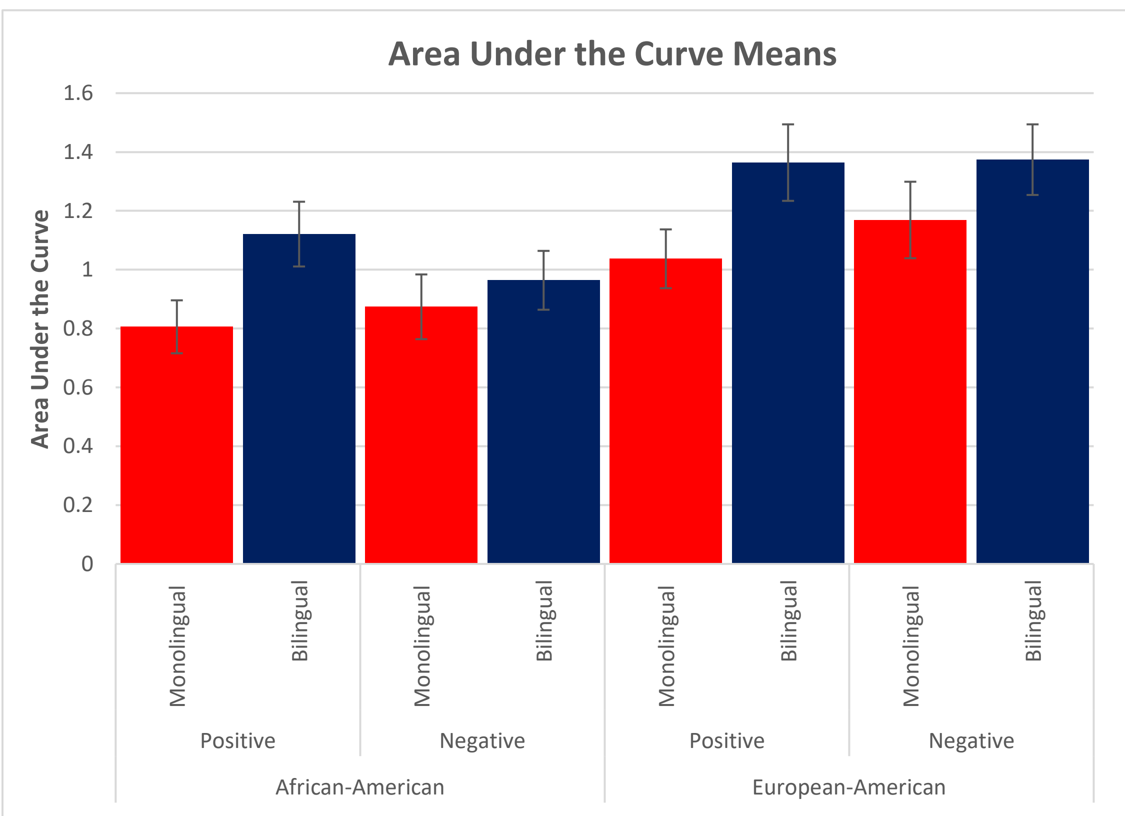
Figure Captions

Figure 1. Time to completion means of monolingual and bilingual groups in milliseconds of each condition (African-American/European-American, positive/negative

word). Error bars display 95% within-subjects confidence intervals based on Loftus & Masson, 1994.

Figure 2. Area Under the Curve(AUC) means of monolingual and bilingual groups in milliseconds of each condition (African-American/European-American, positive/negative word). Error bars display 95% within-subjects confidence intervals based on Loftus & Masson, 1994.


Time to Completion Means
Time in Milliseconds
2300
2100
1900
1700
1500
1300
1100
900
700
500
Monolingual
Bilingual
Monolingual
Bilingual
Monolingual
Bilingual
Monolingual
Bilingual
Positive
Negative
Positive
Negative
African-American
European-American


Area Under the Curve Means
Area Under the Curve
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Monolingual
Bilingual
Monolingual
Bilingual
Monolingual
Bilingual
Monolingual
Bilingual
Positive
Negative
Positive
Negative
African-American
European-American

Appendix

A. The words below will be used for the monolingual group as well as the bilinguals english group. Words will be translated and back translated for the bilingual Spanish group. They have also been pre-tested for reliability.

Black training negative	**Black negative**	**Black positive**	**White negative**	**White positive**	**Filler positive**	**Filler negative**
Loud	Poor	Musical	Weak	Educated	Cheerful	Fat
Criminal	Bitter	Strong	Greedy	Hopeful	Courageous	Strange
Unintelligent	Unemployed	Muscular	Arrogant	Ambitious	Elegant	Nasty
	Ignorant	Religious	Conventional	Trusting	Organized	Cunning
Irresponsible	Suspicious	Athletic	Boring	Patriotic	Friendly	Nervous
Violent	Inefficient	Colorful	Uptight	Wealthy	Playful	Naïve
Not honest	Superstitious	Humorous	Gullible	Industrious	Artistic	Alienated
Dangerous	Uneducated	Rhythmic	Sheltered	Ethical	Caring	Confused
Lazy						
Promiscuous						

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