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I, Rhyanne McDade , hereby submit this original work as part of the requirements for the degree of Master of Science in Health Education.

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Parental Influences on African American Adolescent Marijuana Use

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Parental Influences on African American Adolescent Marijuana Use

University of Cincinnati

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By

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Abstract

The purpose of this study was to examine the impact of parental factors on annual (past year) marijuana use in African American youth within the Greater Cincinnati area. The following research questions were examined for this study: 1) Do family structure, parental education and parental job status impact African American adolescent marijuana use? 2) Does impact of all these variables differ based on sex and grade? Participants were African American students in 7th through 12th grade ($N = 7488$) in public and private schools within the Greater Cincinnati area. Logistic regression analyses revealed that annual marijuana use differed based on family structure, parental education, and parental job status. More specifically, annual marijuana use was highest among students not living with both parents, students who had parents with a high school diploma/GED or less, and students who had parents who were unemployed. This held true for males, females, junior high and high school students, with one exception family structure did not significantly impact male marijuana use. Findings should be considered by health educators and preventionists when developing programs and efforts to prevent youth marijuana use.

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Introduction

Marijuana use has increased among adolescents in the United States; especially among African American youth (Centers for Disease Control and Prevention [CDC], 2011). In 2011, there were 18.1 million Americans 12 years or older who were current marijuana users. Marijuana is the most commonly used illicit drug among adolescents in the U.S. Substance Abuse and Mental Health Services Administration [SAMHSA], 2011; CDC, 2010). Results from the 2011 National Youth Risk Behavior Survey indicated that 39.9% of high school students reported marijuana use at least once in their lifetime (CDC, 2011). In addition, the National Institute on Drug Abuse [NIDA], (2011) revealed that African American male lifetime marijuana use was highest among all races surveyed at 44.3% and African American females at 37.7 %.

Regarding parental influences, family structure can play a pivotal role in drug use among teens. Research indicates that children from intact family settings tend to use marijuana less frequently in comparison to children from single parent family homes (Amato, 2000). Studies have also indicated that relative to intact families, children of single parent family households, especially youth in female headed households, are more resource deprived and receive less intense and consistent monitoring, which may be a key contributor to increased drug use (Amato, 2000; Barrett & Turner 2006; Eitle, 2004). In 2004, data from the Monitoring the Future Survey, (Hemovich & Crano, 2009), examined a nationally representative cross sectional sample of 8th through 12th grade adolescents in rural and urban schools across the United States. Data from this research showed that drug use among daughters living with single fathers significantly exceeded that of daughters living with single mothers, whereas gender of the parent was not associated with male drug use.

Jenkins and Zunguze (1998) found that 8th, 10th, and 12th, graders who reported living with a stepparent used more cigarettes, beer, and marijuana than those living with two biological parents. Students living with only their fathers reported greater rates of cigarette, marijuana, and liquor use, while students living with their mother reported greater rates of beer and wine cooler use than students living with two biological parents. Flewelling and Bauman (1990) found that 12-14 year old youth were 1.5 to 2.3 times more likely to use substances (cigarettes and marijuana) if they lived in single parent family homes. These findings help support trends observed in more recent publications that increased drug use is associated with adolescents living in single parent family homes.

However, the other studies have indicated that same sex, single parent homes, may serve as a shield against adolescent drug use. For example, following the dissolution of high conflict or highly abusive marriage, adolescents may experience feelings of relief and lower stress levels, which in turn may decrease the likelihood of adolescents to engage in deviant behavior (Amato, 2000; Kelly, 2003). The effects of living in a single mother household appear to be a protective factor against drug use among African American youth, while increasing the risk of drug use among Whites and Latinos (Amey & Albrecht, 1998).

In 2005, a study was conducted with 255 ninth grade students from an urban predominately Latino Los Angeles high-school. It was hypothesized that the absence of one or both parents as well as the presence of older siblings and other adults in the home would increase the risk of drug use. Results indicated that the presence of older siblings in the home was associated with alcohol and marijuana use, and living with a cousin was also associated with marijuana use (Wagner, Ritt-Olsen, Soto & Unger, 2008). Disruption of the two parent family home was not associated with increased alcohol use, which is quite different to the findings of

other research studies which have reported increased drug use in single parent homes (Wagner et al., 2008). However, it is important to note that the sample size of this study was extremely small, consisted of Latino youth and did not consist of a large number of single parent families.

Regarding African American drug use, in a study conducted by Mander et al. (2011), the relationship between family structure and marijuana use was assessed among 1,069 African American adolescents from the National Longitudinal Survey of Youth from 1999 to 2002. The most prominent finding was that family structure had an impact on marijuana use among African American male youth, whereas marijuana use among African American female youth remained unchanged in single and two parent family homes. These results seem to be most consistent with recent studies on African American substance use. For instance, Griffin et al. (2000) and Mander and Murray (2006) reported that father absence had a significant impact on African American male substance use, but no impact on female substance use. Results from this study also indicated that young men reared in homes with both biological parents who later divorced during late adolescents showed no significant difference in marijuana usage rates. This may suggest that having a male figure in the majority of one's adolescent life may serve as a protective factor for male adolescents.

Studies have also shown that in addition to parental structure, parental education and socioeconomic status can play an influential role on adolescent drug use. In a study conducted by Goodman et al. (2002) low socioeconomic status was associated with increased drug use among African American youth. Lower parental education was more consistently associated with increased drug use than household income among adolescents of all races.

Unfortunately, few studies have been conducted to confirm these findings. Additional research is needed to establish a more thorough understanding of the relationship between specific parental factors, such as parental structure, parental job status, and parental education, and African American adolescent drug use. In an effort to fill in the gaps in the professional literature, this study examined the impact of parental factors on annual marijuana use among African American youth within the Greater Cincinnati area. The following research questions were addressed:

1. Do family structure, parental and parental job status impact African American adolescents' annual marijuana use?
2. Does the impact of all these variables on African American adolescents' annual marijuana use differ based on sex and grade?

Methods

Participants

Participants of this study were African American students in 7th through 12th grade ($N = 7,488$) in public and private schools within the Greater Cincinnati area. Schools were recruited by the Coalition for a Drug Free Greater Cincinnati. Participation from both the schools and students was voluntary. If parents did not wish to have their child participate, the child was excluded from the survey. All of the responses were anonymous.

Instrumentation

The following sections/items of the PRIDE Survey for grades 7 through 12 were used in this study: (1) Family structure; (2) Parental education level; (3) Parental job status; and 4) Annual marijuana use. Regarding family structure, students were asked to indicate if they lived with: both parents; mother only; father only; mother & stepfather; father & stepmother; or other.

Regarding parental education, students were asked to indicate the highest education level of their mother and father: some high school or less; high school graduate; some college; or college graduate. Regarding parental job status, students were asked to indicate the employment status of their mother and father: Yes, full-time; Yes, part-time; or No.

In addition, this survey has been previously tested for validity and reliability and used throughout the United States. Reliability was established by distributing the survey to a sample of students one week apart, resulting in Pearson correlation coefficients ranging from .814 to .851 (Metze, 2000). The survey has also been shown to be valid and reliable with percent values greater than 80% (Emshoff, 1987).

Procedure

Approval of this study was granted by the Institutional Review Board. Surveys were administered to students in their homerooms during regular school hours. Prior to survey administration, students were informed of the purpose of the study, voluntary nature of the survey and its confidentiality. Students were encouraged to refrain from answering questions they did not wish to answer. Once surveys were completed, students placed them in an envelope that was given to office staff and sent out for data analysis. Only students who self-identified as African American were included in this study.

Data Analysis

The SPSS statistical software package was used to analyze all data. Frequency distributions (range, means, and standard deviations) were performed to determine student demographics frequency of involvement in marijuana use. The independent variables (family structure, parental education level, and parental job status) were dichotomized into two levels, resulting in the following: family structure (do not live with biological parents, live with

biological parents); parental education (high school diploma/GED or less, some college or more); parental job status (unemployed, employed [full-time or part-time]). Logistic regression analyses were computed to determine whether annual marijuana use differed based on family structure, parental education, and parental job status. The alpha level of significance was set at .05.

Results

A total of 7,488 African American students in grades 7 through 12 in participating schools completed surveys. Half the students were male (49.3%) and the other half female (51.7%). Each grade level was equally represented within the sample, ranging from 11% to 19% across 7th through 12th grade. Results showed that 72.4% of students reported not living with their biological parents, while 27.6% reported living with their biological parents. Regarding educational level of the father, 49.9% reported that their father had a high school diploma/GED or less and 50.1% of students reported that their father had some college. Data showed that 16.2% of students reported that their fathers were unemployed, while 83.8% reported that their fathers were employed full-time or part-time. Concerning educational level of the mother, 37.7% of students reported that their mother had a high school diploma /GED or less, while 62.3% of students reported their mother had some college experience or more. Results from this study also indicated that 15.8% of students reported their mothers were unemployed and 84.2% of students reported their mother was employed full-time or part-time. In regards to annual marijuana use, 18.5% of students were using marijuana in the past year, 11.5% reported using in the past month, and 8.3% reported using in the past week. Age of first use ranged from 10 to 17 years with a mean of 13.7 years and a standard deviation of 2.03.

In the past year, males (20.1%) were significantly more likely than females (16.4%) to have used marijuana in the past year, $X^2 = 14.655$, $df = 1$, $p < .001$. In the past year, 7th/8th students (10.5%) were significantly less likely than 9th through 12th grade students (23.5%) to have used marijuana in the past year, $X^2 = 189.243$, $df = 1$, $p < .001$.

Regarding family structure, males (20.9%) who did not live with biological parents, were more likely than males (18.1%) who did live with biological parents to have used marijuana in the past year, $X^2 = 3.07$ $df = 1$ $p = .080$. Females (18.4%) who did not live with biological parents, were significantly more likely females (11.0%) living with biological parents to have used marijuana in the past year, $X^2 = 25.65$, $df = 1$ $p < .001$.

Concerning father education level, males (23.3%) whose fathers' had a high school diploma/GED or less, were significantly more likely than males (18.7%) whose fathers' had some college experience to have used marijuana in the past year, $X^2 = 7.267$, $df = 1$, $p = .007$. Females (19.5%) whose fathers' had a high school diploma/GED or less, were significantly more likely than females (12.5%) whose fathers' had some college experience to have used marijuana in the past year, $X^2 = 20.663$, $df = 1$ $p < .001$.

In reference to mother education level, males (21.1%) whose mothers' had a high school diploma/GED or less, were more likely than males (19.5%) whose mothers' had some college experience to have used marijuana in the past year, $X^2 = 1.064$, $df = 1$, $p < .302$. Females (20.0%) whose mothers' had a high school diploma/GED or less, were significantly more likely than females (14.6%) whose mothers' had some college experience to have used in the past year, $X^2 = 14.623$, $df = 1$ $p < .001$.

Regarding father job status, males (29.1%) whose fathers were unemployed, were significantly more likely than males (19.1%) whose fathers were employed to have used marijuana in past year, $X^2 = 18.279$, $df = 1$, $p < .001$. Females (24.4%) whose fathers were unemployed were significantly more likely females (14.3%) whose fathers were employed (part-time or full-time) to have used marijuana in the past year, $X^2 = 27.039$, $df = 1$ $p < .001$.

Pertaining to mother job status, males (28.4%) whose mothers' were unemployed were significantly more likely than males (18.5%) whose mothers were employed (part-time or full-time) to have used marijuana in the past year, $X^2 = 21.055$, $df = 1$ $p < .001$. Females (18.3%) whose mothers were unemployed were more likely than females (16.5%) whose mothers were employed (part-time or full-time) to have used marijuana in the past year, $X^2 = 1.041$, $df = 1$ $p = .308$.

Annual marijuana use among African American students was also evaluated on the basis grade level for family structure, parental income and parental education. Regarding family structure, junior high students (12.1%) who did not live with biological parents, were significantly more likely than junior high students (6.3%) who lived with biological parents to have used marijuana in the past year, $X^2 = 19.693$ $df = 1$ $p < .001$. High school students (24.9%) who did not live with biological parents, were significantly more likely than high school students (19.8%) who lived with biological parents to have used marijuana in the past year, $X^2 = 12.224$, $df = 1$ $p < .001$.

Concerning father education level, junior high school students (12.6%) whose fathers had a high school diploma/GED or less, were significantly more likely than junior high school students (8.4%) whose fathers had some college experience to have used marijuana in the past year, $X^2 = 8.949$, $df = 1$ $p = .003$. High school students (25.7%) whose fathers had a high school

diploma/GED or less were significantly more likely than high school students (21.4%) whose fathers had some college experience to have used marijuana in the past year, $X^2 = 7.936$, $df = 1$ $p < .005$.

In reference to mother education level, junior high students (13.2%) junior high students stated their mothers had a high school diploma/GED or less, were significantly more likely than junior high school students (9.0%) whose mothers had some college experience to have used marijuana in the past year, $X^2 = 10.229$, $df = 1$ $p < .001$. High school students (25.1%) whose mothers had a high school diploma/GED or less, were more likely than high school students (22.4%) whose mothers had some college experience to have used marijuana in the past year, $X^2 = 3.343$, $df = 1$, $p = .067$.

Pertaining to father job status, junior high students (14%) whose fathers were unemployed, were significantly more likely than junior high students (9.1%) whose fathers were employed (part-time or full-time) to have used marijuana in the past year, $X^2 = 18.279$, $df = 1$ $p = .008$. High school students (31.1%) whose fathers were unemployed were significantly more likely high school students (22.6%) whose fathers were employed (part-time or full-time) to have used marijuana in the past year, $X^2 = 18.209$, $df = 1$ $p < .001$.

In reference to mother job status, junior high students (14.2%) whose fathers were unemployed were significantly more likely than junior high school students (10.1%) whose mothers were employed (part-time or full-time) to have used marijuana in the past year, $X^2 = 6.176$, $df = 1$, $p < .001$. High school students (26.5%) whose fathers were unemployed were more likely than high school students (22.9%) whose mothers were employed (part-time or full-time) to have used marijuana in the past year, $X^2 = 3.665$, $df = 1$ $p = .06$.

Discussion

Regarding family structure, this study found that marijuana use was higher among students who did not live with biological parents in comparison to students who did live with biological parents. Logistic regression analyses indicated that in all categories, except male marijuana use based on family structure, results were statistically significant. Previous studies have similarly shown that children from intact family settings tend to use marijuana less frequently in comparison to children from single parent family homes (Amato, 2000; Barrett & Turner 2006). Possible explanations for this occurrence may be that a two parent family home acts as a protective factor against marijuana use in adolescents (King & Vidourek, 2010). A two parent family home may allow for more supervision and social interaction with youth within the home. The presence of more than one parent may also allow the responsibility to be shared among two adults, which could possibly provide parents the time and energy to consistently interact on a more in-depth level with their children. Additional research is needed.

In reference to parental education, this study found that marijuana use was higher among students whose fathers' had a high school diploma/GED or less, in comparison to students whose fathers had some college experience. Similarly, this study found that marijuana use was higher among students whose mothers had a high school diploma/GED or less, in comparison to students whose mothers had some college experience or more. Marijuana use was higher among male students, in comparison to female students based on parental education level. Marijuana use was highest among high school students whose fathers' had a high school diploma/GED or less. Logistic regression analyses indicated that in all categories, except male student marijuana use based on mother education level and high school student marijuana use based on mother education level, were statistically significant. These findings coincide with

previous research which found that marijuana use was typically higher in males in comparison to females and higher in high school students in comparison to junior high students (NIDA, 2011). Previous studies have also shown that lower parental education was more consistently associated with increased drug use among adolescents of all races (Goodman et. al, 2002; Goodman, 2002; Adler et al, 1994). It is possible that higher levels of parental education also serve as a protective factor against marijuana use in adolescents (King & Vidourek, 2010). Higher levels of education may provide parents the opportunity to attain more stable and lucrative means of employment, which in turn could introduce their children to the realistic possibility of high career goals and the need for education to achieve such goals.

Regarding parental job status, this study found that marijuana use was higher among students whose fathers were unemployed, in comparison to students whose fathers were employed (part-time or full-time). This study also found that marijuana use was higher among students whose mothers were unemployed, in comparison to students whose mothers were employed (part-time or full-time). Marijuana use was higher among male students, in comparison to female students based on parental job status. Marijuana use was highest among high school students whose fathers were unemployed. Logistic regression analyses indicated that in all categories, except female student marijuana use based on mother job status and high school student marijuana use based on job status, were statistically significant. Similarly, in previous studies, lower socioeconomic status of parents was associated with increased adolescent drug use among African American adolescents (Adler et al., 1994; Goodman et al., 2002; Goodman, 2002). It is quite possible that parental job status may also serve as a protective factor against marijuana use in adolescents (King & Vidourek, 2010). Parents that are employed may instill in their children the importance of maintaining stable employment. In order to obtain stable

employment, most employers require that their employees remain drug free. These factors in turn can establish a work ethic in children that allows them to surpass the nuances of deviant behavior and ultimately model the behaviors of their parents.

In general, this study found that family structure, parental education and parent job status impacted marijuana use in male, female, junior high and high school students. This study found that marijuana use was significantly impacted by parental job status. Higher rates of marijuana use were shown to be associated with parental unemployment. Lack of income followed by lack of resources may in turn yield defiant behavior, such as drug use (Amato, 2000; Barrett & Turner 2006; Eitle 2004). Youth may not be in a position to cope with their present circumstances and turn to marijuana use an inexpensive and easily accessible form of comfort. Last, but not least lower parental education was also associated with increased drug use, which may be an indication that parents of lower education status may not be as educated about the negative aspects of marijuana use, which may in turn, negatively impact their childrens' decision on marijuana use.

Study Limitations

One of the limitations with this research study was that participants were students from schools within the Greater Cincinnati area. Results may not to be generalized to students in other areas. Data from this study was also self-reported via students, which may create a study bias, in that students may have responded in socially accepted manners. Lastly, since data was self-reported by students, some responses may be inaccurate due to memory recall of the student.

Recommendations for Future Research

Findings from this study add to the literature by providing a more in-depth understanding of how family structure, parental education, and parent job status impact African American adolescent marijuana use. Results can assist youth health researchers and community advocates in establishing a more thorough understanding of the underlying factors influencing marijuana use in African American youth. More research is definitely needed to further investigate just how much of an impact family structure, parental education, and parent job status influence African American adolescent marijuana use. Future research should examine the relationships among multiple family structures (both parents; mother only; father only; mother & stepfather; father & stepmother; or other), and other parental variables, on marijuana use among African American youth.

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Table 1. Demographic and Background Characteristics

Item	<i>n</i>	%
Sex		
Male	3209	48.3
Female	3437	51.7
Grade		
7 th	1397	19.2
8 th	1490	20.4
9 th	1359	18.6
10 th	1171	16.1
11 th	1067	14.6
12 th	807	11.0
Living Situation		
Live with Biological Parent(s)	2029	27.6
Do not live with Biological Parent(s)	5315	72.6
Educational Level of Father		
High school diploma/GED or less	2624	49.9
Some college or more	2631	50.1
Educational Level of Mother		
High school diploma/GED or less	2387	37.7
Some college or more	3950	62.3
Job Status of Father		
Unemployed	912	16.2
Employed (part-time or full-time)	4721	83.8
Job Status of Mother		
Unemployed	1086	15.8
Employed (part-time or full-time)	5791	84.2

Notes: Percents denote valid percents; Missing values excluded; $N = 74$

Table 2. Annual Marijuana Use by Sex and Grade

Variable	Annual Marijuana Use		OR	(95%)
	Did not use in past year	Used in past year		
Sex	<i>n</i> (%)	<i>n</i> (%)		
Female	2798 (83.6%)	549 (16.4%)	1.281*	(1.128, 1.455)
Male	2454 (79.9%)	617 (20.1%)		
Grade				
7 th /8 th grade	2500 (89.5%)	294 (10.5%)	2.612*	(2.270, 3.005)
9 th -12 th grade	3243 (76.5%)	996 (23.5%)		

Notes:

N = 7488; Percent's refer to valid percent's; Missing values excluded*** *p* < .001; ** *p* < .01; * *p* < .05

Table 3. Odds Ratios for Annual Marijuana Use among Males and Females by Family Structure, Parent Education and Parent Job Status

	Males				Females			
	Did Not Use in Past Year <i>n</i> (%)	Used in Past Year <i>n</i> (%)	OR	(95% CI)	Did Not Use in Past Year <i>n</i> (%)	Used in Past Year <i>n</i> (%)	OR	(95% CI)
Family Structure								
Do not live with biological parent(s) ^a	1663 (79.1)	440 (20.9)	1.0		1989 (81.6%)	448 (18.4%)	1.0	
Live with biological parent(s)	749 (81.9)	166 (18.1)	.838	(.687, 1.021)	778 (89.0%)	96 (11.0%)	.548***	(.433, .693)
Father Education Level								
High school diploma/GED or less ^a	807 (76.7%)	245 (23.3%)	1.0		1001 (80.5%)	242 (19.5%)	1.0	
Some college or more	972 (81.3%)	223 (18.7%)	.756**	(.616, .927)	957 (87.5%)	137 (12.5%)	.592***	(.472, .743)
Mother Education Level								
High school diploma/GED or less ^a	742 (78.9%)	199 (21.1%)	1.0		895 (80.0)	224(20.0%)	1.0	
Some college or more	1361 (80.5%)	329 (19.5%)	.901	(.740, 1.098)	1507 (85.4%)	257 (14.6%)	.681***	(.559, .830)
Father Job Status								
Unemployed ^a	249 (70.9%)	102 (29.1%)	1.0		322 (75.6%)	104 (24.4%)	1.0	
Employed (part-time or full-time)	1646 (80.9%)	388 (19.1%)	.575***	(.446, .743)	1789 (85.7%)	298 (14.3%)	.516***	(.401, .664)
Mother Job Status								
Unemployed ^a	285 (71.6%)	113 (28.4%)	1.0		450 (81.7%)	101 (18.3%)	1.0	
Employed (part-time or full-time)	1967 (81.5%)	446 (18.5%)	.572***	(.449, .728)	2145 (83.5%)	425 (16.5%)	.883	(.695, 1.122)

Notes:

^a Indicates Referent^b All categories do not total 7488 due to missing data

*** p < .001; ** p< .01; * p < .05

Table 4: Odds Ratios for Annual Marijuana Use among Junior High School Students by Family Structure, Parent Education and Parent Job Status

Item	Junior High School (7 th -8 th grade)		High School (9 th -12 th grade)					
	Did Not Use	Used in	OR	(95% CI)	Did Not Use	Used in	OR	(95% CI)
	in Past Year	Past			in Past Year	Past Year		
	<i>n</i> (%)	<i>n</i> (%)			<i>n</i> (%)	<i>n</i> (%)		
Family Structure								
Do not live with biological parent(s) ^a	1767 (87.9)	244 (12.1)	1.0		2260 (75.1)	748 (24.9)	1.0	
Live with biological parent(s)	700 (93.7)	47 (6.3)	.486***	(.352, .672)	956 (80.2)	236 (19.8)	.746***	(.633, .879)
Father Education Level								
High school diploma/GED or less ^a	745 (87.4)	107 (12.6)	1.0		1219 (74.3.)	421 (25.7)	1.0	
Some college or more	953 (91.6)	87 (8.4)	.636**	(.471, .857)	1169 (78.6)	318 (21.4)	.788**	(.667, .930)
Mother Education Level								
High school diploma/GED or less ^a	735 (86.8)	112 (13.2)	1.0		1053 (74.9)	352 (25.1)	1.0	
Some college or more	1346 (91.0)	133 (9.0)	.648***	(.497, .847)	1781 (77.6)	515 (22.4)	.865	(.740, 1.011)
Father Job Status								
Unemployed ^a	258 (86.0)	42 (14.0)	1.0		379 (68.9)	171 (31.1)	1.0	
Employed (part-time or full-time)	1647 (90.9)	164 (9.1)	.612**	(.425, .880)	2090 (77.4)	609 (22.6)	.646***	(.528, .790)
Mother Job Status								
Unemployed ^a	350 (85.8)	58 (14.2)	1.0		444 (73.5)	160 (26.5)	1.0	
Employed (part-time or full-time)	1922 (89.9)	215 (10.1)	.675*	(.494, .922)	2591 (77.1)	770 (22.9)	.825	(.677, 1.005)

Notes:

^a Indicates Referent^b All categories do not total 7488 due to missing data

*** p < .001; * p < .05