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Ataque de Nervios as a Marker of Social and Psychiatric Vulnerability: Results from the NLAAS

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Abstract

Background—This article presents the first epidemiological portrait of *ataques de nervios* among Latinos in the mainland United States. Much of the previous literature has focused on Puerto Ricans in Puerto Rico and New York City.

Aims—This study examines the social and psychiatric correlates of *ataque de nervios* in a nationally representative sample of Latinos in the United States.

Methods—This study employs data from the Latino sample [N=2554] of the National Latino and Asian American Study. Analyses examined the associations between *ataques de* nervios and a range of social and migration variables, as well as psychiatric diagnoses and measures of mental health need.

Results—*Ataques de nervios* were reported by 7 to 15% of the different Latino groups, with Puerto Ricans reporting the highest frequency. *Ataques de nervios* were more frequent in women, those with disrupted marital status, and those more acculturated the U.S. The frequency of those who met criteria for affective, anxiety and substance abuse disorders was higher among those reporting an *ataque de nervios*.

Conclusions—*Ataque de nervios* can serve as an important indicator of social and psychiatric vulnerability in future epidemiological and clinical studies with Latino populations.

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Keywords

ataques de nervios; cultural syndromes; Latinos; NLAAS; social and psychiatric vulnerability

Introduction

In this paper, we examine the role of *ataque de nervios* as a marker for social and psychiatric vulnerabilities across all Latinos living on the United States mainland, using data from the recently completed National Latino and Asian American Study (Alegria, Takeuchi, et al., 2004). Public health mental health studies have been concerned with identifying critical markers of risk of mental health problems and need for mental health services. In this paper, we propose that *ataques de nervios* serve as an important risk factor for mental health problems and needs among Latino populations.

This paper provides the first epidemiological portrait of the experiences of *ataques de nervios* among Latinos living in the mainland United States. As the largest and one of the fastest growing ethnic groups in the U.S., it is important for public health researchers to understand the cultural dimensions of mental health among Latinos. Major questions have existed about the presence of *ataques de nervios* in Latino groups other than Puerto Ricans. While clinical studies in New York City (Liebowitz, et al., 1994; Salman, et al., 1998; Lewis-Fernandez, et al., 2002) have indicated that *ataques de nervios* are also prominent in Latinos from the Dominican Republic, there have been no population-based studies of *ataques* among the diverse population of Latinos living in the mainland U.S. The goal of this paper is to continue to evaluate *ataque de nervios* as a marker of social and psychiatric vulnerability in Latino populations.

Social vulnerability has recently emerged as an important concept in public health and community psychology research, as reflected in the United Nations 2003 Report on the World Social Situation (United Nations, 2003). Amaro and colleagues (2005) define social vulnerability as "⋯ contextual factors (e.g., gender relations; racial discrimination; and political and economic circumstances, including poverty) that differentially and adversely impact various populations" (p. 496). The United Nations report also identifies increased mobility of populations and changes in family structures as additional factors that have increased social vulnerability in the past decade (United Nations, 2003). *Ataque de nervios* serves as an important indicator of those individuals who are more significantly affected by several of these social vulnerability factors within the Latino community. At the same time, these factors place Latinos at greater risk of mental health problems and related disability.

Previous Research On Ataques De Nervios

> The picture that emerges from our analyses is that those who suffer from a combination of social disadvantage, psychiatric disorder, and poor perceived health are more likely to experience an *ataque de nervios* (Guarnaccia, et al., 1993:157).

In 1993, Guarnaccia and colleagues concluded that *ataques de nervios* were a significant marker of social and psychiatric vulnerability among Puerto Ricans in Puerto Rico. In the subsequent 15 years, research in both community and clinical populations, with adults and children has further demonstrated the role of *ataques de nervios* as an important indicator of vulnerability in Puerto Rican populations in Puerto Rico and New York City (Guarnaccia, et al., 1993; Guarnaccia, et al., 1996; Lewis-Fernandez, et al., 2002; Guarnaccia, et al., 2005).

The following brief description from the DSM-IV Glossary of Cultural Syndromes orients readers not familiar with an *ataque de nervios* (American Psychiatric Association, 1994).

Ataque de nervios is an idiom of distress particularly prominent among Latinos from the Caribbean, but recognized among many Latino groups. Commonly reported symptoms of an *ataque de nervios* include: shouting uncontrollably, attacks of crying, trembling, and becoming verbally or physically aggressive. Dissociative experiences, seizure-like or fainting episodes and suicidal gestures are prominent in some *ataques* but absent from others. A central feature of an *ataque de nervios* is a sense of being out of control. *Ataques de nervios* frequently occur as a direct result of a stressful event relating to the family, such as news of a death of a close kin, a separation or divorce from a spouse, conflicts with a spouse or children, or witnessing an accident involving a family member. After the *ataque de nervios*, people often experience amnesia of what occurred. However, they otherwise rapidly return to their usual level of functioning. *Ataques de nervios* have been shown to be associated with a range of affective, anxiety, conduct, and dissociative disorders in several epidemiological and clinical studies, as well as being normative forms of expressing deep sadness and strong anger in stressful social situations.

Epidemiological research found that approximately 15% of adults in Puerto Rico reported an *ataque de nervios* in a major mental health study that represented the entire island nation (Guarnaccia, et al., 1993). In particular, women, those from low SES backgrounds, and people who had experienced a marital disruption were likely to report an *ataque de nervios*. *Ataques* were also strongly associated with meeting criteria for both anxiety and affective disorders. Overall, 63% of those who reported an *ataque de nervios* met criteria for a research diagnosis in the study.

Subsequent studies have found strong associations between *ataques de nervios* and anxiety and affective disorders, as well as dissociative disorders among Puerto Rican populations in Puerto Rico and New York City and among Dominicans in New York City (Guarnaccia, et al., 1993; Liebowitz, et al., 1994; Guarnaccia, et al., 1996; Salman, et al., 1998; Lewis-Fernandez, et al., 2002). A recent study in children in Puerto Rico (Guarnaccia, et al., 2005) indicates that *ataques de nervios* also function as markers of social and psychiatric vulnerability in this group. Adolescent girls are more likely to report *ataques*, as are those who come from families that self-assess themselves as poor. Children with *ataques de nervios* are much more likely to meet research diagnostic criteria for a range of anxiety, affective and conduct disorders and to be more impaired from their mental health problems than other children.

This paper builds on this previous finding to examine *ataques de nervios* among Latino groups on the U.S. mainland. With the NLAAS data, we are able to examine differential prevalence of *ataques de nervios* across Latino groups on the U.S. mainland. We test the relationship of *ataques* to social and psychiatric vulnerability in these groups. We hypothesize that *ataques* are more prominent in women and those of lower SES based on our previous research. We also expect that *ataques* are more prominent in those who are less acculturated to U.S. culture, since they reflect continuing understanding of mental health in Latino cultural terms. We hypothesize that reporting *ataques* is strongly associated with meeting research criteria for anxiety and depression disorders and will predict mental health outcomes over and above meeting criteria for DSM-IV disorders.

Methods

The National Latino and Asian American Study (NLAAS) is one of the largest population-based surveys of Latinos and Asian Americans ever conducted in the United States (Alegria, Takeuchi, et al., 2004). The NLAAS is more than another psychiatric disorder prevalence study of separate Latino and Asian American populations. Rather, this study seeks to assess the role of ethnicity/race, cultural factors, socioeconomic status and environmental context in explaining potential health and service use differences. It brings a renewed focus to social and

environmental determinants of mental disorder and services use that may shed light on how to intervene at the population or regional level, rather than only at the individual level. It is thus ideally designed to assess social and psychiatric vulnerability factors for mental health problems among Latinos.

Sample Design

The NLAAS is based on a stratified area probability sample design and was among the most challenging sampling designs ever developed and fielded by the University of Michigan Survey Research Center (Heeringa, et al., 2004). The survey populations for the NLAAS study included all Latino and Asian American adults, 18 years of age and older, in the non-institutionalized population of the coterminous United States and Washington, D.C. This paper is restricted to the Latino sample. Within the Latino sample, data come from four distinct subgroups: 868 Mexicans, 577 Cubans, 495 Puerto Ricans and 614 Other Latinos. The final sample consisted of 2,554 Latinos with a response rate of 75.5%. This includes a NLAAS Core Sample, designed to provide a nationally-representative sample of all Latino origin groups regardless of geographic residential patters; and NLAAS high density (HD) supplements, designed to over-sample geographic areas with moderate to high density (>5%) of targeted Latino households in the U.S. Weighting reflects the joint probability of selection from the pooled Core and HD samples and provides sample-based coverage of the full national Latino population. The NLAAS weighted sample is similar to the 2000 Census in sex, age, education, marital status and geographical distribution, but different in nativity and household income, with more Latino immigrants and lower-income respondents. This is consistent with reports of the undercounting of immigrants in the Census (Anderson & Feinberg, 1999).

Procedures for Data Collection

The University of Michigan's Institute for Social Research (ISR) conducted data collection between May 2002 and November 2003 (Pennell, et al., 2004). Eligibility criteria for the Latino sample of the NLAAS included age (persons 18 years or older), ethnicity (persons who were of Latino, Hispanic or Spanish origin), and language (persons who spoke English or Spanish). Professional lay interviewers, who were bilingual/bicultural, administered the NLAAS battery averaging 2.6 hours. All study materials were translated and adapted into Spanish for the substantial proportion of non-English speaking respondents (see Alegria, Vila, et al., 2004 for detail on instrument translation).

Measures

Composite International Diagnostic Interview (CIDI)—Depressive, anxiety and substance use diagnoses were derived from the *CIDI*, a lay-administered psychiatric diagnostic interview that yields research diagnoses based on the DSM-IV. *CIDI* symptom scores for suicidality and psychoses were also included in the analyses, as were three service utilization measures: hospitalization, general medical services, and specialty mental health services use.

Ataque de Nervios—A question was added to the screening section of the CIDI to assess this cultural syndrome. The screener followed the format of the other disorder screeners and incorporated insights from the epidemiological and clinical research which has defined an *ataque de nervios* (Guarnaccia, et al., 1996; Guarnaccia & Rogler, 1999; Lewis-Fernandez, et al., 2002).

> SCAT1 (English). Have you ever had an episode or nervous attack where you felt totally out of control?
>
> SCAT1 (Spanish) ¿Alguna vez ha tenido Ud. un episodio o ataque de nervios en que se sintió totalmente fuera de control?

If people responded positively to the *ataque* screener, they were then asked if they had experienced a range of 15 different symptoms during the episode (see Appendix A for a complete list of symptoms). Respondents were considered to meet syndrome criteria for an *ataque de nervios* if they responded positively to the screener question and answered yes to four or more of the symptoms. The cut-off of four or more symptoms was derived statistically using tests of distribution of the responses, as well as previous analyses of symptom reports in clinical studies.

Demographics—Standard demographic measures including sex, age, marital status, education, and income were included in the data set.

Acculturation Measures—A range of measures of language use and ability, birthplace and migration were included in the interview. For purposes of these analyses, language of interview, language proficiency in English, language use as a child, nativity, parental nativity, and length of time in the U.S. were used. These variables have emerged as key indicators of acculturation in other NLAAS studies.

Analyses

Unadjusted and age and gender-adjusted contrasts across the four Latino groups were tested using the Rao-Scott adjustments (Rao & Scott, 1984) provided by the STATA survey command for categorical variables and tests of mean value differences for continuous variables. These comparisons reveal differences across Latino groups. All analyses included the sample weights so that results reflect the broader populations of Latinos in the U.S. Analyses were done using the STATA Statistical Software program (Stata Corp, 2004), which allows for weighting adjustments to account for the complex sampling design.

In this paper, we examine the relationship of experiencing an *ataque de nervios* to a range of sociodemographic factors which were associated with *ataque* prevalence in previous research in Puerto Rico. These include gender, age, education, and marital status among others. We also explore the relationship of reporting an *ataque de nervios* to migration status and acculturation level. The next set of analyses examines the association of experiencing an *ataque de nervios* to meeting lifetime criteria for the *CIDI*-based diagnostic, symptom, and service utilization measures. Finally, a series of logistic regression analyses identify the key predictors of meeting criteria for any affective or anxiety disorder and using mental health services. The goal of these analyses is to assess the role of *ataque de nervios* as a predictor of mental health outcomes in relation to other social and psychiatric vulnerability factors.

Results

The first question we addressed was whether *ataques de nervios* were as frequent among other Latino groups as among Puerto Ricans (Table 1). Puerto Ricans were significantly more likely to report *ataques* than other Latino groups. Fifteen percent of Puerto Ricans responded positively to the *ataque* screener, compared to 9.6% of Mexicans, 9% of Cubans, and 7% of other Latinos. When the syndrome criteria were applied, Puerto Ricans still had higher rates of *ataques de nervios* than the other Latino groups.

We tested a number of sociodemographic variables that had been found to be associated with *ataques de nervios* in previous studies (see Table 2). Those who responded positively to the *ataque* screener and those who met syndrome criteria by also endorsing at least 4 symptoms were significantly different than the overall sample. Women were significantly more likely to report an *ataque de nervios* and meet syndrome criteria than men. Particularly compared to those who were married, those who reported an *ataque* were more likely to be widowed,

separated or divorced. Neither age, education, nor household income was associated with reports of *ataques de nervios*.

Reports of *ataques de nervios* were associated with greater acculturation to U.S. society. Those who were born in the U.S. and who had more parents born in the U.S. were more likely to report an *ataque de nervios* and to meet criteria for the *ataque* syndrome. Also those who had spent more than 70% of their life in the U.S. were more likely to report an *ataque*. Those who chose to be interviewed in English and who rated their proficiency in English as good or excellent were more likely to report and meet syndrome criteria for an *ataque de nervios*.

Reports of *ataques de nervios* were strongly associated with research psychiatric diagnoses, as well as with symptom scales indicative of greater psychiatric morbidity. Reporting an *ataque* was also associated with use of mental health services (Table 3.). For every lifetime psychiatric diagnosis along the depression-anxiety spectrum assessed in the NLAAS, the prevalence of disorder was significantly higher in the *ataque* screener group compared to the total sample, and still higher in those who met syndrome criteria. Whereas 2-15% of the total sample met criteria for any depression or anxiety disorder, more than 50% of the screener group and 60% of the syndrome group met criteria for these disorders. While less than a third of the total sample met research criteria for any lifetime psychiatric disorder, over 80% of the *ataque* groups met criteria for any disorder.

Suicidal symptoms were 5 times higher and psychotic symptoms were twice as high in the *ataque* group compared to the total sample of Latinos. While the differences between the total sample and the *ataque* groups were not as dramatic, those who reported an *ataque* were more likely to have used both general medical and specialty mental health services and to have been hospitalized for a mental health problem.

The final logistic regression analyses allowed us to assess the relative contribution of *ataque de nervios* to important mental health outcomes in relationship to social and psychiatric variables (Table 4). Three regression models were tested: one for any Depression Disorder, one for Any Anxiety Disorder and one for Mental Health Services Use. Not surprisingly, the strongest predictors of depression and anxiety disorders and the use of mental health services was the presence of other psychiatric disorders. *Ataque de nervios* was the next strongest and most consistent predictor of disorder and services use. Those who met criteria for the *ataque* syndrome were more than 5 times as likely to meet criteria for a depression or anxiety disorder; they were more than twice as likely to have used mental health services. The only social factor with as consistent a relationship to these mental health outcomes was gender, with women being almost twice as likely as men to meet criteria for disorder and to use services.

Discussion

Our analyses indicate that *ataques de nervios* are more prominent among Puerto Ricans and that our previous emphasis on this population was important. At the same time, these analyses indicate that the experience of *ataque de nervios*, as assessed with the CIDI screener, is recognized and reported across Latino groups. Looking beyond results on the screener to the more detailed questions on *ataque* experiences (data not shown), the groups are remarkably similar. There were no significant differences in the distribution of the specific symptoms (15 were assessed) that were reported across the Latino groups, in the mean number of symptoms, in the proportion meeting syndrome criteria, nor in the mean number of *ataque* episodes. Thus, while Puerto Ricans are more likely to endorse the CIDI screener for *ataques*, once a Latino endorses the screener they appear to be reporting a very similar phenomenon in terms of symptom pattern.

Ataques de nervios are strongly associated with a range of social and psychiatric vulnerabilities among Latinos living on the U.S mainland. As Amaro and colleagues (2005) note, social vulnerabilities are related to gender relations as well as economic and political circumstances, such as poverty, family disruption and migration processes. Women and those whose families have been disrupted by divorce or other family stresses are more likely to report *ataques de nervios*.

At first, we were somewhat puzzled that those who were U.S. born, were citizens, had spent most of their life in the U.S. and spoke more English were also more likely to report an *ataque de nervios*. Given the strong cultural meanings attached to *ataques*, our initial hypothesis was that they would be more prominent in those more closely tied to Latino cultures. However, in line with the research on the Latino paradox, the fact that those who had been in the U.S. longer experienced more distress fits with previous findings (Vega, et al., 1998; Alegria, et al., 2007). *Ataques de nervios* endure as an important idiom of distress for Latinos in the U.S., even as they speak more English and become more acculturated to U.S. society.

The strong association with psychiatric disorder and psychiatric symptoms mirrors previous research on *ataques* in Puerto Rico and with clinical populations of Puerto Ricans and Dominicans in New York. The much higher rates of psychiatric disorder in those who endorsed the *ataque* screener and also met the additional syndrome criteria indicate that this question is taping significant mental health need among Latinos. From a public health perspective, this question is a powerful and simple-to-administer indicator for mental health need. These results highlight the strong connection between *ataques de nervios* and both depression and anxiety disorders.

Clinically, the higher rates of suicidal symptoms associated with *ataque* suggest that clinicians should directly inquire about these symptoms when their Latino patients report an *ataque de nervios* (Trautman, 1961). The association with psychotic symptoms is probably more an indicator of dissociative tendencies than of a psychotic disorder, and again is a broader indicator of mental distress (Lewis-Fernandez, et al., in press). That *ataques de nervios* are an indicator of mental health need is further borne out by the higher rates of general medical services and specialty mental health services among those who reported an *ataque*, as well as the much higher rates of hospitalization for a mental health problem.

While these findings are robust, there are some limitations that readers need to keep in mind. Our screener for *ataque de nervios* follows from our extensive research that identified that an episode of severe loss of control was a core feature of *ataques* of mental health relevance. At the same time, we do not know what respondents specific label was for this episode. We have limited data on the nature of the experience captured by this question, in large part due to the large number of issues that were investigated in the NLAAS and the limited opportunity to explore any one in depth. These results argue for more in-depth investigation of the experiences Latinos are reporting, particularly for groups other than Puerto Ricans, where there is an extensive literature (Guarnaccia & Rogler, 1999).

The findings on the role of *ataque de nervios* as an indicator of social and psychiatric vulnerabilities among Latinos are important both for the public health and clinical fields. For public health, the *ataque* question is a simple, yet powerful, indicator of a range of mental health needs. For the clinician, asking about *ataques de nervios* provides an opening to explore a range of social and psychiatric issues with clinical significance.

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Appendix A. List of Ataque Symptoms

AT2a. *grtió mucho*/shout a lot

AT2b. *tuvo ataques de llanto*/have crying attacks

AT2c. *rompió cosas o se tornó agresivo(a)*/break things or become aggressive

AT2d. *le dio mucho coraje/rabia*/get very angry or in a rage

AT2e. *le dio mucho miedo o susto*/feel very scared or frightened

AT2f. *se puso histérico(a)*/become hysterical

AT2g. *tembló mucho*/tremble a lot

AT2h. se sintió raro(a) como si no fuera a usted quien le pasaba eso/feel strange like it was not you who was doing this

AT2i. *tuvo un period de amnesia*/have a period of amnesia

AT2j. *le dieron mareos*/get dizzy

AT2k. *se cayó al piso con convulsiones*/fall to the floor with a “seizure”

AT2l. *le latió fuerte el corazón*/have heart palpitations (your heart beat hard)

AT2m. *sintió el pecho apretado o un calor en el pecho*/have chest tightness or heat in your chest

AT2n. *se desmayó o se sintió a puntos de desmayarse*/faint or feel on the verge of fainting

AT2o. *intentó herirse o suicidarse*/try to hurt yourself or attempt suicide

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Table 1

Frequency of Ataques de Nervios by Latino Group

Latino Group	N (%)	Screener Positive Percent (SE)	Syndrome Positive Percent (SE)
Puerto Rican	495(10.0%)	14.9(2.6)*	10.9 (2.2)*
Cuban	577(4.6%)	9.0(1.7)	6.2 (1.2)
Mexican	868(56.6%)	9.6(1.2)	6.0 (0.8)
Other Latino	614(28.7%)	7.0(1.4)	5.4 (1.0)

* $p < .05$

Table 2

Relationship of Ataques de Nervios to Sociodemographic Variables

Sociodemographics	Percent (SE) in Total NLAAS Sample	Screener Positive	Syndrome Positive
		Percent (SE)	Percent (SE)
Sex			
Male	51.5 (1.4)	42.2 (2.9)**	40.4 (0.7)**
Female	48.5 (1.4)	57.8 (2.9)	59.6 (0.9)
Age Category			
18-34	49.0 (1.7)	51.2 (3.4)	51.5 (5.3)
35-49	30.1 (1.0)	33.2 (3.7)	35.0 (3.9)
50-64	13.4 (0.9)	12.2 (2.4)	10.3 (3.2)
65 or older	7.5 (1)	3.4 (1.3)	3.2 (1.9)
Education			
11 or fewer yrs	44.1 (1.9)	35.7 (2.8)	37.6 (3.5)
12 yrs	24.5 (0.9)	31.3 (4.0)	31.1 (4.6)
13-15 yrs	21.1 (1.2)	21.0 (2.7)	20.9 (3.4)
More than 16 yrs	10.3 (1.1)	12.0 (2.7)	10.4 (2.9)
Marital status			
Married	51.7 (1.8)	40.6 (4.1)**	38.5 (5.0)*
Never married	30.0 (1.4)	33.2 (3.1)	35.4 (4.5)
Widowed/Sep/Div	18.3 (1.2)	26.1 (3.9)	26.0 (4.4)
Household Income			
0-14,999	27.4 (2.2)	30.8 (4.0)	24.9 (3.6)
15-34,999	28.4 (1.4)	24.5 (4.1)	29.5 (5.0)
35-74,999	28.0 (2.1)	25.3 (4.0)	24.2 (3.8)
More than 75,000	16.2 (1.2)	19.4 (4.2)	21.4 (5.8)
Citizenship			
Not US Citizen	37.7 (2.3)	20.1 (3.2)***	21.6 (3.9)***
US Citizen	62.3 (2.3)	79.9 (3.2)	78.4 (3.9)
Language of Interview			
Spanish	53.2 (3.5)	35.2 (4.7)***	35.2 (5.4)***
English	46.8 (3.5)	64.8 (4.7)	64.8 (5.4)
Proficiency in English			
Poor/fair	48 (2.6)	27.9 (4.0)***	29.4 (4.6)***
Good/excellent	52 (2.6)	72.1 (4.0)	70.6 (4.6)
Nativity			
US Born	42.7 (2.4)	59.4 (3.0)***	55.5 (3.8)***
Foreign Born	57.3 (2.4)	40.6 (3.0)	44.5 (3.8)
Number of Parents Born in US			

Sociodemographics	Percent (SE) in Total NLAAS Sample	Screener Positive	Syndrome Positive
		Percent (SE)	Percent (SE)
0	69.7 (1.7)	49.1 (4.3)***	47.4 (4.8)***
1	9.7 (0.6)	17.1 (2.9)	20.4 (3.9)
2	21.2 (1.5)	33.8 (3.3)	32.2 (3.7)
Percentage of Life in US			
<30%	18.4 (1.7)	10.3 (2.4)***	11.3 (3.2)***
30-70%	28.4 (1.3)	18.2 (2.1)	19.6 (2.2)
>70%	53.2 (2.3)	71.5 (3.2)	69.2 (3.4)

* p < .05

** p<.01

*** p<.001

Table 3

Relationship of *Ataques de Nervios* to Lifetime Psychiatric Diagnoses, Disability, and Use of Mental Health Services

	N(%) Positive in Total Sample	Screener Positive Percent (SE)	Syndrome Positive Percent (SE)
Major Depression	455 (15.2)	55.2 (3.3)***	62.1 (4.3)***
Dysthymia	95 (2.8)	16.0 (3.0)***	19.9 (4.6)***
Irritable Major Depression	99 (3.5)	22.5 (2.6)***	24.6 (3.1)***
Agoraphobia	96 (3.2)	16.2 (2.4)***	18.5 (3.1)***
Generalized Anxiety Disorder	143 (4.3)	16.4 (3.1)***	20.5 (3.9)***
Panic Attack	518 (18.4)	56.7 (2.7)***	63.9 (2.6)***
Panic Disorder	91 (2.9)	17.9 (2.3)***	20.2 (2.4)***
Social Phobia	197 (7.7)	29.2 (3.9)***	30.5 (4.6)***
Any Substance	244 (11.2)	30.1 (4.8)***	29.4 (7.1)***
Any Affective	462 (15.5)	55.4 (3.3)***	62.4 (4.3)***
Any Anxiety	433 (15.6)	58.2 (3.7)***	62.2 (4.2)***
Any Disorder	800 (30.4)	81.7 (3.2)***	83.3 (3.3)***
Suicidal Symptoms	206 (7.5)	30.6 (3.0)***	36.3 (2.7)***
Psychotic Symptoms	279 (9.8)	20.5 (4.0)***	23.4 (4.4)***
Hospitalization for Mental Health Problem	166 (6.2)	24.6 (3.0)***	25.5 (3.3)***
Use of General Medical Services	467 (14.9)	45.9 (3.0)***	46.3 (3.4)***
Use of Specialty Mental Health Services	478 (14.6)	45.3 (4.0)***	47.2 (5.8)***

* p<.05 ** p<.01

*** p<.001

Table 4

Logistic regressions on mental health outcomes

	Any Depression Disorder	Any Anxiety Disorder	Mental Health Services Use
Latino subgroup			
Puerto Rican	1	1	1
Mexican	1.02 (0.70 - 1.51)	0.91 (0.61 - 1.35)	0.94 (0.61 - 1.46)
Cuban	0.76 (0.53 - 1.10)	0.83 (0.53 - 1.28)	0.56 (0.40 - 0.80)***
Other Latino	0.79 (0.56 - 1.12)	0.73 (0.43 - 1.25)	0.51 (0.35 - 0.75)***
Sex			
Male	1	1	1
Female	1.97 (1.35 - 2.85)***	1.60 (1.05 - 2.43)**	1.98 (1.44 - 2.72)***
Age Category			
18-34	1	1	1
35-49	0.74 (0.50 - 1.10)	1.34 (0.96 - 1.86)*	1.61 (1.20 - 2.17)***
50-64	0.83 (0.53 - 1.31)	1.69 (1.03 - 2.76)**	2.51 (1.75 - 3.60)***
Older than 65	0.64 (0.44 - 0.95)**	2.02 (1.28 - 3.18)***	1.4 (0.90 - 2.17)
Education			
11 years or less	1	1	1
12 years	0.75 (0.51 - 1.11)	1.06 (0.80 - 1.42)	1.48 (1.01 - 2.16)**
13-15 years	0.82 (0.51 - 1.30)	0.92 (0.67 - 1.27)	1.92 (1.36 - 2.72)***
16 years or more	1.18 (0.71 - 1.95)	0.9 (0.39 - 2.09)	2.45 (1.61 - 3.72)***
Marital Status			
Married	1	1	1
Never married	0.93 (0.56 - 1.56)	1.1 (0.73 - 1.67)	1.13 (0.79 - 1.62)
Widowed/Separated/Divorced	2.21 (1.52 - 3.22)***	0.93 (0.61 - 1.44)	1.48 (0.97 - 2.27)*
Household Income			
0-$14,999	1	1	1
$15-34,999	0.81 (0.48 - 1.34)	1 (0.61 - 1.66)	0.71 (0.52 - 0.99)**
$35-74,999	0.95 (0.61 - 1.47)	1.11 (0.60 - 2.06)	0.83 (0.63 - 1.08)
More than $75,000	0.97 (0.50 - 1.89)	1.2 (0.67 - 2.13)	0.71 (0.45 - 1.12)
Language of interview			
Spanish	1	1	1
English	1.37 (0.94 - 2.01)*	1.39 (0.92 - 2.09)	1.47 (1.05 - 2.07)**
Nativity			
Foreign born	1	1	1
US Born	1.23 (0.75 - 2.02)	1.18 (0.83 - 1.67)	0.89 (0.60 - 1.31)
Ataque de Nervios (Syndrome)			
No	1	1	1

	Any Depression Disorder	Any Anxiety Disorder	Mental Health Services Use
Yes	5.06 (3.21 - 7.98)***	5.27 (3.31 - 8.39)***	2.45 (1.58 - 3.81)***
Any Depression Disorder			
No		1	1
Yes		5.77 (4.11 - 8.10)***	3.90 (2.58 - 5.88)***
Any Anxiety Disorder			
No	1		1
Yes	5.73 (4.10 - 8.01)***		2.73 (1.83 - 4.08)***
Any Substance Disorder			
No	1	1	1
Yes	2.61 (1.72 - 3.96)***	1.81 (1.06 - 3.07)**	2.83 (1.81 - 4.41)***
Constant	0.07 (0.04 - 0.12)***	0.05 (0.03 - 0.10)***	0.08 (0.04 - 0.15)***
Observations	2553	2553	2553

* p<.05

** p<.01

*** p<.001