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To the Graduate Council:

I am submitting herewith a thesis written by Tanner Kilpatrick entitled "Criminal Justice Contact, Racial Discrimination, and Health." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Child and Family Studies.

Elizabeth I. Johnson, Major Professor

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Stephanie A. Bohon, Amy J. Rauer

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Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)



# Criminal Justice Contact, Racial Discrimination, and Health

A Thesis Presented for the
Master of Science
Degree
The University of Tennessee, Knoxville

Tanner Kilpatrick May 2018



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#### **ABSTRACT**

A sizeable body of research has shown that contact with the criminal justice system increases the risk for a variety of physical and mental health problems. However, less is known about mechanisms through which criminal justice contact increases the risk for health problems, particularly for women. This study extends research on criminal justice contact and health by examining the mediating role of racial discrimination. I hypothesized that racial discrimination would mediate the association between criminal justice contact (arrest, jail or prison) and mental health (depressive symptoms, overall mental health) and physical health (overall general health, doctor diagnosed health issues), and that the relationship among these variables would differ by gender. Using data on 613 African American adult caregivers from the Mobile Youth and Poverty Study (MYPS), I conducted a series of regression analyses to test these hypotheses. Results suggest that criminal justice contact increases the risk for depressive symptoms, poorer overall general health, and doctor diagnosed health issues among women, but not for men. Results further suggest that racial discrimination mediated the relationship between contact with the criminal justice system and depressive symptoms among women, but not overall general health or doctor diagnosed health issues. These findings lend support to theoretical perspectives and policies that aim to decrease discriminatory experiences and improve health among racial minority women following contact with the criminal justice system.

Keywords: criminal justice system, health, racial discrimination, women



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#### CHAPTER ONE INTRODUCTION

Criminal justice reforms over the past several decades have increased the number of people incarcerated as well as sentence lengths for a variety of crimes, particularly among low-income racial minority communities (Miller & Alexander, 2016). By the age of 18, nearly 30% of African American men have been arrested at least once, compared to 22% of White men (Brame, Bushway, Paternoster, & Turner, 2014). African American men are also nearly twelve times more likely to be imprisoned than White men. Although men represent a larger proportion of those who come in contact with the criminal justice system, the incarceration rates of women are increasing, and African American women are a growing subpopulation among those incarcerated. These increasing trends among women include arrest rates, particularly among young women ages 18-25 years old (Fedock &Sarantakos, 2017), and a recent report from the U.S. Department of Justice estimated African American women to be imprisoned at nearly double the rate of white women in 2016 (Carson, 2018).

Such trends are especially concerning given that contact with the criminal justice system (arrest, jail or prison) increases the risk of mental health problems (Fazel & Baillargeon, 2011; Kim, 2015; Perkins, Kelly, & Lasiter, 2014; Porter, 2014; Porter & Novisky, 2016; Sugie & Turney, 2017; Turney, Lee, & Comfort, 2013; Turney, Wildeman, & Schnittker, 2012) and physical health problems (Bailey, Williams, Zawachi, & Okechukwu, 2015; Massoglia, Pare, Schnittker, & Gagnon, 2014; Schnittker & John, 2007). Although people who come in contact with the criminal justice system may already be at risk of poor health, studies that have rigorously controlled for sources of selection bias such as low-income, limited education, and barriers to employment have found that criminal justice contact has unique, adverse effects on health (Massoglia et al., 2014; Moore & Tangney, 2017; Porter & Novisky, 2016; Schnittker &



John, 2007). Moreover, about 95% of inmates will be released at some point (Hughes & Wilson, 2002) and could spend nearly six times as long navigating post-incarceration challenges (i.e., employment, housing, family-level stressors, etc.) than the incarceration term itself (Wildeman & Wang, 2017). Taking this into consideration, it is perhaps not surprising that criminal justice contact increases the risk of mental and physical health issues. The increased risk of health issues has prompted further examination of this relationship and has resulted in the identification of three hypothesized mechanisms including: material hardship (Massoglia et al., 2014; Porter & Novisky, 2016; Wakefield & Uggen, 2010), stigma (Murphy, Fuleihan, Richards, & Jones, 2011; Schnittker & John, 2007; Schittker, Massoglia, & Uggen, 2011), and discrimination (Assari et al., 2017; Frank Wang, Nunez-Smith, Lee & Comfort, 2014; Turney et al., 2013). However, studies that have examined these mechanisms have largely focused on men with less attention paid to women, as well as the role racial discrimination plays as a mediator. Using data from the Mobile Youth and Poverty Study, this study aimed to fill this gap by utilizing a sample comprised of mostly African American women to determine if racial discrimination mediated the relationship between criminal justice contact and indicators of mental health (depressive symptoms, overall mental health) and physical health (overall general health, doctor diagnosed health issues). This information could help researchers and policy makers to develop programs that increase post-release success, enhance well-being, and reduce recidivism.



#### CHAPTER TWO LITERATURE REVIEW

# **Background**

The rise in incarceration rates over the past several decades has disproportionately affected low-income African American communities and created additional barriers to employment, housing, and economic mobility, which could jeopardize health and well-being (Massoglia & Pridemore, 2015; Western & Pettit, 2010). Indeed, the risk of mental health issues due to criminal justice contact has been well documented (Fazel & Baillargeon, 2011; Kim, 2015; Perkins et al., 2014; Porter, 2014; Porter & Novisky, 2016; Sugie & Turney, 2017; Turney et al., 2013; Turney, Wildeman, & Schnittker, 2012). People who come in contact with jails or prisons are often removed from homes and communities, which has implications for stress among families and those incarcerated (Arditti, 2012; Turney et al., 2012). While incarcerated, exposure to violent and traumatic experiences often increases and could further exacerbate stress and other challenges to mental well-being, such as depressive symptomology (Massoglia & Pridemore, 2015; Western & Pettit, 2010). In a recent special report by the Bureau of Justice Statistics (Bronson & Berzofsky, 2017), the majority of current jail and prison inmates were more likely to be diagnosed with a major depressive disorder than any other mental health disorder. More jail (26%) than prison (14%) inmates were at or beyond the threshold for serious psychological distress (SPD) in the past month and incarcerated women comprised the majority of those with a SPD.

The potential risks to physical health that contact with the criminal justice system presents to current and former inmates have also been well documented (Binswanger et al., 2007; Massoglia & Pridemore, 2015; Schnittker & John, 2007; Wildeman & Wang, 2017). Many people enter correctional facilities with an infectious disease, and through exposure in living



arrangements, personal sanitation, and sexual encounters, others are vulnerable to infectious diseases such as tuberculosis and sexually transmitted infections (Massoglia et al., 2014; Massoglia & Pridemore, 2015; Pelligrino, Zaitzow, Sothern, Scribner, & Phillippi, 2017; Schnittker & John, 2007; Wildeman & Wang, 2017). Although men represent a larger portion of those incarcerated, incarcerated women are more likely to report health issues than men inside the system and women outside the system (Arriola, Braithwaite, & Newkirk, 2006; Belknap & Whalley, 2013; Binswanger, Redmond, Steiner, & Hicks, 2012). For example, incarcerated women have been found to have higher rates of infectious diseases such as tuberculosis and hepatitis C, compared to incarcerated men (Belknap & Whalley, 2013). Infectious diseases, if not diagnosed or treated in a correctional facility, could potentially enter homes and communities post-release (Macmadu & Rich, 2015).

Even after contact with the criminal justice system, people often face barriers to health care, limited economic resources, and a variety of discriminatory experiences, which increases the risk of health issues (Massoglia & Pridemore, 2015; Wildeman & Wang, 2017), and women could be potentially be more vulnerable than men (Belknap & Whalley, 2013; Freudenburg, 2002; Sered & Norton-Hawk, 2008). For example, reintegration into families and communities often present unique stressors and challenges to mental health (Schnittker & John, 2007) and according to labeling theory (Link, Cullen, Struening, Shrout, & Dohrenwend, 1989), when societal appraisals perceived by a person become internalized, it can become part of their identity. Negative perceived appraisals, or discrimination, from different sources (e.g., family, friends, and community) may cause the person to become withdrawn, which could leave them vulnerable to depression and other mood disorders (Schnittker & John, 2007).



Researchers have also found evidence of physical health challenges after contact with the criminal justice system (Fedock & Sarantakos, 2017; Schnittker, Massoglia, & Uggen, 2011). The period of time proximal to release has been considered a critical juncture since former inmates are at risk for substance use (Porter, 2014) and considering suicide (Fedock & Sarantakos, 2017). However, the risk of physical health challenges which often manifest later in the life course increase as well. In a review of the effects of incarceration on African American health, former incarceration was found to increase the risk for mortality, morbidity, infectious diseases, hypertension, and other potential physical health disorders (Schnittker et al., 2011).

Collectively, theory and research suggest that contact with the criminal justice system increases the risk of mental and physical health problems, but this evidence is less clear among women. Although some scholars have suggested that women may fare well in correctional facilities since women may form more supportive relationships (Kruttschnitt & Gartner, 2005), others have found that women receive less vocational training, access to women's reproductive health care, and counseling while incarcerated (Petersilia, 2009; see also Porter & Novisky, 2016). Moreover, geographic locations of correctional facilities that house women are often a long distance from families and communities (see Massoglia et al., 2014). Given these potential challenges, it is perhaps not surprising that incarcerated women are more likely to report mental distress than men (Lindquist & Lindquist, 1997; Maruschak & Beck, 2001; Schnittker & John, 2007), and such health disparities could be exacerbated after contact with the criminal justice system. Additionally, systemic issues that burden low-income African American communities could heighten perceptions of racial discrimination, particularly among those that have had contact with the criminal justice system, which could increase the risk of health challenges. Therefore, further examination of the relationship between criminal justice contact and health,



and the role of racial discrimination as a mediator, could provide opportunities to develop prevention and intervention techniques to improve the health among African American women and men that have had contact with the criminal justice system.

#### **Theoretical Framework**

Structural inequalities create stressors that often emerge within marginalized and disadvantaged communities and according to the stress process framework (Pearlin, 1989), the manifestation of stress is suggested to have health implications which differ by gender. Women are more likely to internalize stress and men are more likely to deal with stress through externalizing behaviors. The stress process is suggested to occur in sequence where stressful life events occur first, followed by primary stressors, then secondary stressors. Turney and colleagues (2012) posit that incarceration is a stressful life event which elicits primary stressors such as economic instability and loss of employment (Western, 2006). Then, secondary stressors often follow such as barriers to future employment, disruptions in family roles, conflict in romantic relationships, and tension in parent-child relationships, all of which could have implications for health (Kessler et al., 2003; Western, 2006). Turney and colleagues (2012) also argue that secondary stressors can be just as impactful to health as primary stressors or the stressful life event. Chronic strains of stressors, which are enduring and can be problematic, are also situated within the stress process and often flow together with stressful life events (Pearlin, 1989). Therefore, racial discrimination could be considered a chronic strain of stress situated within the stress process of contact with the criminal justice contact, which could help explain the increased risk to health.



#### **Racial Discrimination**

Given the theoretically significance of the link between racial discrimination and health (Ong, Fuller-Rowell, & Burrow, 2009), the purpose of this study was to examine whether racial discrimination mediated the relationship between criminal justice contact and health. Racial discrimination has been conceptualized as uncontrollable, harmful, and repetitive (Landrine & Klonoff, 1996). Among African Americans, perceptions of racial discrimination are more common among those with higher educational attainment and more common among men than women (Borrell, Kiefe, Williams, Diez-Roux, & Gordon-Larsen, 2006). This could be due to African American men's exposure to the public sector whereas African American women have typically occupied roles in the private sector. Although perceptions of racial discrimination are more common among African American men, the health threats of racial discrimination for African American women could be greater (Jang & Johnson, 2005; Seawell, Cutrona, & Russell, 2014). One explanation could be how racial discrimination experiences among African American women have been overshadowed or suppressed in support of African American men and their discriminatory experiences with law enforcement (Crenshaw, 1991). Perceptions of racial discrimination among formerly incarcerated African American women are possibly even more overlooked since these women possess multiple disadvantaged statuses that could further decrease empathy and support from others.

Indeed, a growing body of research has shown that racial discrimination increases the risk of health challenges among African American women and men (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Williams, 1999; Williams & Mohammed, 2013). Racial discrimination increases the risk of mental health challenges such as stress, psychological distress, and depressive symptomology (Lewis, Cogburn, & Williams, 2015; Sellers et al., 2003).



There is also evidence suggesting that racial discrimination is associated with physical health disparities (Borrell et al., 2006; Williams, Neighbors, & Jackson, 2003). For example, racial discrimination increases the risk of high blood pressure and may also account for the increased presence of hypertension among African Americans (Williams et al., 2003). In general, African Americans are at increased risk for physical health disparities such as heart disease, stroke, diabetes, cancer, and hypertension, compared to White Americans (Lewis et al., 2015; Mouzon, Taylor, Woodward, & Chatters, 2017; Wildman & Wang, 2017; Williams & Mohammed, 2013). Acute racial discrimination may not initiate the onset of these potential physical health disparities, but chronic perceptions of racial discrimination may increase the risk for physical health disparities later in life (Ong et al., 2009).

This evidence of racial discrimination increasing the risk of health challenges has prompted researchers to examine the role racial discrimination plays among different segments of African American communities, such as those that have come in contact with the criminal justice system. For example, in a study by Turney and colleagues (2013), the researchers examined a group of men involved in romantic relationships who were recently released from prison (<1 year) and found that criminal record discrimination and racial/ethnic discrimination operated independently of each other but were both positively associated with psychological distress. In another study by Assari and colleagues (2017), the researchers examined a cohort of African American men (n = 1271) from the National Survey of American Life (NSAL) and found that everyday discrimination fully mediated the effect of incarceration history on mental health outcomes (i.e., depressive symptoms and psychological distress). Taken together, these studies provide evidence that racial discrimination is a potential pathway between criminal



justice contact and health among men. However, the role racial discrimination plays as mediator between criminal justice contact and health among women remains unclear.

# **Current Study**

This purpose of this study was to examine whether racial discrimination mediated the relationship between criminal justice contact and health among African American women and men. This study adds to the body of literature in two significant ways. First, a robust body of research has shown the negative effects of criminal justice contact on health among men, with less attention paid to women. This study addressed this existing limitation by using a sample comprised mostly of African American women with a smaller sample of African American men. Second, this study sought to examine whether previous evidence of racial discrimination mediating the effects of incarceration on mental health could be replicated for women, physical health, and among those that have ever been arrested. To examine this relationship, the following hypotheses were tested. (H1) Criminal justice contact is inversely related to mental and physical health for women and men. (H2) Racial discrimination mediates the association between criminal justice contact and indicators of mental and physical health for women and men.



#### CHAPTER THREE MATERIALS AND METHODS

# Sample

This study used data from the Mobile Youth and Poverty Study (MYPS; Mugoya et al., 2017). The MYPS is a multiple cohort longitudinal study of poverty and adolescent risk that began in 1998 and was conducted annually through 2011. Researchers targeted the 13 most impoverished neighborhoods in the Mobile, Alabama Metropolitan Statistical Area, and the project included multiple studies and data points. One such study involved the adult caregivers of youth participants. Adult caregivers were biological parents, grandparents, kin, romantic partners or other adults residing in the home. These adult caregivers were administered a cross-sectional survey called the Adult and Family Dynamics Questionnaire (AFDQ). This survey taps into the demographics of adult caregivers as well as self-reports of their personal lifestyles, stressors, health and wellness, household composition, neighborhood composition, and risk behaviors. The survey did not assess the race of most caregivers. However, since about 95% of caregivers in these neighborhoods were classified as low-income African Americans, the population of adult caregivers is considered homogenous (Bolland et al., 2016). A total of 1,046 adults participated, and 613 had complete data used in this study.

As shown in Table 1, the average age of participants was about 39 years old, and 86% were women (n = 528). About 37% of participants were currently or previously married (n = 227) and 85% of participants reported completing 12 years of school or less. Participants reported about 3 children on average. Nearly 35% of participants were currently employed (n = 214). Of the 528 women, 35% reported having ever been arrested and 13% reported having ever spent time in jail or prison. Among the 85 men, 78% reported having ever been arrested and 39% reported having ever spent time in jail or prison.



#### Measures

Mental health. Two indicators of mental health were examined separately. First, a single-item variable was used to assess self-rated mental health, which asked participants "How would you rate your overall mental health?" Answers ranged from (1) poor, (2) fair, (3) good, (4) very good, or (5) excellent. Due to very small cell size, "poor" was combined with "fair." Second, the 20-item Center for the Epidemiological Studies-Depression (CES-D; Radloff, 1977) scale was used to measure depressive symptoms. The scale was additive and total scores were summed resulting in a final range of 0 to 60, with higher scores indicating greater depressive symptoms. Participants were asked, "How often have you felt this way during the last week?" Response options were (0) rarely, (1) sometimes, (2) occasionally, or (3) most of the time. Sample items included: "I was bothered by things that usually don't bother me," "I felt that I was just as good as other people," "During the last week I felt lonely," and "During the last week, I felt depressed." Cronbach's alpha ( $\alpha = 0.86$ ) suggested high internal consistency for this sample.

**Physical health.** Two measures of physical health were examined separately. First, a single-item variable was used which asked participants, "How would you rate your overall general health?" Answers ranged from (1) poor, (2) fair, (3) good, (4) very good, or (5) excellent. Due to very small cell size, "poor" was combined with "fair." Second, participants were asked to self-report the number of health issues they have had diagnosed by a doctor including: asthma, high blood pressure, heart failure, stroke, heart attack, stomach ulcer, diabetes or high blood sugar, arthritis or rheumatism, pneumonia, cancer or leukemia, and tuberculosis. An additive variable was used and coded (0) none, (1) one, (2) two, and (3) three or more (range 3 – 11) doctor diagnosed health issues because the data were positively skewed. Self-report measures of



this type have been shown to have good reliability (Bush, Miller, Golden, & Hale, 1989; Colditz et al., 1986) and fair validity (Smith et al., 2008).

**Criminal justice contact.** Criminal justice contact was measured by responses to the following questions: "Have you ever been arrested?" and "Since you turned 19, have you spent time in jail or prison?" Answer choices for each question were dichotomous and coded 0 = "no" and 1 = "yes."

**Racial discrimination.** Harrell's (1997) Racism and Life Experience Scale (RaLES) was used to measure racial discrimination. Participants were asked, "During the past 12 months, have any of the following things happened to you because of your race?" Response options included (0) never, (1) rarely, (2) sometimes, or (3) often. The scale was additive and total scores were summed resulting in a final range of 0 to 54, with higher scores indicating greater perceptions of racial discrimination. Sample items included: "You were observed or followed while you were in public places," "You were treated rudely or disrespectfully," and "You were mistaken for someone else of your race." Cronbach's alpha ( $\alpha = 0.94$ ) suggested high internal consistency for this sample.

#### **Analysis**

Analyses were conducted in three stages. First, means and standard deviations were estimated to examine differences between women and men on all of the variables. Second, the main effect of criminal justice contact on indicators of health was estimated. To assess gender differences, I first attempted moderated mediation following the guidelines laid out by Hayes (2013). This meant testing whether gender moderated the link between the indicators of criminal justice contact and racial discrimination, and whether gender moderated the link between racial discrimination and indicators of health. Since the sample was predominantly women, this method



was not used due to concerns of having enough power to fully account for the conditional effects within the moderated mediation model. I also attempted to combine the two indicators of mental health (depressive symptoms and self-rated mental health) into a continuous mental health index and the two indicators of physical health (self-rated general health and doctor diagnosed health issues) into a continuous physical health index. The indicators of physical health had a fairly high correlation, but the two indicators of mental health had a low correlation. Thus, I decided to analyze each indicator of health separately.

Therefore, the analyses in this study were conducted separately for the full sample, women, and men in a regression framework following the guidelines for mediation laid out by Baron and Kenny (1986). Additional Sobel tests (1982) were also conducted to confirm findings of mediation. In addition, the two indicators of criminal justice contact (arrest, jail or prison) were examined separately for each of the four indicators of health. Ordinary least squares (OLS) regression was used to examine the continuous measure of depressive symptoms and ordered logit regression was used to examine the ordinal indicators of self-rated mental health, general health, and doctor diagnosed health issues. Third, I tested whether racial discrimination mediated the relationship between the indicators of criminal justice contact and indicators of mental and physical health by adding racial discrimination to the models (Figure 1). For racial discrimination to be considered a mediator, there had to be (1) a significant path from the indicators of criminal justice contact to the indicators of mental and physical health, (2) a significant path from indicators of criminal justice contact to racial discrimination then to the indicators of mental and physical health, and (3) evidence that the direct path between the indicators of criminal justice contact and the indicators of mental and physical health were no longer significant after racial discrimination was added to the model.



All models included controls for age, marital status, number of children, educational attainment, and whether or not the participant was employed. Family characteristics (i.e., marital status, number of children) and employment status were controlled for since they are correlated with mental health (Kessler et al., 2003). Current marital status was dichotomized into two categories (0) never been married and (1) ever married (i.e., currently married, separated, divorced, or widowed), because over half of the participants reported having never been married. I originally included monthly income, but due to large amounts of missing data on monthly income, I decided not to include it in the analyses. Given the sampling parameters of the study, the overwhelming majority were low-income participants. All analyses were performed using Stata 15 (StataCorp, 2017).

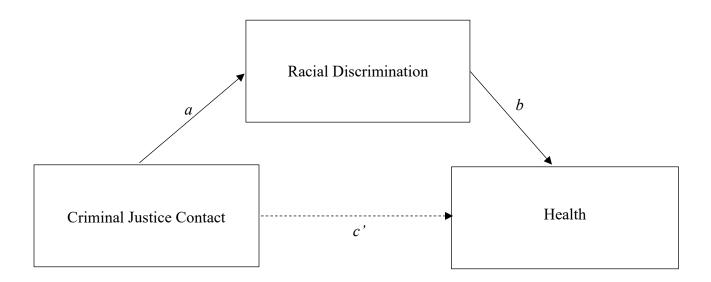


Figure 1. Conceptual Model of Mediation



#### CHAPTER FOUR RESULTS AND DISCUSSION

#### **Results**

**Descriptive Statistics.** As indicated in Table 1, women and men did not differ any of the outcome variables including: depressive symptoms, overall mental health, overall general health, and doctor diagnosed health issues. There were gender differences on several predictor variables. First, more men reported having ever been arrested (78%) than women (35%),  $\chi^2(1, N = 613) = 55.53$ , p < 0.001. Second, more men reported having ever spent time in jail or prison (39%) than women (13%),  $\chi^2(1, N = 613) = 35.01$ , p < 0.001. Third, men perceived more racial discrimination (M = 16.78, SD = 13.85) than women (M = 8.32, SD = 9.91), t(98) = 5.41, p < 0.001, t = 98.32, 95% CI [5.36, 10.36]. Regarding the sociodemographic variables, women and men were similar in age, education, employment, and marital status. Women did report having more children (M = 3.60, SD = 2.08) than men (M = 2.69, SD = 2.72), t(100) = -2.92, p = 0.004, t = 100.44, 95% CI [-1.51, -0.29].

Arrest and Health. Results for OLS regression of having ever been arrested on depressive symptoms are shown in Table 2. The CES-D scale was standardized and findings among the full sample (N = 613) showed that having ever been arrested had a positive association with depressive symptoms (b = 0.08, SE = 0.08, p = 0.047). When racial discrimination was added to the model, the main effect of having ever been arrested became insignificant and the beta coefficient decreased, providing evidence that racial discrimination (b = 0.31, SE = 0.00, p < 0.001) mediated the association between having ever been arrest on depressive symptoms. Results from the Sobel test (z = 4.91, p < 0.001) confirmed this evidence. This finding lends support to the second hypothesis and suggests that having ever been arrested is positively associated with racial discrimination, which then increases depressive symptoms,



compared to having not having ever been arrested. Although a significant direct effect of having ever been arrested on depressive symptoms was not found for women or men, the Sobel tests showed that racial discrimination partially mediated this relationship for women (z = 3.74, p < 0.001) and men (z = 1.99, p = 0.05). Results from order logit regression of having ever been arrested on self-rated mental health are shown in Table 3. There was no evidence of a main effect of having ever been arrested on self-rated mental health for the full sample, women, or men. However, results from the Sobel test showed that racial discrimination did partially mediate this relationship for the full sample (z = -3.13, p = 0.002) and for women (z = -.270, p = 0.01).

As indicated in Table 4, having ever been arrested did not have a direct effect on self-reported general health. Results from ordered logit regression of having ever been arrested on doctor diagnosed health issues are shown in Table 5. Women who have ever been arrested reported more doctor diagnosed health issues OR = 1.50, 95% CI [1.04, 2.17], p = 0.03, and this association slightly decreased but stayed statistically significant when racial discrimination was added to the model OR = 1.45, 95% CI [1.00, 2.10], p = 0.05, indicating that racial discrimination did not mediate this relationship. This evidence suggests that among women who have ever been arrested, the risk of doctor diagnosed health issues increases compared to women who have never been arrested.

**Jail or Prison and Health.** Results from OLS regression of having ever been to jail or prison on depressive symptoms are shown in Table 6. There was no main effect of having ever spent time in jail or prison on depressive symptoms for the full sample, women, or men. However, results from the Sobel tests showed that racial discrimination partially mediated this relationship for the full sample (z = 3.57, p < 0.001) and for women (z = 2.15, p = 0.03). Similarly, as indicated in Table 7, there was no evidence of a main effect of having ever spent



time in jail or prison on self-rated mental health for full sample, women, or men. However, results from the Sobel test showed that racial discrimination partially mediated this relationship for the full sample (z = -2.70, p = 0.01)

Results from ordered logit regression among those who have ever spent time in jail or prison are shown in Table 8. Women who have ever spent time in jail or prison reported poorer overall general health OR = 0.33, 95% CI [0.20, 0.56], p < 0.001, and odds ratio stayed the same when racial discrimination was added to the model suggesting that racial discrimination did not mediate this relationship. This evidence suggests that among women who have ever spent time in jail or prison, the risk of poorer general health increases compared to women who have not spend time in jail or prison. As indicated in Table 9, there was no main effect of having ever spent time in jail or prison on doctor diagnosed health issues for the full sample, women, or men.

Collectively, these findings suggest that having ever been arrested or having ever spent time in jail or prison increases the risk of adverse health among women. The evidence of racial discrimination mediating the relationship between criminal justice contact and indicators of mental health among women further suggests that discriminatory experiences after contact with the criminal justice system can be harmful to the mental health of formerly arrested or incarcerated people.

### **Discussion**

This study used a sample of African American adult caregivers from low-income neighborhoods in Mobile, Alabama to (1) examine whether criminal justice contact was inversely related to indicators of health among women and men; and (2) to examine whether racial discrimination mediated the relationship between criminal justice contact and indicators of health among women and men. Findings from this study contribute to the body of knowledge in



three important ways. First, although researchers have largely focused on men who have come in contact with the criminal justice system, less attention has been paid to women and this study fills this gap by utilizing a sample comprised mostly of mostly African American women with a smaller sample of African American men. Second, this study extends previous research by examining two indicators of criminal justice contact separately (arrest, jail or prison) on separate indicators of mental health and physical health. Finally, moving beyond the direct association between criminal justice contact and health, this study found evidence of racial discrimination mediating the relationship between criminal justice contact and mental health among African American women.

Several results from this study contribute to the existing literature on criminal justice contact, discrimination, and health. First, the evidence suggesting that racial discrimination mediated the relationship between criminal justice contact and mental health among African American women is the first to be documented. Other studies that have examined this relationship have found similar results among men (Assari et al., 2017; Turney et al., 2013). In addition, this evidence extends previous research by considering an additional measure of criminal justice contact (i.e., arrest). This means that having ever been arrested or having ever spent time in jail or prison could heighten perceptions of racial discrimination through everyday social interactions and through other stressors such as barriers to employment and material hardships (Kessler et al., 2003; Pager, 2013; Porter & Novisky, 2016). These stressors could then increase the risk of depressive symptoms and poorer overall mental health. Considering the systemic inequalities that plague low-income African American communities, any criminal justice contact among these low-income African American caregivers could potentially



exacerbate perceptions of racial discrimination and increase the risk for depressive symptomology and poorer mental health.

Second, results suggest that having ever been arrested increased the odds of doctor diagnosed health issues among women, but not among men. This lends partial support to the first hypothesis with regards to gender. One explanation could be that women are more likely to be arrested for a drug related offense than any other criminal offense (Snyder, 2012). Thus, it is possible that drug use prior to, and/or after, an arrest could increase the risk these physical health issues among women. Similarly, women who come in contact with the criminal justice system have commonly reported a history of violence (i.e., paternal abuse, rape, intimate partner violence; Belknap & Whalley, 2013), which could increase the risk of physical health issues through risky coping behaviors, such as substance use/abuse. On the contrary, men are more likely to be arrested for violent offenses compared to women (Snyder, 2012). Therefore, men's physical health maybe more at-risk through violence exposure and environmental challenges outside the criminal justice system. Contrary to the second hypothesis, there was no evidence of racial discrimination mediating the relationship between having ever been arrested and doctor diagnosed health issues. This could be due to the cross-sectional nature of this study. However, this finding does highlight the importance of adverse effects that criminal justice contact presents to physical health among low-income African American women, even while controlling for racial discrimination. Therefore, this suggests that low-income African American women that come in contact with the criminal justice system could be further excluded from labor market opportunities and health care access, which could potentially exacerbate physical health issues.



Third, this study found evidence of having ever been to jail or prison increasing the odds of poorer overall general health among women, but not among men. This finding among women is consistent with previous research (Porter & Novisky, 2016), but the null findings for men are inconsistent with previous research (Mouzon et al., 2017; Taylor, Miller, Mouzon, Keith, & Chatters, 2016). Regarding women, having ever been to jail or prison could potentially exacerbate general health issues through primary and secondary stressors (Turney et al., 2012). Since the majority of women in this study had never been married, a large portion could be single mothers, or women caregivers, raising children. Therefore, primary stressors such as loss of employment and financial strain could be highly impactful to general health of these women. Secondary stressors such as disruptions in family roles (e.g., mothers losing custody of their child(ren), grandparent or other kin becoming primary caregiver, etc.), conflict in romantic relationships, and tension in parent-child relationships could also exacerbate the risk poorer general health among women (Arditti, 2012; Kessler et al., 2003; Western, 2006).

Regarding men, no evidence of having ever been to jail or prison being associated with poorer general health is inconsistent with previous research that has found incarceration to increase the risk of adverse health among men (Binswanger et al., 2012; Binswanger et al., 2007; Kim, 2015). It's possible that a combination of impoverished circumstances and higher rates of incarceration among the men in this sample mitigate the effects of having ever been to jail and prison on the men's health. It is also possible that men's health could potentially improve by being removed from impoverished and challenging circumstances and previous research has shown that men's health could potentially improve while incarcerated due to health care access (Conklin, Lincoln, & Tuthill, 2000; Dumont, Brockman, Dickman, Alexander, & Rich, 2012; Patterson, 2010).



Overall, this study found no evidence of either form of criminal justice contact being associated with health among men. This is inconsistent with previous research which has found evidence of criminal justice contact being associated with negative mental and physical health (Assari et al., 2017; Binswanger et al., 2012; Turney et al., 2013). One explanation is that this study was not sufficiently powered to detect differences for men. Another explanation is that previous studies which have utilized national samples of men (Assari et al., 2017; Porter & Novisky, 2016) are perhaps capturing more environmental heterogeneity (i.e., geographic location, variations in socioeconomic status), which could explain previous findings of incarceration being associated with poorer health. This highlights a strength of this study considering the sample of African American men are more homogenous in terms of geographic location, socioeconomic status, and race. Thus, it's possible that systemic inequalities which disproportionately impact low-income African American communities are potentially more burdensome to men's health than contact with the criminal justice system. One additional explanation could be that among the studies which have examined racial discrimination as a mediator between incarceration and men's health, there could be operationalization issues of how criminal justice contact was defined. For example, one study (Assari et al., 2017) examined the effects of incarceration history on depressive symptoms and psychological distress among African American men and operationalized incarceration history as a combination of men who spent time in reform school, detention centers, jail, or prison. Although the researchers controlled for age, each of these institutions may have health implications dependent on type of institution and duration whereas in this study arrest and jail/prison were examined separately.



Results that emerged from this study lend support to theoretical perspectives and policy. First, consistent with a sizable body of literature that illustrates the mental health consequences of criminal justice contact and discrimination, evidence of racial discrimination mediating the relationship between criminal justice contact and mental health lends support to stress theory (Pearlin, 1989). Turney and colleagues (2012) argued that future work should consider contact with the criminal justice system as stressful life event within the stress framework, since criminal justice contact often elicits primary and secondary stressors such as barriers to employment, economic mobility, disruption in romantic relationships, and tension in parent-child relationships. Future work could also benefit by continuing to examine racial discrimination as a chronic strain of stress and what this could mean for health.

Next, these findings are consistent with a growing body of research that has demonstrated the negative effects of discrimination presents on health. This potentially lends support to labeling theory (Link et al., 1989). Labeling theory posits that when societal appraisals perceived by a person becomes internalized, it can become part of their identity. Negative societal appraisals from different sources (e.g., family, community, and societal beliefs) may cause someone to become withdrawn, which could increase the risk for mental health disparities (Schnittker & John, 2007). Racial discrimination is typically not considered within this framework. However, considering the evidence from this study suggesting that racial discrimination mediated the relationship between criminal justice contact and depressive symptom among low-income African American women, future work would benefit from including multiple disadvantaged labels (i.e., gender minority, racial minority, former inmate) and how those labels could potentially increase the risk of mental health challenges.



Finally, the evidence suggesting that criminal justice contact could be harmful to the health of low-income African American women further emphasizes the need for criminal justice reform policies that enhance women's health care access after contact with the criminal justice system. Policies such as the Affordable Care Act (ACA), which decreased barriers to health care access among people who were formerly incarcerated, could help marginalized women gain access to health care. Dumont and colleagues (2012) argued that the ACA "is used as a forum to construct alternative venues of accessing marginalized communities to forestall further reliance on correctional facilities for that access" (p. 334). Therefore, provisions within the ACA that aimed to improve access to health care among marginalized women and communities should be considered in future health care policies.

#### Limitations

Although this study adds to the body of literature in several ways, the results should be interpreted with caution. Regarding the sample, although researchers that collected these data estimated that about 95% of the sample were African American (Bolland et al., 2016), lack of racial/ethnic background information situates this study's findings within the low-income communities from which participants were surveyed. Next, although these analyses followed the mediation guidelines by Baron and Kenny (1986), there are critiques to this method. Scholars have argued that a main effect between the independent variable to the dependent variable does not have to be present for mediation to occur. Instead, as long as the path from the independent variable to the mediator and the path from the mediator to the dependent variable are significant, then mediation could be assumed (Zhao, Lynch Jr., & Chen, 2010). Although additional Sobel tests were conducted, there still could be potential indirect or direct effects of racial discrimination that this study may not have captured.



Another limitation is the cross-sectional nature of the data. Although theoretical perspectives and findings from previous studies suggest that discrimination precedes mental health challenges, it is also possible that people with existing mental health conditions may perceive more discrimination and have negative reactions than those without existing mental health conditions (Brondolo et al., 2008; also see Turney et al., 2013). Next, one measure of criminal justice contact (i.e. having ever spent time in jail or prison) is not mutually exclusive and cannot differentiate the effects of jail versus effects of prison on health. Finally, it is worth noting again that people who are exposed to, or have the potential for, contact with the criminal justice system may already be at-risk for adverse health outcomes (Wildeman & Western, 2010). Thus, considering the data contain low-income African American caregivers, participants could have been at risk for adverse health outcomes as a function of their contextual environment. Despite these limitations, the findings from this study contribute to the sizeable body of criminal justice contact, discrimination, and health literature by capturing evidence of criminal justice contact being inversely related to health among African American women. These findings further contribute by capturing evidence of racial discrimination mediating the relationship between criminal justice contact and depressive symptoms among African American women.

#### **Directions for Future Research**

Based on the findings in this study, future research would benefit in several areas. First, future research should consider nuances in racial/ethnic discrimination. More specifically, research should examine micro- and macro-aggressions of racial discrimination separately. For example, although this study used caregivers' perceptions of racial discrimination, future work would benefit from differentiating perceptions of racial discrimination from actual racists events. Future work should also consider factors that could moderate the relationship between racial



discrimination and health among those that come in contact with the criminal justice system. Several moderators have been identified such as various forms of social support (Cooper, 2009; Nichols, Kotchick, Barry, & Haskins, 2010; Seawell et al., 2014), racial identity (Sellers & Shelton, 2003), and religiosity (Bierman, 2006), but little is known on how they impact this relationship. Second, limited research has examined other racial/ethnic minority groups, such as Latinos, and how contact with the criminal justice system impacts health. Third, longitudinal study designs that capture multiple forms of criminal justice contact (i.e., arrest, jail, prison, conviction of an offense) as well as the duration of sentences would help researchers and policy makers better understand how different forms of criminal justice contact and duration affects health. Finally, future research that disentangles and documents the reintegration experiences of racial minority women back into romantic relationships, parent-child relationships, and communities could help researchers and policy makers develop techniques and polices that aim to improve reintegration success and the health among those that come in contact with the criminal justice system.



#### CHAPTER FIVE CONCLUSIONS AND RECCOMENDATIONS

In conclusion, this study makes important contributions to the existing body of literature by providing evidence that criminal justice contact is associated with depressive symptoms, poorer overall general health, and doctor diagnosed health issues among low-income African American women. Additionally, this study answers the call for examination of the hypothesized mechanisms linking contact with the criminal justice system to poorer health by examining racial discrimination as a mediator. There was evidence that racial discrimination mediated the association between criminal justice contact and depressive symptoms among women, but not for overall general health or doctor diagnosed health issues. These findings lend support to the idea that contact with the criminal justice system is a stressful life event that can elicit primary and secondary stressors, which could increase the risk of health challenges. In addition, racial discrimination could be considered a chronic strain of stress that could strengthen this relationship and further increase the risk for health challenges. These findings highlight the importance of policies aimed to provide techniques and strategies to decrease discriminatory experiences, which could improve health and well-being among racial minority women that have come in contact with criminal justice system.



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## **APPENDIX**



Table 1. Descriptive Statistics

| •                              | Full ( <i>n</i> = 613) |     | Women (n | Women ( <i>n</i> = 528) |     |     | 2 = 85)      |     | Test Statistics |                           |                            |
|--------------------------------|------------------------|-----|----------|-------------------------|-----|-----|--------------|-----|-----------------|---------------------------|----------------------------|
|                                | M(SD)                  | Min | Max      | M(SD)                   | Min | Max | M(SD)        | Min | Max             | $\chi^2$                  | t                          |
| Self-rated mental health       | 2.53(1.13)             | 1   | 4        | 2.51(1.13)              | 1   | 4   | 2.67(1.11)   | 1   | 4               | $\chi^2(3) = 1.81$        |                            |
| (1 = Poor/Fair)                |                        |     |          |                         |     |     |              |     |                 |                           |                            |
| Depressive Symptoms $(0 - 60)$ | 16.54(10.70)           | 0   | 53       | 16.77(10.92)            | 0   | 53  | 15.16(9.14)  | 0   | 42              |                           | t(126) = -1.46             |
| Self-rated General health      | 2.04(1.06)             | 1   | 4        | 2.03(1.06)              | 1   | 4   | 2.12(1.10)   | 1   | 4               | $\chi^2(3) = 3.40$        |                            |
| (1 = Poor/Fair)                |                        |     |          |                         |     |     |              |     |                 |                           |                            |
| Doctor Diagnosed Health Issues | 0.97(1.13)             | 0   | 3        | 1.02(1.15)              | 0   | 3   | 0.73(1.00)   | 0   | 3               | $\chi^2(3) = 5.05$        |                            |
| (0 = None)                     |                        |     |          |                         |     |     |              |     |                 |                           |                            |
| Ever Arrested $(1 = Yes)$      | 0.41(0.49)             | 0   | 1        | 0.35(0.48)              | 0   | 1   | 0.78(0.42)   | 0   | 1               | $\chi^2(1) = 55.53^{***}$ |                            |
| Ever Been to Jail or Prison    | 0.17(0.37)             | 0   | 1        | 0.13(0.34)              | 0   | 1   | 0.39(0.49)   | 0   | 1               | $\chi^2(1) = 35.01^{***}$ |                            |
| (1 = Yes)                      |                        |     |          |                         |     |     |              |     |                 |                           |                            |
| Racial Discrimination $(0-54)$ | 9.49(10.93)            | 0   | 43       | 8.32(9.91)              | 0   | 43  | 16.78(13.85) | 0   | 41              |                           | $t(98) = 5.41^{***}$       |
| Women                          | 86.13(0.35)            | 0   | 1        |                         |     |     |              |     |                 |                           |                            |
| Age                            | 38.84(12.73)           | 19  | 87       | 39.24(12.75)            | 19  | 87  | 36.36(12.54) | 19  | 71              |                           | $t(611) = -1.93^{\dagger}$ |
| Education                      | 11.43(1.73)            | 0   | 18       | 11.45(1.71)             | 0   | 17  | 11.29(1.84)  | 4   | 18              |                           | t(611) = -0.76             |
| Num. of Children               | 3.47(2.20)             | 0   | 16       | 3.60(2.08)              | 0   | 15  | 2.69(2.72)   | 0   | 16              |                           | $t(100) = -2.92^{**}$      |
| Employed $(1 = Yes)$           | 0.35(0.48)             | 0   | 1        | 0.34(0.47)              | 0   | 1   | 0.42(0.50)   | 0   | 1               | $\chi^2(1) = 2.41$        |                            |
| Ever Married $(1 = Yes)$       | 0.37(0.48)             | 0   | 1        | 0.37(0.48)              | 0   | 1   | 0.39(0.49)   | 0   | 1               | $\chi^2(1) = 0.14$        |                            |

Note: M = mean; SD = standard deviation; Min = minimum; Max = maximum;  $\chi^2 = \text{chi-square}$ ; t = t-test.; t = t-t-test.; t = t-t-test.;



Table 2. OLS Regression of Ever Arrested on Depressive Symptoms (CES-D)

|                       | F                 | ull Sampl | e $(n = 613)$ |        |                   | Women  | (n = 528) |        | Men (n = 85) |              |         |             |  |
|-----------------------|-------------------|-----------|---------------|--------|-------------------|--------|-----------|--------|--------------|--------------|---------|-------------|--|
|                       | <u>Mode1 1</u>    |           | Model 2       |        | Mode              | el 3   | Mode      | el 4   | Mo           | <u>del 5</u> | Mod     | <u>el 6</u> |  |
|                       | b                 | SE        | b             | SE     | b                 | SE     | b         | SE     | b            | SE           | b       | SE          |  |
| Ever Arrested         | 0.08*             | (0.08)    | 0.03          | (0.08) | $0.07^{\dagger}$  | (0.09) | 0.03      | (0.09) | 0.06         | (0.25)       | -0.01   | (0.24)      |  |
| Women                 | $0.08^{*}$        | (0.12)    | 0.15***       | (0.12) | -                 | -      | -         | -      | -            | -            | -       | -           |  |
| Age                   | $-0.09^{\dagger}$ | (0.00)    | - 0.04        | (0.00) | $-0.09^{\dagger}$ | (0.00) | -0.03     | (0.00) | -0.01        | (0.01)       | -0.02   | (0.01)      |  |
| Education             | -0.11**           | (0.02)    | - 0.13**      | (0.02) | -0.14**           | (0.03) | -0.15***  | (0.02) | -0.02        | (0.06)       | -0.01   | (0.05)      |  |
| Number of Children    | -0.04             | (0.02)    | - 0.04        | (0.02) | $-0.08^{\dagger}$ | (0.02) | -0.07     | (0.02) | 0.14         | (0.04)       | 0.08    | (0.04)      |  |
| Employed              | -0.16***          | (0.08)    | - 0.15***     | (0.08) | -0.16***          | (0.09) | -0.15***  | (0.09) | -0.09        | (0.22)       | -0.11   | (0.21)      |  |
| Ever Married          | 0.04              | (0.09)    | 0.02          | (0.09) | 0.07              | (0.10) | 0.02      | (0.10) | -0.14        | (0.25)       | -0.08   | (0.24)      |  |
| Racial Discrimination | -                 | -         | 0.31***       | (0.00) | -                 | -      | 0.29***   | (0.00) | -            | -            | 0.34*** | (0.01)      |  |
| Constant              | $0.84^{*}$        | (0.33)    | 0.42          | (0.32) | 1.31***           | (0.35) | 1.00**    | (0.34) | -0.01        | (0.78)       | -0.23   | (0.75)      |  |
| F                     | 5.15***           |           | 12.13***      |        | 6.20***           |        | 12.44***  |        | 0.46         |              | 1.77    |             |  |
| Prob > F              | < 0.001           |           | < 0.001       |        | < 0.001           |        | < 0.001   |        | 0.832        |              | 0.107   |             |  |
| $\mathbb{R}^2$        | 0.06              |           | 0.14          |        | 0.06              |        | 0.13      |        | 0.03         |              | 0.06    |             |  |

*Note.* b = standardized regression coefficient; SE = standard error.



 $<sup>^{\</sup>dagger}p < .10, *p < .05, **p < .01, ***p < .001.$ 

Table 3. Ordered Logit Regression of Ever Arrested on Self-Rated Mental Health

|                                    | Full Sample ( <i>n</i> = 613) |              |                  |              |                  | Women        |             | Men (n = 85) |                  |                |                  |              |
|------------------------------------|-------------------------------|--------------|------------------|--------------|------------------|--------------|-------------|--------------|------------------|----------------|------------------|--------------|
|                                    | Model 1                       |              | Model 2          |              | Model 3          |              | <u>M</u>    | Iodel 4      | <u>_</u>         | <u>Model 5</u> | <u>N</u>         | Model 6      |
|                                    | OR                            | CI           | OR               | CI           | OR               | CI           | OR          | CI           | OR               | CI             | OR               | CI           |
| Ever Arrested                      | 0.77                          | [0.56, 1.06] | 0.85             | [0.62, 1.18] | 0.78             | [0.56, 1.10] | 0.86        | [0.61, 1.21] | 0.68             | [0.27, 1.72]   | 0.85             | [0.33, 2.19] |
| Women                              | 0.74                          | [0.47, 1.14] | $0.61^{*}$       | [0.39, 0.96] | -                | -            | -           | -            | -                | -              | -                | -            |
| Age                                | $0.98^{**}$                   | [0.96, 0.99] | 0.97***          | [0.96, 0.99] | $0.98^{**}$      | [0.96, 0.99] | 0.97**      | [0.96, 0.99] | $0.96^{\dagger}$ | [0.93, 1.00]   | $0.96^{\dagger}$ | [0.93, 1.00] |
| Education                          | 1.13**                        | [1.04, 1.23] | 1.14**           | [1.04, 1.24] | 1.15**           | [1.04, 1.26] | 1.15**      | [1.05, 1.27] | 1.12             | [0.90, 1.38]   | 1.10             | [0.89, 1.37] |
| Number of Children                 | 1.00                          | [0.93, 1.07] | 1.00             | [0.93, 1.07] | 1.02             | [0.94, 1.11] | 1.02        | [0.94, 1.10] | 0.93             | [0.79, 1.09]   | 0.96             | [0.82, 1.13] |
| Employed                           | 1.75***                       | [1.28, 2.39] | 1.72**           | [1.26, 2.36] | 1.75**           | [1.25, 2.46] | $1.70^{**}$ | [1.21, 2.39] | 1.69             | [0.74, 3.88]   | 1.85             | [0.80, 4.28] |
| Ever Married                       | $0.69^{*}$                    | [0.49, 0.98] | $0.73^{\dagger}$ | [0.51, 1.04] | $0.70^{\dagger}$ | [0.48, 1.02] | 0.76        | [0.52, 1.11] | 0.65             | [0.25, 1.66]   | 0.54             | [0.21, 1.42] |
| Racial                             |                               |              | 0.97***          | [0.96, 0.99] |                  |              | 0.97**      | [0.96, 0.99] |                  |                | $0.96^{*}$       | [0.94, 0.99] |
| Discrimination<br>Likelihood Ratio | 66.22***                      |              | 81.74***         |              | 52.23***         |              | 62.53***    |              | 15.52*           |                | 20.96**          |              |
| Pseudo R <sup>2</sup>              | 0.04                          |              | 0.05             |              | 0.04             |              | 0.04        |              | 0.07             |                | 0.09             |              |



 $<sup>^{\</sup>dagger}p < .10, *p < .05, **p < .01, ***p < .001.$ 

Table 4. Ordered Logit Regression of Ever Arrested on Self-Rated General Health

|                       |          | Full Sample ( <i>n</i> = 613) |            |              |          | Women        | (n = 528)        |              | Men (n = 85)     |              |                  |              |  |
|-----------------------|----------|-------------------------------|------------|--------------|----------|--------------|------------------|--------------|------------------|--------------|------------------|--------------|--|
|                       | Model 1  |                               | Model 2    |              | Model 3  |              | <u>N</u>         | Iodel 4      | <u>N</u>         | Iodel 5      | <u>M</u>         | lodel 6      |  |
|                       | OR       | CI                            | OR         | CI           | OR       | CI           | OR               | CI           | OR               | CI           | OR               | CI           |  |
| Ever Arrested         | 0.82     | [0.60, 1.14]                  | 0.88       | [0.63, 1.22] | 0.87     | [0.62, 1.23] | 0.89             | [0.63, 1.26] | 0.74             | [0.29, 1.90] | 0.94             | [0.36, 2.44] |  |
| Women                 | 0.90     | [0.57, 1.42]                  | 0.81       | [0.51, 1.29] | -        | -            | -                | -            | -                | -            | -                | -            |  |
| Age                   | 0.95***  | [0.94, 0.97]                  | 0.96***    | [0.94, 0.97] | 0.96***  | [0.94, 0.98] | 0.96***          | [0.94, 0.97] | 0.92***          | [0.88, 0.96] | 0.92***          | [0.89, 0.96] |  |
| Education             | 0.96     | [0.88, 1.05]                  | 0.96       | [0.88, 1.06] | 1.01     | [0.91, 1.12] | 1.01             | [0.91, 1.12] | $0.75^{\dagger}$ | [0.60, 0.95] | $0.74^{*}$       | [0.58, 0.93] |  |
| Number of Children    | 1.05     | [0.97, 1.13]                  | 1.05       | [0.97, 1.13] | 1.07     | [0.98, 1.16] | 1.06             | [0.98, 1.16] | 1.05             | [0.87, 1.27] | 1.13             | [0.94, 1.37] |  |
| Employed              | 1.89***  | [1.38, 2.60]                  | 1.91***    | [1.39, 2.62] | 1.84     | [1.31, 2.60] | 1.84***          | [1.31, 2.60] | 1.76             | [0.76, 4.08] | $2.17^{\dagger}$ | [0.92, 5.11] |  |
| Ever Married          | 0.76     | [0.53, 1.09]                  | 0.78       | [0.54, 1.13] | 0.71***  | [0.48, 1.06] | $0.72^{\dagger}$ | [0.49, 1.08] | 0.85             | [0.33, 2.20] | 0.64             | [0.24, 1.69] |  |
| Racial Discrimination |          |                               | $0.98^{*}$ | [0.97, 1.00] |          |              | 1.00             | [0.98, 1.01] |                  |              | 0.95**           | [0.92, 0.98] |  |
| Likelihood Ratio      | 93.27*** |                               | 97.87***   |              | 70.00*** |              | 70.33***         |              | 30.20***         |              | 39.55***         |              |  |
| Pseudo R <sup>2</sup> | 0.06     |                               | 0.06       |              | 0.05     |              | 0.05             |              | 0.12             |              | 0.15             |              |  |



 $<sup>^{\</sup>dagger}p < .10, *p < .05, **p < .01, ***p < .001.$ 

Table 5. Ordered Logit Regression of Ever Arrested on Doctor Diagnosed Health

|                       |                   | Full Sample ( $n = 613$ ) |            |              |                  | Women        | (n = 528)        |              | Men (n = 85) |              |          |              |  |
|-----------------------|-------------------|---------------------------|------------|--------------|------------------|--------------|------------------|--------------|--------------|--------------|----------|--------------|--|
|                       | Model 1           |                           | Model 2    |              | Model 3          |              | <u>M</u>         | odel 4       | <u>M</u>     | Iodel 5      | <u>M</u> | lodel 6      |  |
|                       | OR                | CI                        | OR         | CI           | OR               | CI           | OR               | CI           | OR           | CI           | OR       | CI           |  |
| Ever Arrested         | 1.37 <sup>†</sup> | [0.98, 1.94]              | 1.29       | [0.91, 1.83] | 1.50*            | [1.04, 2.17] | 1.45*            | [1.00, 2.10] | 0.51         | [0.17, 1.52] | 0.43     | [0.14, 1.33] |  |
| Women                 | $1.60^{\dagger}$  | [1.06, 2.63]              | 1.77*      | [1.07, 2.93] | -                | -            | -                | -            | -            | -            | -        | -            |  |
| Age                   | 1.08***           | [1.06, 1.09]              | 1.08***    | [1.06, 1.10] | 1.08***          | [1.06, 1.10] | 1.08***          | [1.06, 1.10] | 1.10***      | [1.05, 1.15] | 1.11***  | [1.05, 1.16] |  |
| Education             | 1.12*             | [1.02, 1.23]              | 1.12*      | [1.02, 1.23] | $1.10^{\dagger}$ | [0.99, 1.22] | $1.10^{\dagger}$ | [0.99, 1.22] | 1.16         | [0.92, 1.46] | 1.19     | [0.94, 1.49] |  |
| Number of Children    | $0.92^{*}$        | [0.85, 0.99]              | $0.92^{*}$ | [0.85, 1.00] | 0.85**           | [0.78, 0.93] | 0.86**           | [0.78, 0.94] | 1.31*        | [1.05, 1.63] | 1.26*    | [1.01, 1.57] |  |
| Employed              | 0.44***           | [0.31, 0.62]              | 0.44***    | [0.31, 0.62] | 0.37***          | [0.25, 0.54] | 0.37***          | [0.26, 0.55] | 1.47         | [0.54, 4.04] | 1.45     | [0.53, 3.97] |  |
| Ever Married          | 1.32              | [0.92, 1.91]              | 1.29       | [0.89, 1.87] | $1.41^{\dagger}$ | [0.95, 2.10] | 1.36             | [0.91, 2.04] | 0.86         | [0.30, 2.48] | 1.00     | [0.34, 2.96] |  |
| Racial Discrimination |                   |                           | $1.02^{*}$ | [1.00, 1.03] |                  |              | 1.01             | [0.99, 1.03] |              |              | 1.03     | [0.98, 1.07] |  |
| Likelihood Ratio      | 181.02***         |                           | 184.97***  |              | 162.42***        |              | 163.69***        |              | 38.85***     |              | 40.70*** |              |  |
| Pseudo R <sup>2</sup> | 0.12              |                           | 0.12       |              | 0.12             |              | 0.12             |              | 0.20         |              | 0.21     |              |  |



 $<sup>^{\</sup>dagger}p < .10, *p < .05, **p < .01, ***p < .001.$ 

Table 6. OLS Regression of Jail or Prison on Depressive Symptoms (CES-D)

|                                   | F                | ull Samp | le $(n = 613)$ |         |          | Women  | (n = 528) | Men (n = 85) |       |              |         |             |
|-----------------------------------|------------------|----------|----------------|---------|----------|--------|-----------|--------------|-------|--------------|---------|-------------|
|                                   | Mode             | Model 1  |                | Model 2 |          | el 3   | Mode      | el 4         | Mo    | <u>del 5</u> | Mod     | <u>el 6</u> |
|                                   | b                | SE       | b              | SE      | b        | SE     | b         | SE           | b     | SE           | b       | SE          |
| Ever Spent Time in Jail or Prison | 0.05             | (0.11)   | 0.02           | (0.10)  | 0.05     | (0.13) | 0.02      | (0.12)       | 0.03  | (0.22)       | -0.01   | (0.22)      |
| Women                             | $0.07^{\dagger}$ | (0.12)   | 0.14***        | (0.11)  | -        | -      | -         | -            | -     | -            | -       | -           |
| Age                               | -0.10*           | (0.00)   | -0.04          | (0.00)  | -0.10*   | (0.00) | -0.04     | (0.00)       | -0.01 | (0.01)       | -0.03   | (0.01)      |
| Education                         | -0.12**          | (0.02)   | -0.13**        | (0.02)  | -0.14**  | (0.03) | -0.15***  | (0.02)       | -0.01 | (0.06)       | -0.01   | (0.05)      |
| Number of Children                | -0.04            | (0.02)   | -0.04          | (0.02)  | -0.08    | (0.02) | -0.06     | (0.02)       | 0.14  | (0.04)       | 0.08    | (0.04)      |
| Employed                          | -0.16***         | (0.08)   | -0.16***       | (0.08)  | -0.17*** | (0.09) | -0.16***  | (0.09)       | -0.09 | (0.22)       | -0.11   | (0.21)      |
| Ever Married                      | 0.04             | (0.09)   | 0.02           | (0.09)  | 0.07     | (0.10) | 0.02      | (0.10)       | -0.13 | (0.25)       | -0.07   | (0.24)      |
| Racial Discrimination             | -                | -        | 0.31***        | (0.00)  | -        | -      | 0.29***   | (0.00)       | -     | -            | 0.34*** | (0.01)      |
| Constant                          | 0.95**           | (0.32)   | 0.45           | (0.32)  | 1.38***  | (0.35) | 1.01**    | (0.34)       | 0.03  | (0.80)       | -0.22   | (0.76)      |
| F                                 | 4.74***          |          | 12.09***       |         | 5.80***  |        | 12.42***  |              | 0.46  |              | 1.77    |             |
| Prob > F                          | < 0.001          |          | < 0.001        |         | < 0.001  |        | < 0.001   |              | 0.860 |              | 0.106   |             |
| $\mathbb{R}^2$                    | 0.05             |          | 0.14           |         | 0.06     |        | 0.14      |              | 0.03  |              | 0.14    |             |

Note. b = standardized regression coefficient; SE = standard error. p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001.



Table 7. Ordered Logit Regression of Jail or Prison on Self-Rated Mental Health

|                                   |             | Full Sample ( $n = 613$ ) |                  |              |                  | Women        |             | Men (n = 85) |          |              |            |              |
|-----------------------------------|-------------|---------------------------|------------------|--------------|------------------|--------------|-------------|--------------|----------|--------------|------------|--------------|
|                                   | <u>M</u>    | Iodel 1                   | <u>M</u>         | odel 2       | <u>M</u>         | odel 3       | <u>M</u>    | Iodel 4      | <u>N</u> | Model 5      | <u>N</u>   | Iodel 6      |
|                                   | OR          | CI                        | OR               | CI           | OR               | CI           | OR          | CI           | OR       | CI           | OR         | CI           |
| Ever Spent Time in Jail or Prison | 0.87        | [0.57, 1.31]              | 0.91             | [0.61, 1.38] | 0.74             | [0.46, 1.19] | 0.78        | [0.48, 1.25] | 1.49     | [0.62, 3.59] | 1.60       | [0.66, 3.87] |
| Women                             | 0.79        | [0.51, 1.21]              | $0.63^{*}$       | [0.41, 0.99] | -                | -            | -           | -            | -        | -            | -          | -            |
| Age                               | $0.98^{**}$ | [0.96, 0.99]              | 0.97***          | [0.96, 0.99] | $0.98^{**}$      | [0.96, 0.99] | $0.97^{**}$ | [0.96, 0.99] | 0.97     | [0.93, 1.01] | 0.97       | [0.93, 1.01] |
| Education                         | 1.13**      | [1.04, 1.23]              | 1.14**           | [1.04, 1.24] | 1.14**           | [1.04, 1.26] | 1.15**      | [1.04, 1.27] | 1.12     | [0.91, 1.39] | 1.11       | [0.90, 1.38] |
| Number of Children                | 1.00        | [0.93, 1.07]              | 1.00             | [0.93, 1.07] | 1.02             | [0.94, 1.11] | 1.02        | [0.94, 1.10] | 0.91     | [0.77, 1.07] | 0.95       | [0.80, 1.12] |
| Employed                          | 1.79***     | [1.31, 2.44]              | 1.75***          | [1.28, 2.39] | 1.77**           | [1.26, 2.48] | 1.70**      | [1.21, 2.39] | 1.66     | [0.72, 3.80] | 1.79       | [0.77, 4.14] |
| Ever Married                      | $0.69^{*}$  | [0.49, 0.98]              | $0.73^{\dagger}$ | [0.51, 1.04] | $0.70^{\dagger}$ | [0.48, 1.02] | 0.76        | [0.52, 1.11] | 0.60     | [0.24, 1.54] | 0.50       | [0.19, 1.32] |
| Racial Discrimination             |             |                           | 0.97***          | [0.96, 0.98] |                  |              | $0.97^{**}$ | [0.96, 0.99] |          |              | $0.96^{*}$ | [0.93, 0.99] |
| Likelihood Ratio                  | 64.15***    |                           | 81.02***         |              | 51.81***         |              | 62.87***    |              | 15.62*   |              | 21.57**    |              |
| Pseudo R <sup>2</sup>             | 0.04        |                           | 0.05             |              | 0.04             |              | 0.04        |              | 0.07     |              | 0.09       |              |



 $<sup>^{\</sup>dagger}p < .10, *p < .05, **p < .01, ***p < .001.$ 

Table 8. Ordered Logit Regression of Jail or Prison on Self-Rated General Health

|                                      |           | Full Samp    | le $(n = 613)$ |              |                  | Women        | (n = 528) |              | Men (n = 85) |              |            |              |  |
|--------------------------------------|-----------|--------------|----------------|--------------|------------------|--------------|-----------|--------------|--------------|--------------|------------|--------------|--|
|                                      | Model 1   |              | Model 2        |              | Model 3          |              | <u>M</u>  | Iodel 4      | <u>M</u>     | Iodel 5      | <u>M</u>   | Iodel 6      |  |
|                                      | OR        | CI           | OR             | CI           | OR               | CI           | OR        | CI           | OR           | CI           | OR         | CI           |  |
| Ever Spent Time in<br>Jail or Prison | 0.47**    | [0.30, 0.72] | 0.88**         | [0.32, 0.76] | 0.33***          | [0.20, 0.56] | 0.33***   | [0.20, 0.56] | 1.14         | [0.48, 2.73] | 1.33       | [0.53, 3.35] |  |
| Women                                | 0.82      | [0.52, 1.29] | 0.81           | [0.46, 1.16] | -                | -            | -         | -            | -            | -            | -          | -            |  |
| Age                                  | 0.95***   | [0.94, 0.97] | 0.96***        | [0.94, 0.96] | 0.96***          | [0.94, 0.97] | 0.96***   | [0.94, 0.97] | 0.92***      | [0.88, 0.96] | 0.92***    | [0.88, 0.96] |  |
| Education                            | 0.94      | [0.86, 1.03] | 0.96           | [0.86, 1.04] | 0.97             | [0.88, 1.08] | 0.98      | [0.88, 1.08] | $0.75^{*}$   | [0.69, 0.98] | $0.75^{*}$ | [0.58, 0.96] |  |
| Number of Children                   | 1.04      | [0.97, 1.13] | 1.05           | [0.97, 1.13] | 1.06             | [0.97, 1.15] | 1.06      | [0.97, 1.15] | 1.03         | [0.83, 1.27] | 1.14       | [0.92, 1.41] |  |
| Employed                             | 1.88***   | [1.37, 2.58] | 1.91***        | [1.37, 2.59] | 1.76**           | [1.25, 2.48] | 1.76**    | [1.25, 2.49] | 1.97         | [0.85, 4.60] | $2.56^{*}$ | [1.06, 6.19] |  |
| Ever Married                         | 0.77      | [0.53, 1.11] | 0.78           | [0.55, 1.14] | $0.71^{\dagger}$ | [0.48, 1.06] | 0.72      | [0.49, 1.08] | 1.05         | [0.38, 2.89] | 0.70       | [0.24, 2.02] |  |
| Racial Discrimination                |           |              | $0.98^{*}$     | [0.97, 1.00] |                  |              | 1.00      | [0.98, 1.01] |              |              | 0.94**     | [0.91, 0.98] |  |
| Likelihood Ratio                     | 104.08*** |              | 107.99***      |              | 88.05***         |              | 88.14***  |              | 30.89***     |              | 43.18***   |              |  |
| Pseudo R <sup>2</sup>                | 0.07      |              | 0.07           |              | 0.06             |              | 0.06      |              | 0.14         |              | 0.19       |              |  |



 $<sup>^{\</sup>dagger}p < .10, *p < .05, **p < .01, ***p < .001.$ 

Table 9. Ordered Logit Regression of Jail or Prison on Doctor Diagnosed Health

|                                      |                  | Full Samp    | le $(n = 613)$   |              |                  | Women        | (n = 528) |              | Men (n = 85) |              |          |              |  |
|--------------------------------------|------------------|--------------|------------------|--------------|------------------|--------------|-----------|--------------|--------------|--------------|----------|--------------|--|
|                                      | Model 1          |              | Model 2          |              | Model 3          |              | <u>M</u>  | odel 4       | <u>N</u>     | Iodel 5      | <u>M</u> | lodel 6      |  |
|                                      | OR               | CI           | OR               | CI           | OR               | CI           | OR        | CI           | OR           | CI           | OR       | CI           |  |
| Ever Spent Time in<br>Jail or Prison | 1.34             | [0.86, 2.10] | 1.26             | [0.80, 1.99] | 1.37             | [0.82, 2.30] | 1.32      | [0.86, 2.37] | 0.95         | [0.35, 2.63] | 0.89     | [0.32, 2.47] |  |
| Women                                | $1.51^{\dagger}$ | [0.93, 2.46] | $1.70^{*}$       | [1.03, 2.80] | -                | -            | -         | -            | -            | -            | -        | -            |  |
| Age                                  | 1.08***          | [1.06, 1.09] | 1.08***          | [1.06, 1.10] | 1.08***          | [1.06, 1.09] | 1.08***   | [1.06, 1.10] | 1.11***      | [1.05, 1.16] | 1.11***  | [1.05, 1.17] |  |
| Education                            | 1.12*            | [1.02, 1.23] | $1.12^{*}$       | [1.02, 1.23] | 1.09             | [0.98, 1.21] | 1.09      | [0.97, 1.21] | 1.14         | [0.91, 1.42] | 1.15     | [0.93, 1.43] |  |
| Number of Children                   | $0.92^{*}$       | [0.85, 1.00] | $0.92^{\dagger}$ | [0.85, 1.00] | $0.86^{**}$      | [0.78, 0.94] | 0.86**    | [0.78, 0.94] | $1.28^{*}$   | [1.04, 1.59] | 1.25*    | [1.01, 1.54] |  |
| Employed                             | 0.43***          | [0.30, 0.60] | 0.43***          | [0.31, 0.61] | 0.36***          | [0.25, 0.52] | 0.36***   | [0.24, 0.52] | 1.58         | [0.58, 4.30] | 1.56     | [0.57, 4.27] |  |
| Ever Married                         | 1.31             | [0.91, 1.89] | 1.26             | [0.87, 1.83] | $1.40^{\dagger}$ | [0.94, 2.08] | 1.34      | [0.91, 2.03] | 0.84         | [0.29, 2.41] | 0.95     | [0.33, 2.80] |  |
| Racial Discrimination                |                  |              | $1.02^{*}$       | [1.00, 1.03] |                  |              | 1.01      | [1.00, 1.03] |              |              | 1.02     | [0.98, 1.06] |  |
| Likelihood Ratio                     | 179.33***        |              | 183.91***        |              | 159.08***        |              | 161.00*** |              | 37.39***     |              | 38.62*** |              |  |
| Pseudo R <sup>2</sup>                | 0.12             |              | 0.12             |              | 0.12             |              | 0.12      |              | 0.20         |              | 0.20     |              |  |



 $<sup>^{\</sup>dagger}p < .10, *p < .05, **p < .01, ***p < .001.$ 

## **VITA**

Tanner Kilpatrick was born in Abilene, Texas. He received a Bachelor of Science in Animal Science and a Master of Education in Agriculture Education from Texas A&M University in College Station, Texas. He was a high school agricultural teacher and a program coordinator within the Family Development and Human Resource Management Department at Texas A&M AgriLife Extension before enrolling at the University of Tennessee. While in the Department of Child and Family Studies, he has presented his work at national and regional conferences and has received several fellowships, grants, and awards for academic excellence. Tanner also minored in statistics while earning his Master of Science degree.

