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GENDER DIFFERENCES IN ALCOHOL AND DRUG USE AMONG HISPANIC ADULTS: THE INFLUENCE OF FAMILY PROCESSES AND ACCULTURATION

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Abstract

We examine the influence of family processes and acculturation for gender differences in alcohol and drug use among a sample representative of the Hispanic population in Miami-Dade County, Florida (N= 734). We find that (a) increases in age at marriage and acculturation were associated with greater substance use, (b) the associations between age at marriage, acculturation, and substance use were found to be greater for Hispanic women than men, and (c) with each additional child born, Hispanic women are increasingly less likely to use substances than Hispanic men. Data reveal that family processes and acculturation jointly impact substance use.

Keywords

substance use; gender; race; ethnicity; family processes; acculturation

Introduction

The prevalence of alcohol and drug use in adulthood is significantly higher among men than women,¹⁻³ and this gender gap appears to be particularly pronounced among Hispanics compared to non-Hispanic Whites and other race/ethnic groups in the U.S.⁴⁻⁵ For example, Galvan and Caetano⁶ find that Hispanic women are eight times less likely to engage in heavy drinking than Hispanic men, whereas non-Hispanic white women are four times less likely than non-Hispanic white men, and African American women are three times less likely than African American men. Although the prevalence of substance use varies across segments of the Hispanic population, the gender gap appears to remain constant.^{4-5, 7}

Efforts to understand variation in substance-related outcomes among Hispanic adults have tended to focus on cultural explanations and, in particular, the role of acculturation.⁸⁻⁹ The acculturation process is thought to increase risk for substance use in the extent to which it increases stress exposure and adherence to more permissive substance use norms. There is consistent support for this perspective: less-acculturated Hispanics tend to use alcohol and drugs at lower rates than their more acculturated counterparts^{7, 10-11} and, as Hispanics become more acculturated to U.S. language, customs, and culture, their drinking and drug use patterns often begin to mirror those of non-Hispanic Whites.^{10, 13} There is also evidence that the variation observed in alcohol and drug use by level of acculturation is more pronounced among Hispanic women than Hispanic men.^{8, 14, 15}

However, there is concern that the growing body of research linking acculturation with alcohol and drug use and other health outcomes is at the expense of research concerning the relevance of known protective factors for alcohol and drug use for the population in general.¹⁶ In particular, researchers have found that family processes in terms of timing of marriage and childrearing are protective against substance use^{17–19}, and that such processes are more protective for women than men.²⁰ The purpose of the present study is to examine the joint effects of acculturation and family processes (timing of marriage and childrearing) for gender differences in substance use. Below, we draw on an elaborated role strain theory and use data from a community study with a representative sample of older Hispanic adults to assess the influence of age at marriage, number of children, and acculturation for gender differences in alcohol and drug use.

Role Strain Theory

In this paper, we use the term *role strain* to refer to circumstances in which the demands of a particular role may be incompatible with a certain set of behaviors. This definition, first articulated by Yamaguchi and Kandel,¹⁷ differs from the common use of the term in the mental health literature to describe the competing demands of work and family roles.²¹ The definition we employ provides a context for why family processes matter for substance use: In brief, the day-to-day activities associated with being a spouse or parent may be less conducive to regular alcohol or drug use.

A central thesis of this role strain perspective is that the timing of entrance into roles influences personal behavior. As an illustration, earlier entry into marriage is associated with less substance use, and, conversely, postponing marriage is associated with greater substance use.¹⁷ Researchers have argued that the timing of marriage reflects earlier or later changes in lifestyle and health behaviors.²² In particular, spouses may act as conduits of social control by surveying and discouraging unhealthy behaviors that may interfere with responsibilities and commitments to themselves and other family members.²³ This may be accompanied by changes in recreational activities, drug attitudes, and friendship networks which decrease substance use behaviors.^{22, 24} There is support for this view in prior work examining the influence of the timing of family role acquisitions on substance use.^{18, 25}

Becoming a parent is also seen as incompatible with regular substance use because it, too, reflects a change in lifestyle, social networks, and expectations from others. Prior study demonstrates that parenthood is associated with declines in substance use and lower overall patterns of lifetime substance use.^{17, 18, 19} The presence of additional children may forestall drug use in the extent to which this results in greater demands on one's time and energy. Undercutting these considerations, as Wolfe notes,²⁶ the financial burden associated with having a larger family may also curtail substance use. Therefore, since parental demands and responsibilities may leave less time, money, and inclination for the acquisition and use of substances, individuals may alter alcohol or drug use behaviors upon having children.²⁷

There is also evidence that the effects of these family processes vary by gender. Although marriage is generally found to be protective against heavy alcohol and drug use,²⁵ studies find that marriage is found to curtail alcohol and drug use significantly more for women than men.²⁰ In terms of childrearing, researchers have found that women experience more strain and constraint in the parental role because of increased demands associated with primary caretaking.²⁷ Based on these observations, it seems plausible that the number of children one has may also affect men and women's use differently.

Acculturation

We also have reason to believe family processes may have interactive effects with acculturation on alcohol or drug use. More acculturated individuals tend to use alcohol and drug use more frequently than their less acculturated counterparts. They may have larger social networks, more exposure to drug using peers, and consequently more permissive attitudes towards alcohol and drug use. However, as individuals become more acculturated to U.S. language and customs, they also tend to report more discrimination and may use alcohol and drugs as coping mechanisms for acculturative stress.^{17, 28} The effects of earlier marriages or larger families, therefore, may be especially protective for individuals less acculturated to U.S. language and customs.

There is also evidence that the variation observed in alcohol and drug use by level of acculturation is more pronounced among Hispanic women than Hispanic men.^{14, 15} For this reason, it seems useful to also consider the significance of gender differences in the associations between acculturation and alcohol and drug use among Hispanics. Lending support to this perspective, several scholars have suggested that the tendency of less-acculturated women to enter into marriage early in life and have large families may protect Hispanic women from using alcohol and drugs.^{29, 30} However, we are aware of no study that has considered whether gender differences in the combined effects of acculturation and the family processes are influential for alcohol and drug use.

Clarifying our understanding of the mechanisms underlying differences in alcohol and drug use among Hispanic adults may provide researchers with a better understanding of the social and cultural contexts that influence substance use – an important precursor to enhancing health.

Methods

Data are drawn from a community study of Miami-Dade county residents that is representative of Miami-Dade County residents in terms of sex, age, race/ethnicity, the presence of a physical disability, and language preference. From 2000 to 2001, 1,986 interviews were completed, with a success rate of 82 percent. Interviews were administered by well-trained and predominantly bilingual interviewers using computerized questionnaires in either English or Spanish, as preferred by each participant. Additional details regarding the sampling and interview procedures are presented by Turner, Lloyd and Taylor (2006).³¹

The present study is based upon information gathered from the 734 Latino study participants, all of whom are either married or have previously been married. Of these respondents, 405 are of Cuban heritage, 88 identify as Colombian or Colombian-American, 59 are Nicaraguan or Nicaraguan-American, 56 are Dominican or Dominican-American, and 126 identify as Hispanic or Latino/Latina. It should be noted that the majority of respondents (95 percent) were born outside of the U.S.

It should also be noted that the oversampling of persons with physical disabilities resulted in a greater proportion of older respondents than in the general population. Although ages in the sample range from 18 to 93, the median age is 62.

Variables

Summary statistics for all study variables are found in Table 1. We examine two substance-related outcomes: *alcohol use* and *drug use*. Our measure of alcohol use is based on the multiplicative function of how often a respondent drank alcohol in the past month and the amount of alcohol consumed when one did drink alcohol. Drug use is assessed by counting the number of days in an average month over the past year that respondents used any of the

following illicit drugs: stimulants, analgesics, marijuana/hashish, cocaine, opiates/heroin, ecstasy, inhalants, hallucinogens, sedatives, and tranquilizers.

Independent variables included in the analyses are gender, age at marriage, number of children, and level of acculturation. *Gender* is coded 1 for females and 0 for males. *Age at marriage* is the age at which respondents married for the first time. *Number of children* is a count of the number of children respondents have. *Level of acculturation* is assessed with a five-item index ($\alpha=.77$) that gauges level of acculturation based on language preference using items from a larger inventory developed by Gil and Vega.³² Respondents were asked the language they prefer to speak; the language they spoke in school; the language they speak with friends; the language they prefer to read; and the language used in the movies, TV, and radio programs they watch or listen to the most. Scores are calculated as the summed responses to these questions based on the categories: (0) Spanish all of the time; (1) Spanish most of the time; (2) Spanish and English equally; (3) English most of the time; and (5) English all of the time.

The sociodemographic characteristics of age, socioeconomic status and Cuban ethnicity and the number of years a respondent has lived in the U.S. are controlled in all analyses. *Age* is employed as a continuous measure in years. *Socioeconomic status* is estimated in terms of three components—income, education and occupational prestige level.³³ This measure provides a general assessment of SES while reducing sample loss associated with missing data. We selected this approach because information on household income could not be obtained for 19 percent of this sample. Scores on these three dimensions are standardized, summed, and divided by the number of measures on which each respondent provided data. *Cuban* ethnicity is based on responses to the question of which race/ethnic group respondents most identify with. In all regression analyses, non-Cuban Hispanics serve as the reference category and, as noted, this designation primarily represents individuals who identify as Colombian or Colombian-American, Nicaraguan or Nicaraguan-American, and Dominican or Dominican-American, as well as respondents who identify as Hispanic or Latino/Latina.

Years in the U.S. is based on responses to the question, “How many years have you been living in the United States?” For those respondents who indicated they were born in the U.S., responses are coded as their age at the time of the interview.

Analysis

We use negative binomial regression to examine the influence of acculturation, age at marriage and number of children on alcohol and drug use. Negative binomial regression, an elaboration of Poisson regression³⁴ (, is the most common method for analyzing count outcomes that are not normally distributed. This method corrects for overdispersion, which exists when the variance of the dependent variable (in this case, the alcohol use and drug use variables) is greater than its mean.³⁵ To address overdispersion, the negative binomial regression model includes a parameter, α , that reflects unobserved heterogeneity among observations. We selected this approach because likelihood ratio tests of the present data show significant evidence of overdispersion, indicating that the negative binomial model provides a better fit than the Poisson model or OLS regression.

We present eight regression models for each of the outcome variables in order to assess the influence of acculturation, age at marriage and number of children on gender differences in alcohol and drug use. Model 1 regresses the dependent variables (i.e., alcohol and drug use) on gender, acculturation, age at marriage and number of children in order to assess the extent to which each of these factors predicts alcohol and drug use, net of the control variables. Model 2 includes the gender by acculturation interaction to examine whether there

are gender differences in the effects of acculturation on alcohol and drug use, net of the remaining variables. Models 3–5 examine the potential moderating role of age at marriage: Model 3 introduces the interactions of gender by age at marriage to assess whether there are gender differences in the effects of age at marriage on alcohol and drug use. Model 4 considers whether age at marriage and family size may further vary as a function of acculturation. Model 5 includes the three-way interactions of gender, age at marriage and level of acculturation. Similarly, Models 6–8 consider the potential moderating role of family size. Model 6 includes the interaction of gender by number of children and Model 7 introduces the interaction of number of children by acculturation. Model 8 considers the three-way interaction of gender, family size and acculturation.

Results

Mean contrasts by gender for all study variables are also presented in Table 1. The results of these comparison tests generally conform to our expectations. Women use alcohol and drugs significantly less frequently than men. These analyses also indicate that the women sampled married at significantly younger ages and report greater acculturation than the men included in this study.

Table 2 presents the results of regression analyses considering the significance of acculturation, age at marriage and family size for alcohol use. As anticipated, women use alcohol and drugs less frequently than men (Model 1). Model 1 also reveals that acculturation and marrying at older ages are associated with an increased risk for using alcohol. The significant interaction observed in Model 2 indicates that increases in acculturation are associated with a greater likelihood of using alcohol and drugs for women than men. Model 3 shows that there is also gender variation in the influence of age at marriage for alcohol use. Marrying at older ages is associated with a significantly greater likelihood of using alcohol for women than men. Although the combined effects of marrying at an older age and greater acculturation do not generally place individuals at greater risk for alcohol use (Model 4), results indicate that women who marry at older ages and are more acculturated may be more likely to use alcohol than similarly-situated men (Model 5). The coefficient for the three-way interaction of gender, acculturation and age at marriage is only marginally significant.

Models 6–8 demonstrate that family size also has a moderating role in predicting alcohol use. Model 6 reveals that increases in family size are associated with significantly lower rates of alcohol use for women than men. The results of Model 7 indicate that the influence of family size for alcohol use is significantly less among individuals who are less acculturated, or vice versa – a pattern of findings that does not appear to vary by gender (Model 8).

The regression analysis of drug use is presented as Table 3. Consistent with the pattern of findings for alcohol use, women are less likely than men to use drugs, and higher levels of acculturation and marrying at older ages are associated with a greater tendency to use drugs (Model 1). Greater acculturation (Model 2) and age at marriage (Model 3) appear to be particularly salient predictors of drug use for women compared to men. These factors also appear to have a synergistic influence in predicting drug use, such that the combined effects of marrying at an older age and greater acculturation place individuals at greater risk for drug use (Model 4). Moreover, women who marry at older ages and are more acculturated are more likely to use drugs than similarly-situated men (Model 5).

The moderating effects of family size for drug use are somewhat more modest. Increases in family size are marginally associated with lower rates of drug use for women than men

(Model 6). However, consistent with the findings presented in Table 2, the influence of acculturation for drug use is significantly less among individuals with larger families, or vice versa (Model 7). This pattern of findings also does not appear to vary by gender when drug use is considered as the outcome (Model 8).

As a final step, we considered the potential for interactive effects of age at marriage and family size for gender differences in alcohol and drug use by level of acculturation. In analyses not presented, we divided the sample into two groups based upon reported level of acculturation. Respondents who reported using Spanish all of the time or most of the time comprised the less acculturated group (n=359), whereas respondents who use Spanish and English equally or English most of the time or all of the time comprised the more acculturated group (n=375). The coefficients for the interactions of age at marriage and gender by family size, respectively, for each of the outcomes considered were non-significant, suggesting that age at marriage and number of children have unique effects on alcohol and drug use, regardless of one's level of acculturation.

We also considered whether the number of years one has lived in the U.S. might moderate the effects of gender, level of acculturation, age at marriage or family size for alcohol or drug use. Additional analyses considered the interactive significance of years in the U.S. and each of these factors for both of the outcomes considered. None of the coefficients for these interactions approached significance.

Discussion

Building upon previous research, we find the association between age at marriage and alcohol and drug use is more pronounced for Hispanic women than Hispanic men. The direction of the effects indicates that Hispanic women who marry at older ages are at greater risk of using substances. We also find that Hispanic women who have more children are less likely to engage in alcohol use than their male counterparts. It appears, therefore, that family role processes are particularly protective of substance use among Hispanic women.

These processes also appear to vary by level of acculturation, wherein greater acculturation is associated with greater use. That Hispanic women who marry at younger ages, have larger families and are less acculturated tend to use alcohol and drugs less frequently suggests that these factors are protective or beneficial for one's mental health. However, we question whether it may be that these factors are restrictive rather than protective. This issue may be clarified by considering additional mental health outcomes. For example, it is uncertain whether these family and acculturative processes also contribute to observed differences in depression and anxiety, for which Hispanic women are at greater risk than Hispanic men.^{36, 37}

Additionally, we found that the number of years lived in the U.S. did not influence gender and family role differences in alcohol and drug use. This brings to light an important question for future research: why does acculturation (which, in the present investigation, is based on language preference) rather than time spent in the U.S. influence alcohol and drug use? One possibility may be that language preference signifies assimilation into U.S. culture and customs, a change in peer groups, and/or an ability to participate in recreational forms of alcohol and drug use that require communication with others. It could also reflect acculturative stress exposure or more permissive views of alcohol and drug use. We recommend this consideration for future research.

We also question why the effects of family processes and acculturation would vary by gender among Hispanics. Warner and colleagues³⁰ argue that negative sanctions and stigma against female substance use may account for these differences. Alcohol and drug use is

seen as more permissive for women living in the U.S. than in Latin America and has been described as culturally-inappropriate female behavior in the extent to which it may threaten a woman's moral hardiness and fulfillment of valued family roles.^{38, 39} Consequently, more-acculturated women may tend to drink and use drugs more frequently than less-acculturated women because they may feel less bound by traditional gendered role norms.³⁹ We recommend further study of the influence of role norms for gender differences in substance use among Hispanics.

Certain limitations of the present investigation merit further comment. First, the Miami-Dade County context of this study involves a large and relatively unique Hispanic population within which the two largest Hispanic subgroups within the country (Puerto Ricans and persons of Mexican descent) are virtually unrepresented. Although the key findings reported are observed across the Hispanic ethnic groups included in this study, additional analysis with nationally-representative data may provide increased confidence in the generalizability of these findings. Second, the data employed in this study are cross-sectional and provide only a snapshot of the undoubtedly complex relationship between family processes, acculturation, gender and substance use among Hispanics. Ideally, a study examining these relationships would consider changes in patterns of use over an extended period of time, taking into consideration transitions into and out of family roles, changes in one's level of acculturation, and changes in use. We recommend this for future study.

These limitations notwithstanding, the present study provides a clearer understanding of the role of family processes and acculturation in influencing gender differences in substance use among Hispanics. Future research, therefore, should be mindful of the role of these factors in influencing substance use among Hispanics.

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Table 1

Characteristics of Study Variables by Gender (N=734)

	Total			Female (n=394)			Male (n=340)		
	Mean Values ⁺	Range		Mean Values ⁺	Range		Mean Values ⁺	Range	
Alcohol Use	4.722 (20.061)	0–300		1.575 ^{***} (7.091)	0–70		8.408 (28.127)	0–300	
Drug Use	1.816 (5.588)	0–30		.772 ^{***} (3.052)	0–30		3.038 (7.364)	0–30	
Level of Acculturation	4.908 (5.333)	0–20		4.396 ^{**} (5.005)	0–20		5.509 (5.643)	0–20	
Age at Marriage	25.183 (7.271)	16–70		23.606 ^{***} (6.429)	16–52		27.032 (7.759)	16–70	
Number of Children	2.245 (1.529)	0–11		2.121 (1.333)	0–8		2.390 (1.721)	0–11	
<i>Control Variables</i>									
Cuban (%)	55	0,1		53	0,1		57	0,1	
Age	57.089 (15.254)	22–93		57.686 (16.064)	22–91		56.390 (14.238)	22–93	
Socioeconomic Status	–.144 (1.048)	–2.724–2.702		–.251 ^{***} (.986)	–2.724–2.702		–.018 (1.104)	–2.457–2.702	
Years in U.S.	25.720 (14.225)	1–86		25.131 (13.650)	2–86		26.411 (14.861)	1–76	

Notes:

⁺ Standard deviations in parentheses;

* significant at .05;

** significant at .01;

*** significant at .001.

Table 2
 Negative Binomial Regression of Alcohol Use on Gender, Acculturation, Age at Marriage, and Number of Children (N=734)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Female	-1.974*** (.286)	-2.247*** (.311)	-3.837*** (1.004)	-2.012*** (.290)	-3.438** (1.237)	-.842 ⁺ (.485)	-2.105*** (.294)	-1.647* (.739)
Cuban	.121 (.290)	.071 (.288)	.173 (.289)	.089 (.294)	.029 (.294)	.181 (.283)	.018 (.295)	.019 (.289)
Age	-.046*** (.012)	-.049*** (.012)	-.051*** (.012)	-.048*** (.012)	-.056*** (.012)	-.047*** (.012)	-.047*** (.012)	-.051*** (.012)
Socioeconomic Status	.105 (.142)	.118 (.144)	.075 (.144)	.109 (.145)	.087 (.147)	.121 (.138)	.111 (.147)	.146 (.141)
Years in U.S.	.028* (.009)	.021* (.009)	.024* (.009)	.026* (.009)	.013 (.009)	.023* (.008)	.022* (.009)	.012 (.009)
Level of Acculturation	.046* (.029)	.012 (.034)	.046* (.029)	.041 (.031)	.023 (.021)	.045* (.028)	.100* (.057)	.052 (.061)
Age at Marriage	.043* (.021)	.040* (.021)	.007 (.021)	.028 (.025)	.003 (.023)	.043* (.019)	.035 ⁺ (.019)	.036 ⁺ (.019)
Number of Children	.008 (.096)	.024 (.096)	.002 (.097)	.027 (.099)	.041 (.098)	.301* (.149)	.212 (.136)	.519** (.218)
Female * Acculturation		.521** (.051)	-	-	-.181 (.189)	-	-	.164 ⁺ (.093)
Female * Age at Marriage			.074* (.038)	-	.026 (.046)	-	-	-
Age at Marriage * Acculturation				.003 (.004)	-.001 (.004)	-	-	-
Female * Age at Marriage * Acculturation					.018 ⁺ (.008)	-	-	-
Female * Number of Children						-.479*** (.178)	-	-.395 ⁺ (.259)
Number of Children * Acculturation							-.047** (.020)	-.041 ⁺ (.025)
Female * Number of Children * Acculturation								-.037 (.036)
Intercept	2.944*** (.763)	3.532*** (.832)	4.176*** (.976)	3.425*** (.941)		2.214*** (.802)	2.906*** (.772)	2.747*** (.932)
Overdispersion parameter	2.349 (.084)	2.336 (.084)	2.338 (.084)	2.347 (.084)		2.324 (.085)	2.333 (.084)	2.291 (.085)
Log-likelihood	-1109.211	-1106.969	-1107.329	-1108.815		-1105.594	-1106.631	-1099.737

Notes: Standard deviations in parentheses;

+ significant at .10;

* significant at .05;

** significant at .01;

*** significant at .001.

Table 3
 Negative Binomial Regression of Drug Use on Gender, Acculturation Age at Marriage, and Number of Children (N=734)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Female	-1.451*** (.217)	-1.991*** (.297)	-3.346*** (.813)	-1.554*** (.224)	-2.122* (1.014)	-0.970** (.398)	-1.499*** (.218)	-1.848*** (.607)
Cuban	-.138 (.232)	-.176 (.231)	-.081 (.232)	-.191 (.235)	-.206 (.235)	-.127 (.232)	-.203 (.223)	-.246 (.237)
Age	-.029** (.009)	-.039*** (.009)	-.034*** (.009)	-.037*** (.009)	-.037*** (.009)	-.025** (.009)	-.029** (.009)	-.030*** (.009)
Socioeconomic Status	.246* (.117)	.273* (.118)	.229* (.119)	.259* (.119)	.289* (.120)	.258* (.115)	.237* (.117)	.274* (.118)
Years in U.S.	.020* (.007)	.017* (.007)	.019* (.007)	.021* (.007)	.015* (.007)	.019* (.006)	.017* (.007)	.012 (.007)
Level of Acculturation	.037* (.020)	-.008 (.025)	.033* (.021)	-.101 (.073)	.057 (.094)	.037* (.020)	.109** (.042)	.050 (.048)
Age at Marriage	.060*** (.016)	.052*** (.016)	.027 (.019)	.036+ (.019)	.033 (.024)	.060*** (.016)	.057*** (.016)	.051*** (.016)
Number of Children	.098 (.082)	.097 (.096)	.091 (.082)	.108 (.082)	.090 (.082)	.210* (.151)	.249* (.113)	.310* (.165)
Female * Acculturation		.104** (.037)	-	-	-.249+ (.144)	-	-	.137+ (.075)
Female * Age at Marriage			.075** (.031)	-	-.001 (.038)	-	-	-
Age at Marriage * Acculturation				.005* (.002)	-.003 (.003)	-	-	-
Female * Age at Marriage * Acculturation					.041*** (.005)	-	-	-
Female * Number of Children						-.255+ (.153)	-	-.395+ (.259)
Number of Children * Acculturation							-.041** (.015)	-.041+ (.025)
Female * Number of Children * Acculturation								-.032 (.029)
Intercept	.254 (.631)	.867 (.686)	1.454* (.789)	1.126* (.770)	1.873* (.912)	.267 (.658)	.653 (.628)	.556 (.454)
Overdispersion parameter	1.902 (.091)	1.880 (.091)	1.885 (.091)	1.893 (.091)	1.838 (.092)	1.895 (.091)	1.889 (.084)	1.862 (.091)
Log-likelihood	-919.406	-915.886	-916.427	-917.456	-909.515	-918.400	-917.284	-912.778

Notes: Standard deviations in parentheses;

+ significant at .10;

* significant at .05;

** significant at .01;

*** significant at .001.