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Melissa Huey
CUNY City College

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**Perceived Discrimination and Depression as it Relates to Nativity Status of students from
Immigrant Backgrounds**

Melissa Huey

City College of New York

Abstract

Introduction: Research has found that foreign born immigrants' have better mental and physical health, as well as higher levels of academic achievement, than native born individuals from immigrant families (Vega, et. al., 2004). There is some evidence that perceived discrimination could be a possible explanation for these nativity differences (Juang & Cookston, 2009). The current study tested the hypothesis that native born individuals from immigrant backgrounds will have higher levels of depression than their foreign born counterparts and that native born respondents will report higher levels of perceived discrimination than foreign born. The study also tested whether perceived discrimination mediates the relationship between nativity status and depression. *Method:* A survey was conducted which measured depression using the Center for Epidemiologic Studies Depression Scale (CES-D). Perceived discrimination was measured using the scale used in the National Latino and Asian American Study (NLAAS) for perceived discrimination. Data from 353 respondents were collected from classes in Psychology at City College. *Results.* Results showed that native born respondents reported significantly higher levels of perceived discrimination than foreign born. Among Latinos, native born respondents reported significantly higher levels of depression than those who were foreign born. Perceived discrimination did not mediate the relationship between nativity status and depression. However, in an exploratory post-hoc analysis, perceived discrimination was found to moderate the relationship between nativity status and depression in the Asian subgroup. *Discussion.* It is clear that perceived discrimination is an important factor in mental health of native born individuals. Future studies should investigate the role that perceived discrimination plays with nativity status in more depth.

Introduction

An influx of immigrants coming to the United States is a controversial issue, and has been since the foundation of our country. One issue that remains unresolved is the academic achievement, mental health and physical health of native born versus foreign born newcomers to the United States. Some psychologists have coined this term “the immigrant paradox” to refer to the declines in overall mental health and academic achievement as paradoxical because success in these areas are typically expected to rise as immigrants acculturate and progress within American society (North, 2009).

The “immigrant paradox” has been explored by psychologists for several years. The paradox describes the findings that native born populations have lower levels of academic achievement than their foreign born counterparts (Vega, Sribney, Aguilar-Gaxiola, & Kolody, 2004). The paradox has also found that when socioeconomic class is controlled for, the physical and mental health of children in most immigrant groups gets worse from the first to the third generation (Juang & Cookston, 2009).

Trends in the past follow a more traditional pattern, where native born individuals of immigrant backgrounds achieved more than their foreign born counterparts. For example, data drawn from the 1960 census showed three variables on which the second generation exceeded the first: median years of school completed, four years of college or more, and the percent employed in professional or technical jobs (North, 2009). Immigrants arrived in a new country and did not do as well in terms of academic achievement and overall health as the later generations. The immigrants’ children, however, benefitted from growing up in the United States. They did not face the language barrier their parents were faced with, they understood the

culture better, and they worked hard to prosper (North, 2009). Therefore, the more contemporary research that shows foreign born immigrants excelling in comparison to their native born counterparts has been viewed as paradoxical.

The results of generational differences among immigrants in academic achievement, mental health as well as physical health need to be examined in greater depth. The issue of whether these generational trends are paradoxical is a controversial issue among psychologists in contemporary society. Many psychologists believe that the higher levels of academic achievement and better mental health of foreign born immigrants compared to their native born counterparts proves to be paradoxical (Suarez, Rhodes & Millburn, 2009). Studies done on physical health has found these compelling results on generational status as well, however these generational differences may not be viewed as paradoxical because issues of obesity, back and neck problems, heart disease and diabetes are all some of the highest among the United States population (Stephen, Foote, Hendershot, & Schoeborn, 1994).

Despite the controversy over whether these generational differences are paradoxical, it is interesting that people acculturate to negative behaviors and attitudes that they did not engage in before coming to this country. It is important to understand why this occurs, and what the potential causes or explanations facilitate this behavior. One possible explanation is that perceived discrimination serves as a mediator between the relationship between generational status and a decrease in mental health. It is feasible that native born individuals from immigrant backgrounds perceive more discrimination in society than those who have just arrived within the United States, and that increases depression. Prior literature shows that there are generational

differences between academic achievement, physical health, mental health and perceived discrimination, however no research has connected these altogether.

Academic achievement

When examining the performance of varying levels of generational statuses, foreign born immigrants have been found to do better than native born immigrants on education and academic achievement. One study found that the second and third generation immigrants had a decline in academic achievement over the five year period that they were participants in the study, while on the contrary, there was no decline of academic achievement among the foreign born during that period (Suarez, et al., 2009). Another study found that 1st and 2nd generation children had higher achievement scores at the spring of kindergarten than 3rd generation children. In addition, the study found 1st generation children grew in reading achievement at a faster rate than did their 3rd generation counterparts (Palacios, Guttmanova & Chase-Lansdale, 2008). These results are paradoxical due to the fact that academic achievement is expected to improve the longer an individual is in the country they migrated to (e.g. North, 2009).

Health

Prior research has also found that nativity status has an impact on physical health. Although the nativity status as it relates to issues of physical health is interesting to study, it is possible that this discrepancy cannot be labeled “paradoxical” as the United States has the leading rates of heart disease and obesity in comparison to other countries (Mason & Bassuk, 2003). However, there is substantial research which shows that there are significant differences in physical health within native born versus foreign born Latino and Asian immigrants (e.g. Bates, L.M., Acevedo-Garcia, D., Alegria, M., & Krieger, N., 2008).

Research has found that native born individuals have increased body mass index and obesity among Latinos and Asian Americans compared to their foreign born counterparts (Bates et al., 2008). Because of the higher rates of obesity in second and third generation immigrants, there is also a direct link with other health consequences as well. There is evidence that chronic back or neck problems increase as generational status increases in the United States (Bui, Doescher, Takeuchi, & Taylor, 2011). Another aspect of physical health that aligns directly with higher levels of obesity is diabetes. Research has found that diabetes prevalence was found linked to generational status as well. The longer Latino men had been in the United States, the higher risk they had for diabetes (Ahmed et al., 2009). The research has shown that the health of American culture has a negative impact on the health of immigrants who recently arrived in this country. Although there is evidence that this facet of nativity status is not paradoxical, there are significant differences within generational status nonetheless, and therefore are interesting to investigate.

Mental Health

Mental health is also affected by nativity status, in both Asian and Latino immigrant groups. One study found that U.S. born Asian individuals report higher levels of anxiety and depression symptoms compared to their immigrant peers. Miller, Yang, Farrell & Lin (2011) studied whether the generational status of Asian Americans had an effect on the impact of racial and cultural predictors of mental health. The participants were asked to self-identify their generational status, and were assessed for depression using the Mental Health Inventory. Second and third generation Asian Americans reported higher depression than those in the first generation (Miller et al., 2011).

Additional research shows that these nativity differences are evident for Latinos as well. Golding & Burnam (1990) assessed levels of depressive symptoms in Mexico-born households versus U.S.-born households of Mexican Americans. They found that U.S.-born Mexican Americans had higher depression scores than those born in Mexico. The data were collected from the Los Angeles Epidemiological Catchment Area Survey which is a collection of data about psychiatric disorders, use of health services, and demographic characteristics. A test of interaction effects showed greater vulnerability to the effects of low acculturation and low educational attainment among the U.S.-born relative to those born in Mexico (Golding & Burnam, 1990). This finding could indicate that native born individuals have a different target of social comparison than their foreign born counterparts. Native born individuals of immigrant families may be comparing their acculturation and educational attainment to others born in the United States, without regard to their generational status. Foreign born individuals may feel less vulnerable to these factors because their targets of comparison are those who live in their country of origin. On the contrary, native born individuals may feel more vulnerable because their targets of comparison are those who live in the United States, and may have been here for many more generations than they themselves. Foreign born do not feel this vulnerability because they do not expect educational attainment and acculturation levels to be of the same progress as native born individuals, therefore their mental health does not decrease with arrival to the United States.

Another study found correlations between psychiatric disorders and the generational status of Mexican Americans. The study found rates of 12-month total mood, anxiety and substance disorders were between 12-14% for foreign born women and men, while they were approximately 27% for the US born population. The authors' hypothesis was that greater social

assimilation to the United States increases psychiatric morbidity, with rates for subjects who are US-born of Mexican origin approximately the same as rates for the US general population (Vega et al., 2004). It is interesting that social assimilation was found to increase morbidity. It may be possible that forming a social network within the United States helps to facilitate feelings of anxiety or promote mental disorders because those are more highly prevalent in the host culture. The classical definition of acculturation is a result when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original culture patterns of either or both groups (Berry, 1997). It may be possible that increased levels of social assimilation may coincide with increased levels of perceived discrimination. The more socially aware an individual is, the more likely they are to perceive feelings of discrimination or alienation. It is possible that they may now define the same situation in a new way, as feelings of discrimination.

This discrepancy in nativity status related to mental health has proved evident for Latino mothers and woman in general as well. One study found that those within the native born population had higher levels of depression on the CES-D scale than their foreign born counterparts. The study collected self-reports from 73 women, half of the women sampled were foreign born, while the other half of the population sample was native born (Varghese & Rae Jenkins, 1986). Another study found that Latino mothers who were born in the United States have higher levels of depression than their foreign born counterparts. The data were collected in the Early Childhood Longitudinal Survey using the Center for Epidemiological Study for Depression (CES-D). This research shows that the effects of mental health on generational status are visible in a variety of demographics. The study also found that the US-born mothers were

more likely to be teenagers and lack a partner at home at the time of birth. It is possible that being born into a poorer community has an influence of having children early and being a single parent than being born in another country and moving into a poorer community (Zhijuan, Wong, Ronzio, & Yu, (2007).

Research has found higher rates of mental health problems among native versus their foreign born counterparts. Psychologists have attempted to unravel this contradiction in order to ensure the success of later generations in the United States. It is important to explore explanations or causes for these high levels of mental health problems in order to understand and ultimately help resolve why native born individuals have poorer health and higher levels of depression than their foreign born peers. A possible explanation for this disparity in depression by nativity status is perceived discrimination.

Perceived discrimination

It is possible that native born generations perceive higher levels of discrimination than their foreign born counterparts. If so, higher levels of perceived discrimination may account for the higher levels of depression. One study found that greater perceived discrimination was associated with psychopathology in the three largest U.S. minority groups (Chou, Asnaani & Hoffman, 2012). The study analyzed data from Asian Americans, Hispanic Americans and African Americans. The results found that the perception of racial discrimination was associated with the endorsement of major depressive disorder, panic disorder, post-traumatic stress disorder, and substance use disorder. The results controlled for socioeconomic status, level of education, age and gender of participants (Chou, et al., 2012). However, this study did not test for

differences by nativity status (e.g. U.S. versus foreign born) or by generational status; therefore future studies need to investigate this particular aspect in greater depth.

Other studies have examined minority groups separately. Perez, Fortuna, & Alegria (2008) investigated how American born Latinos and those arriving in the United States at a young age were more likely to perceive discrimination than foreign born Latinos who arrived at a later age. Perceived discrimination was measured using the National Latinos and Asian American Study Scale for perceived discrimination, and perceived discrimination was defined as respondents indicating that they experienced discrimination a few times a year or more. Another interesting finding from this study was that Latinos who identified strongly with their ethnic identity were less likely to perceive discrimination (Perez et al., 2008). This implies that higher levels of acculturation could lead to higher levels of perceived discrimination. This finding supports the notion discussed earlier, that social assimilation, or immersing oneself in the social surroundings of the host culture, may serve as a weakening factor in acculturation. The immersion into American culture may serve to heighten awareness of discrimination and prejudice. When immigrants stay in touch with their original culture they perceive less discrimination because they are not immersed in the host culture where the discrimination is prevalent.

Additional studies have found that Asian Americans' generational status has an impact on their levels of perceived discrimination. A two year longitudinal study was conducted with 309 Chinese-American immigrants of varying generational statuses (Juang & Cookston, 2009). The participants were asked to come back on three different occasions throughout the two years. The perception of discrimination was measured by three items: "How often have you been treated

unfairly because you are Asian?” “How often do people dislike you because you are Asian” and “How often have you seen friends or family be treated unfairly because they are Asian?”

Respondents answered on a Likert scale ranging from 1 = never to 5 = always. Depression was measured using the Center for Epidemiological Studies - Depression Scale.

Results indicated that perceptions of discrimination increase over time for the majority of Chinese American adolescents in the study. They also found that an increase in discrimination over time was associated with an increase in depressive symptoms. The study found that greater identity to Chinese culture related to fewer depressive symptoms (Juang & Cookston, 2009). This is further evidence that immersion into the host culture during the acculturation process leads to higher levels of perceived discrimination. This study has found a connection between perceived discrimination and depression in different generational statuses; however it is important to investigate the specific relationship that perceived discrimination has with nativity status. Based on the information at hand, it is feasible that perceived discrimination mediates the relationship between nativity status and depression.

The Current Study

Based on prior research, perceived discrimination could be a possible explanation for the findings that native born individuals exhibit greater depression than do foreign born immigrants. Although research has shown that perceived discrimination increases with later generations of immigrants, and higher levels of perceived discrimination correlate with depression, no study has tested the possibility that perceived discrimination mediates the relationship between nativity status and depression.

To delve into these nativity differences, this study was conducted to test the following three hypotheses: First, it is hypothesized that native born respondents will have higher levels of depression than their foreign born counterparts. The second hypothesis is that native born respondents will report higher levels of perceived discrimination than foreign born. The third hypothesis is that perceived discrimination mediates the impact of nativity on depression. In addition, given the prior specific literature regarding nativity status, perceived discrimination, and depression in Asian Americans and Latinos, the aforementioned hypotheses were also tested specifically in these ethnic subgroups. Asian respondents were the largest group in the sample size (N=121), and prior research has also shown evidence of the nativity differences in this ethnic group (Juang & Cookston, 2009). Latinos were selected because they were the second largest ethnicity in our sample (N=111), and prior research has shown generational differences are present among the Latino population as well (Golding & Burnam, 1990; Vega, et. al., 2004).

Exploratory Analysis

In addition to testing the primary hypotheses' described above, an exploratory analysis was calculated to see if perceived discrimination acts as a moderating variable in the relationship between generational status and depression. It is possible that if perceived discrimination does not mediate the relationship between nativity status and depression, it may moderate the strength of the relationship. Perceived discrimination may exacerbate the impact of nativity status on depression. That is, it is the impact of generational status on depression may be greater for those reporting more perceived discrimination than those reporting less. Consistent with the prior three hypotheses, the moderation effect will be tested in all respondents, and then the subgroups of Asians and Latinos.

Methods

Subjects

Respondents for this study were undergraduates at the City College of New York. All respondents were at least 18 and were enrolled in the Introduction to Psychology course at City College. Data were collected on 337 subjects. The original sample size was 353 respondents, however 16 were eliminated from the sample because all of their grandparents were born in the United States and therefore they would not be considered to be of immigrant background for the purposes of this research. The average age of respondents was 20 years old, and ranged from 18-42 years old (SD 5.65). The majority of respondents (66%) were female. Table 1. indicates the age and gender of the sample included in the study.

Table 1. Age and Gender of Population

Age	%	N
18	29%	97
19	26%	86
20	13%	45
21	10%	32
>21	23%	76
Gender	%	N
Male	34%	101
Female	66%	195

Ethnicity was coded into 6 categories; Asians, Latinos, African Americans, European or Caucasians, Caribbean or Pacific Islanders, and Middle Eastern (See Table 2).

Table 2. Ethnicity in Population

Ethnicity	%	N
Asians	36%	121
Latinos	33%	111
African Americans	10%	33
White or Caucasian	9%	29
Caribbean or Pacific Islander	9%	29
Middle Eastern	3%	11

Descriptives

For the purposes of this research,, respondents were broken into two categories: native born respondents who were defined as born within the United States, and foreign born respondents which were those who were born outside the United States. Native born participants of immigrant backgrounds made up 171 respondents (53%), while foreign born immigrants made up 154 respondents (47%). Table 3. indicates the age that foreign born respondents arrived in the United States.

Table 3. Age Arrived in the United States among the Foreign Borns

Age Arrived in the U.S.	%	N
0-5	29%	45
6-10	24%	37
11-15	22%	34
16-20	17%	26
>21	8%	12

Measures

Demographic Questionnaire. Demographic information (age, gender, and ethnicity) was obtained with some basic questions in the beginning of the study. The subjects' ethnicity and generational status were determined by asking the country of origin for themselves, their parents, and their grandparents on both their mother and father's side. Respondents who were born in another country outside the United States were classified as foreign born. Respondents born in the United States were classified as native born.

Depression Inventory. Depression was measured using the Center for Epidemiological Studies – Depression Scale, or CES-D (Radloff, 1977). The 20-item scale measures depressive symptoms experienced during the previous week. The scale ranges from 1 “rarely or none of the time” (defined as less than 1 day) to 4 “most or all of the time” (defined as 5-6 days a week). Items on the scale included things like, “I did not feel like eating; my appetite was poor” or “I felt that everything I did was an effort”, among other symptoms. Positively worded items were reverse-coded in computing the total score. Positively worded items included, for example, “I was happy” or “I enjoyed life.” Total scores were calculated so that a higher score indicated higher levels of depressed mood [This scale is included in Appendix A]. Results from prior studies have confirmed the convergent validity of the CES-D with measures of depression, self-esteem, anxiety, and hopelessness (Morin, et al, 2011) Other studies have confirmed reliability as well, with the CES-D showing a high Cronbach's alpha (.88) (Lehmann et al., 2011). The inter-item reliability for the depression scale in this study was high (Cronbachs alpha = .84).

Perceived Discrimination. Perceived discrimination was defined as self-reported everyday experiences of unfair treatment. This was measured using the scale included in the

National Latino and Asian American Study (NLAAS) to measure perceived discrimination (McKinlay & Marceau, 1999). This is a nine item scale which inquires about how often you perceive discrimination in your everyday life. Subjects responded to items such as “You are treated with less courtesy than other people,” and “You receive poorer service than other people at restaurants or stores.” [This scale is included in Appendix B] Items were measured on a scale ranging from 1 through 6, with 1 defined as perceiving the highest level of discrimination “almost every day” to 6 being defined as perceiving the lowest level of discrimination “never.” Therefore a lower score on this scale indicates higher levels of perceived discrimination. This scale was taken from a previous study (Perez et al., 2008). The inter-item reliability for the perceived prejudice scale in this study was high (Cronbachs alpha = .90)

Procedure

Approval was obtained from City College of New York’s Institutional Review Board to conduct the study. Participants arrived at their scheduled appointment time. They were asked to read the informed consent and briefly look over the survey to ensure they were comfortable with participation. The administrator informed them that they could stop the survey at any time, and leave any questions blank that they did not feel comfortable answering. The subjects were also told to answer the questions as honestly as possible because this was going to be applicable for the purposes of original research. The participants were told the survey was completely anonymous. The subjects were asked to complete a thirty minute survey, which asked many questions about their ethnicity and country of origin and included a depression inventory and a scale measuring perceived discrimination. The subjects’ ethnicity and generational status were determined by asking the country of origin for themselves, their parents, and their grandparents

on both their mother and father's side. The respondents received a debriefing form, which included information about the study, contact numbers, and how to follow up with the results of the study once it was complete.

Results

Hypothesis one: Depression in native-born versus foreign-born individuals

1a. All Respondents

To test the first hypothesis that native born respondents would have higher levels of depression than foreign born, a t-test was run to see if foreign-born scored lower on the depression inventory than native-born. There was no significant difference found in depression between these two groups ($t=.38$, $df = 307$, $p = ns$). Foreign born had a mean of 16.96 (SD 9.48) on the depression inventory and native born had a mean score of 16.55 (SD 9.53).

1b. Asian Respondents

A t-test was also run on Asian respondents within the population. The t-test indicated that there was no significant difference in depression between native and foreign born respondents among the Asian population ($t= .45$, $df = 110$, $p = ns$). The foreign born had a mean score of 17.8 (SD 10.32) on the depression inventory, and the native born had a mean score of 17.0 (SD 8.46).

1c. Latino Respondents

A t-test was also conducted to examine mean differences on depression for Latino respondents and indicated that among Latinos, native born immigrants reported higher levels of depression than their foreign born counterparts ($t = -2.11$, $df = 84$, $p = .04$). The foreign born had

a mean score of 13.45 (SD 6.94) on the depression inventory, and the native born mean score was 17.15 (SD 10.52).

Hypothesis two: Perceived Discrimination in native-born versus foreign-born individuals

2a. All Respondents

The hypothesis that native born immigrants would have higher levels of perceived discrimination than foreign born immigrants was tested using a t-test on the total score on the perceived discrimination scale. As hypothesized, native born respondents reported significantly higher levels of perceived discrimination than their foreign born counterparts ($t=2.88$, $df=319$, $p=.004$). The mean score for foreign born respondents was 44.6 (SD 7.08) while the mean score for native born respondents was 42.0 (SD 8.80). On the perceived discrimination scale lower scores indicate higher levels of perceived discrimination.

2b. Asian Respondents

No significant difference was found in perceived discrimination of foreign born versus native born Asian respondents ($t=1.57$, $df = 115$, $p = ns$). Foreign born had a mean of 44.9 (SD 6.78) on the perceived discrimination scale, while native born had a mean of 42.9 (SD 6.70).

2c. Latino Respondents

Examining exclusively Latinos for varying levels of perceived discrimination, no significant difference was found between native and foreign born respondents ($t=1.69$, $df = 92$, $p = ns$). The mean score for foreign born was 44.9 (SD 5.77) , while the mean score for native borns was 42.4 (SD 9.43).

Hypothesis Three: Perceived Discrimination as a Mediator

The relationship between nativity status and depression was expected to be mediated by perceived discrimination. To establish mediation, the following conditions must hold; first, nativity status must affect perceived discrimination, second, the nativity status must affect depression, and third, perceived discrimination must affect depression. If all of these conditions hold, then the final step of a mediation analysis is that perceived discrimination is added to the model, and the effect of nativity status on depression must be less in the third equation than the second. Perfect mediation holds if nativity status has no significant effect when perceived discrimination is controlled (Baron & Kenny, 1986).

3a. All Respondents

Following Baron and Kenny's (1986) procedure, a correlational analysis was conducted to see if the first three conditions were satisfied in order for a mediation analysis to be conducted. First, a correlation between nativity status and perceived discrimination was tested in which this relationship proved to be highly significant ($r = -.16$, $p = .005$, $df = 324$). Second, a correlation between nativity status and depression was performed and these variables were found not to be significantly related ($r = -.022$, $p = .70$, $df = 308$). Although the second condition for mediation was not satisfied, the third condition was tested which found the relationship between perceived discrimination and depression highly significant ($r = -.28$, $p = .000$, $df = 318$). Due to the fact that all three conditions were not satisfied, it can be concluded that perceived discrimination is not a mediating variable between nativity status and depression for all respondents.

3b. Asians

Examining exclusively Asians for perceived discrimination as a mediator, a correlational analysis was run between nativity status and perceived discrimination; however the correlation

did not prove to be significant ($r = -.15$, $p = .12$, $df = 116$). To complete the analysis, a correlation was also calculated comparing nativity status and depression ($r = -.04$, $p = .66$, $df = 111$) which was also not significant. To analyze the third condition of the analysis, a correlation was run comparing perceived discrimination and depression ($r = -.31$, $p = .001$, $df = 114$), which proved to be a highly significant relationship. However, condition one and two of Baron & Kenny's (1986) requirements for mediation was not met, and therefore it was concluded that perceived discrimination was not a mediator for nativity status and depression among Asians.

3c. Latinos

Examining exclusively Latinos for a mediation effect, a correlation was conducted between nativity status and perceived discrimination. The relationship between these two variables was not significant ($r = -.13$, $p = .17$, $df = 108$). A second correlation was run to see if nativity status affected depression, however this correlation also did not prove to be significant ($r = .17$, $p = .08$, $df = 104$). To finalize the conditions of a mediation analysis, a third correlation was run to see if perceived discrimination had an effect on depression. This correlation was highly significant ($r = -.41$, $p = .000$, $df = 106$), however the first and second condition in the mediation analysis was not satisfied, and therefore it can be concluded that perceived discrimination did not mediate the relationship between nativity and depression within Latinos.

Exploratory Analysis

Perceived discrimination did not mediate the relationship between nativity status and depression, therefore an exploratory analysis was done to investigate whether it was possible that perceived discrimination moderates the strength of the relationship between these two variables. If perceived discrimination is moderating the relationship, it would be expected that the

relationship between generational status and depression differs depending upon the level of perceived discrimination. That would be shown if the interaction between the two variables significantly increases the amount of variance explained, after both nativity and perceived discrimination are entered into the regression equation (Kenny, 2009). In checking for demographic correlates that might influence the analysis, it was found that age did not significantly correlate with the total depression score ($r = -.04$) but gender did ($r = .28, p = .007$). As a result, gender was entered first into the regression equation testing moderation followed by the new generation measure, then the measure of perceived discrimination, and finally the interaction between generation and perceived discrimination. This analysis was done for all respondents, followed by just Asians and then just Latinos.

A. All Respondents

A multiple regression analysis was completed for all respondents in the sample. In the first step of this analysis, gender significantly predicted depression. In step two, gender significantly predicted depression, but nativity did not. When perceived discrimination was entered into the analysis, gender and perceived discrimination significantly predicted depression whereas nativity did not prove to significant. In step 4, when the interaction between generation and perceived discrimination was entered into the analysis, gender and discrimination remained significant as predictors, but nativity and the interaction were not significant. Following Baron & Kenny's (1986) model of moderation, it can be concluded that perceived discrimination does not act as a moderator due to the fact that the interaction is not significant. The results of the analysis are shown in Table 4.

Table 4. Multiple Regression Analysis Predicting Gender, Generation, Perceived Discrimination and the Interaction between the Two for All Respondents.

Variables Entered	R	β	Sig in Final
Step 1 - Gender	0.145	0.145	0.016
Step 2 - Gender Nativity	0.150	.145 -.036	.016 .547
Step 3 - Gender Nativity Discrimination	0.345	.166 -.076 -.314	.004 .190 .000
Step 4 - Gender Nativity Discrimination Interaction	0.350	.164 -.078 -.331 .062	.004 .175 .000 .298

B. Asians

A multiple linear regression was also completed analyzing just the Asian population. In the first step of this analysis, gender did not significantly predict depression. In step two, gender and nativity status were entered into the equation, and both variables did not significantly predict depression. When perceived discrimination was entered into the analysis, gender and nativity did not significantly predict depression whereas perceived discrimination did. In step 4, when the interaction between generation and perceived discrimination was entered into the analysis, gender and nativity were not significant predictors of depression; however perceived discrimination and the interaction between the two were found to be significant. Following Baron & Kenny's (1986) model of moderation, it can be concluded that perceived discrimination acts as a moderator between nativity status and depression in Asian respondents due to the fact that perceived discrimination and the interaction between perceived

discrimination and nativity are significant predictors of depression. The results of the analysis are shown in Table 5.

Table 5. Multiple Regression Analysis Predicting Gender, Generation, Perceived Discrimination and the Interaction between the Two for Asian Respondents.

Variables Entered	R	β	Sig in Final
Step 1 - Gender	0.10	0.100	0.323
Step 2 - Gender Nativity	0.12	.092 -.066	.370 .516
Step 3 - Gender Nativity Discrimination	0.40	.100 -.114 -.383	.294 .232 .000
Step 4 - Gender Nativity Discrimination Interaction	0.45	.079 -.128 -.323 .220	.397 .173 .001 .024

C. Latinos

A final multiple linear regression was run for only Latinos. In the first step of this analysis, gender significantly predicted depression. In step two, gender significantly predicted depression, but nativity did not. When perceived discrimination was entered into the analysis, gender and perceived discrimination significantly predicted depression whereas nativity did not. In step 4, when the interaction between generation and perceived discrimination was entered into the analysis, gender and discrimination remained significant as predictors, but nativity and the interaction were not significant. Following Baron & Kenny's (1986) model of moderation, it can be concluded that perceived discrimination does not act as a moderator for Latino respondents

due to the fact that the interaction between nativity and perceived discrimination is not a significant predictor of depression. The results of the analysis are shown in Table 6.

Table 6. Multiple Regression Analysis Predicting Gender, Generation, Perceived Discrimination and the Interaction between the Two for Latino Respondents.

Variables Entered	R	β	Sig in Final
Step 1 - Gender	0.28	0.277	0.007
Step 2 - Gender Nativity	0.31	.260 .147	.011 .145
Step 3 - Gender Nativity Discrimination	0.55	.327 .106 -.452	.000 .237 .000
Step 4 - Gender Nativity Discrimination Interaction	0.55	.321 .116 -.375 -.110	.001 .200 .004 .375

Discussion

This study set out to examine the relationships among nativity status, depression, and perceived discrimination. The first hypothesis for this study was that native born respondents would have higher levels of depression than foreign born respondents. The study looked for effects within the entire sample, then more specifically investigated whether this relationship was true for Latinos and then for Asians. Native born respondents did not experience significantly higher levels of depression than foreign born respondents when examining the full sample of participants. Including the entire sample may have been too broad an analysis for this finding, as our sample included respondents from Africa, Europe, Caribbean or Pacific Islander, Middle

Eastern, as well as Asian and Latino. This may have produced high levels of variance within the measures used.

The relationship between nativity status and depression was then analyzed for Latinos. When the sample included only individuals who self-identified as Latino, native born respondents had significantly higher levels of depression than their foreign born counterparts. This was a compelling finding, as it confirms prior studies showing that native born individuals of immigrant families have higher levels of depression than foreign born respondents. There are a few potential explanations for this finding. First, it is possible that native born individuals have increased expectations of their academic, socioeconomic and overall health status. This increase in expectations may increase stress, which in turn is often associated with depression. Second, it is possible that depression is more prevalent in the United States, and somehow feelings of depression are triggered once they arrive. With greater acculturation to the dominant culture, where depression is prevalent, depression might be expected to increase in the acculturating group. This explanation proposes that American culture may facilitate or incite feelings of depression, and contradicts the notion that this disparity in mental health is in fact paradoxical. If American culture has higher levels of depression in general, it is reasonable to assume that the longer an individual is here the more likely they will experience feelings of depression.

The data was also analyzed separately for Asians. When the sample included only individuals of Asian descent, there was no significant difference in depression between native born Asian respondents versus foreign born. The lack of significance in this finding could be for a couple of reasons. First, it is possible that the ethnic group of Asian's need to be broken up into more specific groups in order to do an accurate analysis. Asia is the largest continent in both

size and population, and therefore a deeper analysis may be needed in order to see these generational differences. South Asian and Eastern Asia have distinguishable cultural differences, and therefore these groups need to be broken up in greater depth. The population used for this study included Asians as one category to keep a sample large enough to have the potential to yield significance. More will be said on the relationship between nativity and depression below in the discussion of the results of the moderation analysis.

The second hypothesis was that native born respondents would perceive higher levels of discrimination than their foreign born peers. The analysis first included the entire sample, and found that native born respondents perceived significantly more discrimination than foreign born. As discussed in earlier literature, it is possible that social assimilation plays a significant role in the relationship between perceived discrimination and nativity status (Perez, Fortuna & Alegria, 2008). Social assimilation heightens awareness of cultural stigmas and alienation within the host society, and therefore helps to increase levels of perceived discrimination. Future studies should investigate the role that social assimilation might play in varying levels of perceived discrimination.

Subsequent analyses were performed on the Asian and Latino subsamples. The results among Latinos indicated that native born were trending in the direction of having higher levels of perceived discrimination than foreign born, however the results were not significant. It is possible that more subjects could have led to significant results, given the fact that only 111 participants self-identified as Latino in this study. Similarly, Asians only had 121 subjects in that subgroup, therefore the limited number of Asians in the sample could account for the lack of

significant results within this subgroup as well. These results indicate that further research should be done to investigate perceived discrimination and nativity status among Latinos.

The final analysis of nativity status and perceived discrimination was done using solely the ethnic group identified as “Asian” in our sample. No significant difference was found regarding nativity status as it relates to perceived discrimination. Prior research has shown that nativity status of Chinese-Americans has a relationship with perceived discrimination, therefore further research should be done to investigate more regarding the relationship between nativity and perceived discrimination (Juang & Cookston, 2009) suggesting again that it may be important to analyze subgroups of Asians instead of collapsing them all into one group in analyses.

The third hypothesis was that perceived discrimination mediates the relationship between nativity status and depression. That is, it was predicted that nativity status leads to an increase in perceived discrimination which in turn serves to increase depression. Perceived discrimination was first investigated as a mediator for the whole sample, then strictly for Latinos and Asian groups independently. As a prerequisite for analysis of mediation, each pair of variables must have a significant relationship; nativity status and depression, nativity status and perceived discrimination, and depression and perceived discrimination. A correlational analysis was run to see if the first three conditions were satisfied in the mediation analysis. In each of the three groups, no group fulfilled all three conditions which would lead to a mediation analysis. Therefore it can be concluded that perceived discrimination did not play a mediating role in nativity status and depression among all respondents, Latinos or Asians. It is possible that there are other variables that need to be investigated to determine the causal relationship between

nativity status and depression. The level of acculturation into the dominant culture as well as stress may play a significant role in depression, therefore further investigations should look at the potential mediating role that other variables may play in explaining the difference in depression between native born versus foreign born newcomers.

Although perceived discrimination did not play a mediating role in the relationship between these two variables, exploratory analyses were conducted to test if perceived discrimination moderated the role between nativity status and depression. The exploratory analyses of the moderating role of perceived discrimination played in the relationship between nativity and depression among all respondents and Latino respondents did not prove to be significant, however it was found significant among the Asian population. This was a compelling finding because the Asian respondents did not have significant mean differences in the earlier t-tests that were conducted.

A possible explanation for why perceived discrimination moderates the relationship between nativity status and depression may be that Asians who are born in the United States may be more likely to be upset by and internalize feelings of discrimination, whereas those born in other countries may anticipate discrimination from others and therefore be less affected by their feelings of perceived discrimination. Future research might measure the emotional response to perceived discrimination of native versus foreign born immigrants.

A second possible explanation for perceived discrimination acting as a moderating variable for depression and nativity status may be that Asians who are born in the United States are more aware of discrimination than those born outside of this country. It may be possible that increased levels of social assimilation may coincide with increased levels of perceived

discrimination (Vega et. al., 2004). The more socially aware an individual is, the more likely they are to perceive feelings of discrimination or alienation. Therefore perceived discrimination may moderate this relationship in Asians due to the fact that native born individuals social awareness might cause them to perceive more discrimination than their foreign born counterparts.

Limitations

There were several limitations to this study. The first limitation has to do with the generalizability of the sample. The data for these analyses only included college students. This is a restriction on the depth of our analysis because the results only show information on one specific population. Furthermore, this population has already been somewhat successful in their achievement, given the fact that they are at City College to further their education beyond the high school level. Although depression and perceived discrimination may not directly correlate with educational status, the study missed a large population of newcomers who did not make it to college, but rather went directly into the work force. Future studies should investigate nativity status outside of the college population.

City College is diverse and has a large immigrant population and also tends to have larger numbers of adults returning as students (ages ranged from 18-32), so while they are college students, they also may represent the greater New York City area. However, that may not generalize to immigrants and families who migrate to other parts of the United States. New York City has large numbers of immigrants and acculturation may be easier and faster here than in other parts of the United States. Therefore future studies might investigate other areas of the country to see the similarities and disparities between these trends.

The second limitation to the study is the classifications of ethnicity. Based on the sample size at hand, a census based classification system was used which categorized Latinos to include all of South America, the Latin-American islands, and Mexico and Asians included China, Japan, India and all of the surrounding countries in Asia. There are a large variety of differences within each Hispanic and Asian community, therefore it would be valuable to delve deeper into each Latin-American and Asian communities more specifically to see if the generational differences vary between each group. For example, it would be valuable to look at differences in nativity status between South Asians versus East Asians, and how those cultural differences impact their development in the United States. Future studies with much larger sample sizes should investigate the differences between foreign born and native born Latinos and Asians within each country of origin.

A third limitation to the study is the inability to go into depth in understanding the role that acculturation may be playing in the results. While a question about language as well as a question about with whom the respondents spent time was included, the survey did not have a full measure of acculturation as used in other studies.

Last, it would be valuable to look at the differences between generational statuses rather than just looking at nativity status. It would be worthwhile to examine the differences between second and third generation individuals to see the impact of perceived discrimination on depression for specific generations. Future studies should investigate depression and perceived discrimination as they relate to first, second and third generations separately to see the impact these variables have on each generation independently.

Implications

This study was conducted because it is important to acknowledge the struggles of immigrants who come to the United States in hopes of a better life for themselves and their families. It is critical to study foreign born versus native born immigrants in particular because it displays how immigrants are progressing as they and their families reside in the United States for multiple generations. The information found on these trends can help to inform and educate others to ensure proper services are offered to both foreign immigrants as well as to native born individuals from immigrant backgrounds. This will help to ensure that immigrants residing in the United States for future generations will be successful in this country. Future studies should be done to investigate interventions for native born Latinos and Asians to help them through the acculturation process (Martinez, 2006) in hopes of achieving lower levels of depression.

Perceived discrimination, in particular, is important to study because there needs to be both perceived and real equality in contemporary society. Many people within the United States feel that prejudice and discrimination are nonexistent today because there are laws and policies in place to protect minority groups (Whitley & Kite, 2009). It is clear from this analysis that there is still a perception of discrimination in native born as well as foreign born immigrant groups. In order to obtain true equality in the United States, it is important for immigrant groups to view their status as equal to other ethnic groups within their community. Future studies should investigate ways to reduce feelings of perceived discrimination for all.

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Appendix A - CES-D

Below is a list of the ways you might have felt or behaved. Please tell us how often you have felt this way during the past week by circling the answer.

During this past week:	Rarely <1 day	Some 1-2 days	Occasionally 3-4 days	Most 5-6 days
I was bothered by things that usually don't bother me.	0	1	2	3
I did not feel like eating; my appetite was poor.	0	1	2	3
I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
I felt that I was just as good as other people.	0	1	2	3
I had trouble keeping my mind on what I was doing.	0	1	2	3
I felt depressed.	0	1	2	3
I felt that everything I did was an effort.	0	1	2	3
I felt hopeful about the future.	0	1	2	3
I thought my life had been a failure.	0	1	2	3
I felt fearful.	0	1	2	3
My sleep was restless.	0	1	2	3
I was happy	0	1	2	3
I talked less than usual	0	1	2	3
I felt lonely	0	1	2	3
People were unfriendly.	0	1	2	3
I enjoyed life.	0	1	2	3
I had crying spells.	0	1	2	3
I felt sad.	0	1	2	3
I felt that people disliked me.	0	1	2	3
I could not "get going"	0	1	2	3

Appendix B - NLAAS - Perceived Discrimination

In your day-to-day life how often have any of the following things happened to you? Please answer these questions based on your self-identified ethnic group from Question #23.

	Almost every day (1)	At least once a week (2)	A few times a month (3)	A few times a year (4)	Less than once a year (5)	Never (6)
You are treated with less courtesy than other people.	1	2	3	4	5	6
You are treated with less respect than other people.	1	2	3	4	5	6
You receive poorer service than other people at restaurants or stores.	1	2	3	4	5	6
People act as if they think you are not smart.	1	2	3	4	5	6
People act as if they are afraid of you.	1	2	3	4	5	6
People act as if they think you are dishonest.	1	2	3	4	5	6
People act as if you are not as good as they are.	1	2	3	4	5	6
You are called names or insulted.	1	2	3	4	5	6
You are threatened or harassed.	1	2	3	4	5	6