

**AN EXAMINATION OF GENDER-NEUTRAL AND GENDER-RESPONSIVE  
CHARACTERISTICS ON PROGRAM PARTICIPATION  
AMONG FEMALE STATE PRISONERS**

by

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Submitted to the Graduate Faculty of  
The School of Social Work in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy

University of Pittsburgh

2016

UNIVERSITY OF PITTSBURGH

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**Abstract**

Prisons remain one of the social service agencies of last resort for women. Female prisoners are often disproportionately women of color, who are survivors of physical and/or sexual abuse as children and adults, with significant substance abuse problems, mental health problems, and low attainment of educational, vocational, and employment success, and with fragmented family histories including intergenerational involvement with the criminal justice system. However, understanding how these gendered characteristics are associated with prison program participation remains unclear as there is a lack of emphasis on the factors that help explain prisoners' patterns of participation in prison programs. Understanding factors that are associated with participation in prison programs is important as some programs have been associated with recidivism reduction.

This dissertation examined the characteristics associated with prison program participation among female prisoners. It used codified interview data from state inmates in the 2004 Survey of Inmates in State and Federal Correctional Facilities. Hierarchical logistic regressions were used to evaluate the odds that a female prisoner had participated in a prison program given her pattern of response to questions about her demographics, static (unchanging)

and dynamic (malleable) criminogenic characteristics, gender-responsive characteristics, and intergenerational characteristics. Hierarchical logistic regressions were performed on participation on seven types of prison programs (religious, visitation, vocational/educational, self-help, prerelease, drug and alcohol, mental health).

This study found that for females' participation in prison programs, 7% of the change in variance for religious program participation, 8% of the change in variance for visitation program participation, 22% of the change in variance for vocational/ educational program participation, 12.5% of the change in variance for self-help program participation, 14% of the change in variance for prerelease program participation, 8% of the change in variance for drug and alcohol program participation, and 22% of the change in variance for mental health program participation was explained when factoring in a set of characteristics among the female prisoners. These effect sizes offer meaningful discussion on the significance of gender-responsivity, the importance of strength-orientation, and the tailoring of programs within the prison to account for the heightened needs often presented by female prisoners.

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## **PREFACE**

### Acknowledgements

I thank my mentor and advisor, Hide Yamatani, Ph.D., for fostering in me the importance of pragmatism and goal-setting. His advice has consistently provided the right amount of encouragement during critical times throughout my doctoral career and the completion of this dissertation. His belief in me is reflected in this document. I extend my gratitude to Professors Fengyan Tang, John Wallace, and David Harris for their confidence in me, being constructive participants in my committee, and maintaining an environment of collegiality throughout this academic process. Their purposeful questions have helped shaped the manner in which I conduct myself as a researcher and team member in my career avenues. I deeply thank Professor Danny Rosen for his mentorship, camaraderie, and friendship. Our work together will serve as a reminder to me that one can make a good ref into a great one. I thank the Statistical Consulting Service at the University of Pittsburgh for the services offered to doctoral students. Finally, I thank my parents and siblings for witnessing this marathon; my husband, Andy, for actively participating in much academic banter at the dinner table; Eleanor and Vivian, my kiddos whose arrivals marked the best parts of my time as a doctoral student; and Freddie, Brian, Roger, and John for providing the soundtrack.

## 1.0 CHAPTER 1

### 1.1 STATEMENT OF THE PROBLEM

Prisons remain one of the social service agencies of last resort for women (Raeder, 2003). Official reports from national-level authorities and institutional-level experts are known to promote and prioritize the creation and administration of more programming for offenders, for example, programs for prisoners with issues such as substance use (CASA, 2010; NIDA, 2014). Yet, these reports fail to recognize the complementary importance of promoting strategies that increase the participation of the prisoners for whom these programs are established. Studies of prison programs often lack emphasis on the factors that explain *why* prisoners participate in prison programs in the first place (C. Rose, 2004). Furthermore, there is a noticeable lack of attention to female prisoners. For example, Rose's (2004) study examined factors associated with female's participation in prison education programs, such as policies, program availability, and program quality, but admits that much remains to be known about the unique aspects of inmates that promote participation. This gap in knowledge encourages the misconception within the New Penology paradigm that prisons are not institutions capable of rehabilitating individuals (Feeley & Simon, 1992).

Some programs have, in fact, been associated with reentry success and recidivism reduction. In 2006, the Washington State Institute for Public Policy published a systematic review of all available corrections program evaluations conducted over the last 40 years in the U.S. and other English-speaking countries. The purpose of the review was to identify programs that lowered

criminal recidivism rates, as defined by new felony convictions. They found 291 evidence-based programs for adult offenders and examined those for specific groups of offenders, including drug-involved offenders (e.g. drug courts, therapeutic communities), those with co-occurring disorders (e.g. jail diversion programs), those in the general population (e.g. treatment programs), domestic violence offenders (e.g. education and cognitive-behavioral treatment), and sex offenders (e.g. psychotherapy, cognitive-behavioral treatments). They also reviewed programs of different types including intermediate sanctions (e.g. intensive supervision, adult boot camps, electronic monitoring), and work and education programs (e.g. correctional industries, basic adult education, vocational education). Overall, their research revealed that there were some programs that significantly reduced recidivism rates such as adult drug courts (-10.7%), cognitive-behavioral treatment (-8.2%), intensive supervision with treatment-oriented programs (-21.9%), and vocational education programs (-12.6%) (Aos, Miller, & Drake, 2006).

To build on the research of these evidence-based prison programs, we must consider if the programs achieve similar results when applied to offenders of varying backgrounds, experiences, and gender. For example, less is known about the role gender plays in potentially stimulating or hindering participation in these prison-based programs. Few, if any, studies have attempted to link backgrounds, experiences, and gender to program participation. The absence of gender-specific analyses parallels the historical absence of gender-specific programming within correctional institutions, previously justified by the argument that women accounted for only a small percentage of arrests and committed fewer and less serious crimes than men (Morash, Haarr, & Rucker, 1994). However, this is no longer valid as females have been the fastest growing segment of the prison population in the last thirty years. The dramatic increase in this population is often attributed to policy shifts during the War on Drugs and resulting criminalization of minor drug

offenses which disproportionately impacted women offenders, particularly minority women (*Women in the Criminal Justice System: Briefing Sheets*, 2007).

## **1.2 IMPORTANCE OF STUDY**

The rapid expansion of the female prisoner population and the growing research on their unique pathways to crime reveal new challenges to ensure the institutional safety of the prison and encourage successful reentry upon release from prison (Petersilia, 1999). In 1980, there were roughly 13,000 female prisoners nationwide (Johnson, 2003). By 2012, there were 101,289 females incarcerated in the United States who comprised 7% (88,973) of the state prison population and 6% (12,316) of the federal prison population (Carson & Golinelli, 2013). Chesney-Lind (2006) noted that while the imprisonment of Black men grew by 429% between 1986 and 1991, comparatively theirs was far outpaced by the imprisonment of Black women which grew more than 828%.

In order to examine the factors impacting prison participation among this growing population, we must identify how female prisoners present different backgrounds and gendered needs which are distinct from males. Female prisoners often experience a state of cumulative victimization prior to reaching the prison. The pre-incarceration experiences of female prisoners are commonly characterized by some combinations of trauma from physical and sexual abuses (Covington, Burke, Keaton, & Norcott, 2008; Greenfeld & Snell, 1999; Wesely, 2006), substance abuse issues (Phillips, Nixon, & Pfefferbaum, 2002; Saxena, Messina, & Grella, 2014; Weizmann-Henelius, Putkonen, Naukkarinen, & Eronen, 2009), mental illness (James & Glaze, 2006; McHugo et al., 2005; Saxena et al., 2014), and parental responsibilities (Glaze & Maruschak, 2010).

By studying these gendered characteristics, we can also design programs that can better respond to the needs of the prison population. Prison programs are believed to provide social structural resources (social capital) which in turn promote acquisition of skills and knowledge (human capital) to achieve goals that would otherwise be unattainable (Reisig, Holtfreter, & Morash, 2002). Prison programs are believed to reduce prisonization, decrease idleness, nurture prosocial norms, increase prison safety, and decrease recidivism (Batchelder & Pippert, 2002; Flanagan, 1983; French & Gendreau, 2006; Miles D. Harer, 1995). These are particularly critical since prisons have become more difficult places in which to adjust and survive over the last few decades (Haney, 2001). However, prison programs can lack a foundation in the social and economic realities of today (Feeley & Simon, 1992). For example, prisons remain male-dominated, patriarchal institutions, that administer policies and practices primarily to address the custody and confinement of their majority male offenders (Chesney-Lind, 2006). Thus, female prisoners typically leave prison just as they arrived, unskilled and poor (C. Rose, 2004). Similarly, Scroggins and Malley (2010) noted:

“Women’s unequal status in society has resulted in their economic and social marginalization... Female offenders are often young, poor mothers who lack education, job skills, or a stable employment history, and whose lives have been characterized by patterns of abuse and addiction... Upon their release from prison, most women are still young, still poor, still parents, still uneducated, still unemployed, still deal with substance abuse problems, and still traumatized by experiences of abuse during childhood and early adulthood” (p.148).

Therefore, understanding the factors that are associated with participation in prison programs among female prisoners is the first step in advancing or tailoring prison programming to meet the needs of female prisoners and promote successful reentry. The lack of examination in this realm of programming strongly suggests the need for more research.

### 1.3 CONTEXTUAL IMPORTANCE OF THE NEW PENOLOGY

Scholars of mass incarceration point to the 1970s and the 1990s as two pivotal turning points in inmate rehabilitation. The 1970s marked a shift toward more punitive, conservative policies under the consensus that “nothing works” in rehabilitating inmates (Phelps, 2011). Continuing through the 1980s, penal ideology and practice became increasingly reliant on imprisonment and surveillance over individual punishment and rehabilitation (Feeley & Simon, 1992). Phelps (2011) concluded it was not until the 1990s that patterns of inmate services changed, when investments in programming switched from academic to reentry-related programs. Inmate rehabilitation since the 1990s has increasingly been equated with reentry-related skills programs (Phelps, 2011). Known as “The New Penology,” this shift in ideology and practice continues in present-day and is distinct in three areas (Feeley & Simon, 1992):

- 1) The replacement of earlier importance of clinical diagnoses and punitive judgment to the prominent role of probability and risk;
- 2) The formation of new objectives for the system. That is, a shift from rehabilitation and crime control ideals to one of the efficient control of system processes, e.g. high recidivism rates favorably reflect a measure of successful surveillance and institutional efforts of maintaining control over masses of groups of ex-offenders;
- 3) Offenders are aggregated and targeted as such. In place of traditional techniques for individualizing intervention and treatment of the individual, there is less concern with responsibility or diagnosis and more of a concern with techniques to identify, classify, and manage groupings sorted by dangerousness.

Despite these components of the New Penology, this dissertation sought to illuminate relevant gender-specific characteristics among female prisoners and their associations with prison programming to challenge the prevailing sentiment that prisons are incapable of rehabilitating individuals. It is argued that rehabilitation is possible, but challenged due to the New Penology that aggregates prisoners and utilizes gender-neutral risk assessment tools instead of recognizing the primacy of the individuals' pathway, particularly the gendered experiences among female prisoners.

## **2.0 CHAPTER 2**

### **2.1 LITERATURE REVIEW**

This chapter examines several bodies of research pertaining to female prisoners in the United States. The breadth of these topics prohibits a comprehensive review of the literature in each category; therefore, this section will provide a review of those categories most relevant to the proposed study. It begins with a discussion of the primacy of criminogenic and gendered needs among prisoners, a selected review of literature on prison programs and some factors that can influence participation, and a discussion on correlates of prison rule infraction. Then, the literature review will present the conceptual framework for this dissertation, which includes the pathways perspective, human and social capital theories, and the Risk-Need-Responsivity Model. This chapter closes with a discussion on the relevance to social work.

#### **2.1.1 Overview of female prisoners, cumulative disadvantage, and gender-responsivity**

Merton (1988) described cumulative advantage as dealing with, “the ways in which initial comparative advantage of capacity, structural location, and available resources make for successive increments of advantage such that the gaps between the haves and the have-nots widen” (p.606). Dannefer (2003) described cumulative advantage/disadvantage as the systemic tendency for interindividual divergence in a given characteristic (e.g., money, health, or status)

with the passage of time. The application of cumulative disadvantage to female prisoners is appropriate and meaningful as Mallicoat (2011) summarized the characteristics of incarcerated women to include being disproportionately women of color with fragmented family histories, including intergenerational involvement with the criminal justice system, who are survivors of physical and/or sexual abuse as children and adults, who have significant substance abuse problems, multiple physical and mental health problems, and low attainment of educational, vocational, and employment success. A 2010 study on federal prisoners by Columbia University's Center on Addiction and Substance Abuse (CASA) reported on the intersections of income, education, age, and family history with substance abuse. CASA noted that, compared with inmates who are not substance-involved, substance-involved inmates were:

- four times more likely to receive income through illegal activity (25% vs. 6%);
- nearly twice as likely to have had at least one parent abuse alcohol/ drugs (35% vs. 18%);
- 41% more likely to have some family criminal history (43% vs. 30%);
- 29% less likely to have completed at least high school (30% vs. 39%);
- 20% more likely to be unemployed a month before incarceration (32% vs. 27%).

Recognizing these needs further demonstrates the opportunity presented via prison programming, and in particular, the importance of assessing the needs of the prisoner.

Gender-responsivity is a concept addressing the disconnect between the female prison population and the dominant institutional structuring of prisons for male offenders. For example risk assessment tools may misclassify female offenders. Risk assessment tools gauge for escape, misconduct, and recidivism to assign appropriate security levels to minimum, medium, and maximum housing levels. These decisions subsequently affect access to programming (Collica-Cox, 2013; Holtfreter & Cupp, 2007; Owen, 2003; Van Voorhis, Wright, Salisbury, & Bauman, 2010; Wright, Salisbury, & Van Voorhis, 2007). Scholars have noted the lack of empirical research on how gender was to inform penal programs, often faulting classification systems that

assign prison custody levels for ignoring key risk factors that were more relevant to women than men. The misclassifications of female offenders may stem from the absence of gender-sensitive assessments which pay attention to relationships, depression, parental issues, self-esteem, self-efficacy, trauma, and victimization (Van Voorhis et al., 2010). Thus, a gender-responsive examination requires an appreciation for the primacy of gender, the inter-relatedness of socioeconomic structures, relationships, and the context of offending. Prisons' adoption of gender-responsive processes would then promote an environment with programming, treatment, case management, and effective community transition services, with staff selection, content development, and materials that reflect an understanding of the realities of women's lives and is responsive to their strengths and challenges (Covington et al., 2008; Saxena et al., 2014; Wright et al., 2007). Canada, as one of the first countries to draw attention to the unique needs of female prisoners, helped to inform restructuring efforts in penal reforms during the 1990s (Hannah-Moffat, 2006).

#### **2.1.1.1 Histories of trauma and abuse**

Patterns of severe, intentional, prolonged, and horrific abuse are characteristic of the lives of female offenders (Daly, 1992; B. E. Richie, 2001; Scroggins & Malley, 2010). Trauma can result from personal experience of physical and sexual abuse, witnessing violence, or experiencing stigmatization due to gender, race, poverty, incarceration, or sexual orientation (Covington, 2008). Women in corrections report experiencing some sort of physical (47%) or sexual (39%) abuse during their lifetimes (Greenfeld & Snell, 1999). Estimates of male abuse are much lower with 13% reporting physical abuse and 6% reporting sexual abuse (Greenfeld & Snell, 1999), though some of this disparity may be because women are also more likely than men

to report traumatic events (Greenfeld & Snell, 1999; Gunter, Chibnall, Antoniak, McCormick, & Black, 2012).

Parole board members often scrutinize a female prisoners' past relationships (Hannah-Moffat, 2004). However, they may delve into a woman's criminal history and interpret their abusive relationships and mental health as "carrying the potential for violence" (Hannah-Moffat, 2004) rather than considering the confluence of cumulative disadvantages which may have positioned these women above the normative expectations for violence among women (Baskin-Sommers, Baskin, Sommers, & Newman, 2013). For example, in the case of violent prisoners, an assessment of violence risk necessitates the context of why a violent act occurred, as tools may not seek to discern whether the violence stemmed from self-defense. For example, Comack, Chopyk, and Wood (2000) found that 58% of all violent crime charges against women were for partner violence, and that in 35% of the domestic violence cases involving women, the accused woman had actually called the police for help (only 5% of males demonstrated this pattern).

#### **2.1.1.2 Economic circumstances**

Female offenders have often suffered from harsher economic circumstances than male offenders before being incarcerated (Brown, 2011). Steffensmeier and Allan (1996) noted that women almost exclusively commit nonviolent, economically motivated crimes due to high rates of poverty and unemployment which are characteristics of their pre-incarceration lives. In terms of the role of welfare in offenders' lives, researchers report that females who turn to public assistance do so in response to poverty, to disruptions in social support networks in their families, and to living in high crime neighborhoods (Barrenger & Canada, 2014; Edin & Lein, 1997). Individuals with greater exposure to poverty during childhood are likely to have more difficulty escaping poverty as adults (Wagmiller & Adelman, 2009).

### **2.1.1.3 Parental responsibilities**

One of the key characteristics among female offenders is their role as caregiver and parent to children. Rocheleau (2013) found that while the first issue endured by prisoners was the loss of freedom, the second issue to endure was isolation from family or loved ones. Once incarcerated, the mental health of mothers in prison is dramatically influenced by the anxieties that develop concerning their children (C. Rose, 2004). As reported in 2010 by the Bureau of Justice Statistics (Glaze & Maruschak, 2010), since 1991 the number of children with a mother in prison has grown by 131% compared to the number of children with a father in prison which has grown by 77%. Women (41%) in state prison were more likely than men (29%) to report having more than one child, and mothers were more likely than fathers to report living with at least one child (Glaze & Maruschak, 2010). More than half of mothers (55%) reported living with at least one child in the month before arrest, compared to 36% of fathers (Glaze & Maruschak, 2010). Among prisoners who had lived with their minor children just prior to incarceration, mothers (77%) were almost three times more likely than fathers (26%) to report that they had provided most of the daily care for their children (Glaze & Maruschak, 2010). While incarcerated, 88% of male prisoners reported the child's mother was the current caregiver, whereas 37% of female prisoners reported that the current caregiver was the child's father (mothers in state prison reported their child's grandmother as the current caregiver most commonly at 42%) (Glaze & Maruschak, 2010).

### **2.1.1.4 Health and mental health problems**

As described by the World Health Organization (2016), the primacy of gender influences differences among socioeconomic determinants of health, status and treatment in society, and susceptibility to mental health risk. The issues presented by underlying addiction may manifest

in compulsions and actions that have adverse consequences, including incarceration. For female prisoners, their health, mental health, and substance use problems are further compounded by the adjustment to the prison environment (Phillips et al., 2002; Staton, Leukefeld, & Webster, 2003; Weizmann-Henelius et al., 2009; Wilke, 1994).

As the U.S. prison population grows, correctional institutions are now responsible for meeting the health care needs of approximately 2.3 million inmates (Wilper et al., 2009). As a result, prisons often struggle to adequately provide basic services and security, not to mention to address special medical and mental health needs. Research has documented that prisons continue to replace hospitals as the primary facility to house and treat individuals (Steinberg, Mills, & Romano, 2015; Treatment\_Advocacy\_Center, 2014). The United States incarcerates an estimated 350,000 prisoners who suffer from serious mental illness which is nearly ten times the number of persons housed in the nation's psychiatric hospitals (Steinberg et al., 2015).

Many prisoners enter the institution with significant mental health conditions (Barrenger & Canada, 2014; Fellner, 2006; Harner & Riley, 2013; Kurki & Morris, 2001; McHugo et al., 2005; Phillips et al., 2002; Saxena et al., 2014). Based on data among a sample of state prisoners, 73% of female prisoners had mental illness, compared to 55% of men (James & Glaze, 2006). Seventy-four percent of female state prisoners who had a mental health problems also met criteria for substance dependence (75%), had a history of past physical or sexual abuse (68%), and had a parent who abused alcohol or drugs (47%) (James & Glaze, 2006). Upon release, these individuals are at higher risk of recidivism, suicide, and other causes of death due to inadequate post-release treatment in the community (Binswanger et al., 2007). In a study conducted by the Urban Institute examining the process of reentry among a sample of male and female prisoners, 67% of women had chronic physical health conditions requiring long-term management and care

at the time of their release (Mallik-Kane & Visser, 2008). Health status was assessed and these women also reported asthma (25%), high blood pressure (23%), hepatitis (15%), back pain (15%), and arthritis (14%) being the most prevalent conditions at prerelease (Mallik-Kane & Visser, 2008). Another study on health conditions of female prisoners reported existing drug problems (90%), dental problems (87%), reproductive health problems (78%), and physical injuries or accidents (73%) (Staton et al., 2003). The literature suggests that due to the inadequacy of community-based health programs, many incarcerated women who have limited access to community-based health systems tend to seek prison-based health services in the areas of gynecological health problems (73%), chronic pain (73%), skin problems (63%), and stomach/digestive problems (62%) (Ingram-Fogel, 1991).

#### **2.1.1.5 Substance use problems**

Though substance use is considered a gender-neutral characteristic in traditional risk/need assessment tools, many studies reveal a gendered trend within corrections populations. In 2004, 59% of state prisoners who were females reported drug use in the month prior to committing their statutory offense (Mumola & Karberg, 2006). Among state prisoners, 60% of females compared to 53% of males reported drug dependence or abuse (Mumola & Karberg, 2006). In Staton et al. (2003), female participants reported using alcohol (78%), marijuana (43%), cocaine (70%), and multiple substances (85%) during the 30 days before incarceration. These participants had long histories of substance abuse; for example, one individual had used marijuana for nine years, another had regular multiple substance use for nearly eight years, and another had regular use of opiates/pain killers for five and a half years. In Langan and Pelissier (2001), their sample of female prisoners used drugs more frequently, used harder drugs, and used them for different reasons than the male prisoner sample. In 2005, nearly 63% of state prisoners

who had a mental health problem had used drugs in the month before their arrest, compared to 49% of those without a mental health problem (James & Glaze, 2006).

Given what is known about the rise in concurrent health, mental health, and substance use issues among prisoners, scholars and advocates have urged the criminal justice system to shift in how it addresses risky substance use (CASA, 2010). For example, repeated drug use has been found to lead to long-lasting changes in the brain functioning and can undermine voluntary control (Leshner, 1997; Volkow & Li, 2004). Therefore, it has been recommended that risky substance use and addictive disorders be recognized as a preventable medical or health problem to then be mitigated via appropriate programming as evidence-based prevention and treatment programs exist through the criminal justice system (CASA, 2010).

#### **2.1.1.6 Educational challenges**

Prisoners generally have lower educational attainment than the general population. The Bureau of Justice Statistics (2003) reported that 68% of state prison inmates did not receive a high school diploma. Among state prisoners who had not completed high school or the GED, 59% also reported having a speech disability and 66% reported having a learning disability. In post-secondary education among prisoners as an estimated 11% of state prison inmates, 24% of Federal inmates, 14% of jail inmates, and 24% of probationers attended some college or other postsecondary institution compared to 48% of the general population (Harlow, 2003).

The educational profiles presented by prisoners are characterized as gender-neutral, that is, common among males and females. However, females have been reported to have educational attainment higher than male prisoners (Harlow, 2003; Hollin & Palmer, 2006; Langan & Pelissier, 2001), though female prisoners' education attainment is still less than 12<sup>th</sup> grade (Langan & Pelissier, 2001; Staton et al., 2003). Women in state prisons were more likely than

men to have received a high school diploma or attended an institution of higher learning (Harlow, 2003). About 36% of women versus 32% of men had graduated from high school or attended a postsecondary institution (Harlow, 2003). Women in state prison were more likely to have completed high school than men and less likely to have passed the GED (Harlow, 2003). Approximately 30% of women and 25% of men received high school diplomas; 28% of women and 35% of men had a GED (Harlow, 2003).

#### **2.1.1.7 Race and age disproportionality**

In 2012, the imprisonment rate for Black women was between two to three times White women and nearly two times higher than Hispanic women (Carson & Golinelli, 2013). The disproportionality at the intersection of race and age among women who are incarcerated is evident: Black females ages 18 to 19 were three times more likely to be imprisoned than White females, and Hispanic females ages 18 to 19 were imprisoned at rates nearly twice those of White females (Carson & Golinelli, 2013). Younger, poor, and less educated women are less likely to develop the human capital necessary to overcome adverse situations and more likely to rely on social resources that facilitate criminal behavior (Reisig et al., 2002).

#### **2.1.2 Prison programming**

The following summarizes commonly available prison programs, including educational/vocational, faith-based and religious, treatment programs, prerelease programs, self-help programs, and visitation programs.

### **2.1.2.1 Educational/vocational programs**

A wealth of research exists on prison educational, work, and vocational programs (Aos et al., 2006; Batchelder & Pippert, 2002; Fitchie, Guerrero, & Weatherby, 2014; Gaes, Flanagan, Motiuk, & Stewart, 1999; Phelps, 2011; Reisig et al., 2002; C. Rose, 2004; K. Rose & Rose, 2014; Wilson, Gallagher, & MacKenzie, 2000). Prison-based work programs are one of the oldest and most established types of prison programs. By 1930, vocational education programs were operating in most prisons, where they were considered to play a primary role in rehabilitation (D. L. MacKenzie, 2012).

According to the Bureau of Justice Statistics (2003), about nine in 10 state prisons provide educational programs for their inmates. Prison facilities generally hold persons sentenced to at least a year in prison, giving inmates a long period to concentrate on achieving educational goals (Harlow, 2003). The percent of state prisons offering educational programs to their inmates increased during the period between 1995 and 2000. In 1995, 88% of state prisons provided educational programs; in 2000, 91% of state prisons offered educational opportunities (Harlow, 2003). Despite these promising figures, only 52% of male state prisoners and 50% of female state prisoners participated in available prison programming (Harlow, 2003). Over eight in 10 state prisons offered high school level classes, basic arithmetic and reading, basic education programs (Harlow, 2003). In state prisons between 1995 and 2000, the percentages of prisons offering classes increased for basic education (76% to 80%), high school courses (80% to 84%), and special education programs (33% to 40%), while the percentage with college classes went down (31% to 27%) (Harlow, 2003). Vocational training, special programs designed to train participants for a job, were reported by 56% of state prisons (Harlow, 2003). Despite in-prison programming gains, more recent reports focus on the economic crisis of 2007 and 2009 and its impact on reductions in

funding that have negatively impacted a range of in-prison programs, including education (Petersilia, 2011). Even in model state prisons, such as the state of Kansas, funding cuts impacted their state's prison recidivism rate, and they can no longer tout their former 16% recidivism rate reduction (Petersilia, 2011).

Educational/vocational prison programs have been evaluated in prominent systematic reviews. Wilson et al. (2000) conducted a meta-analysis of studies written or published on inmate education, vocational, and work programs with respect to recidivism. They found that adult program participants of corrections-based education, vocation, and work programs recidivated at a lower rate than nonparticipants. Furthermore, these past program participants were more likely to be employed after leaving prison. More recently, in 2006, the Washington State Institute for Public Policy published a systematic review of all program evaluations conducted over the last 40 years in the U.S. and other English-speaking countries with the intention of identifying those that lowered criminal recidivism rates of new felony convictions (Aos et al., 2006). The review conducted for work and education programs consisted of 30 interventions that attempted to change the educational, vocational, and job skills of adult offenders in prison and in the community (Aos et al., 2006). Employment training and job assistance in the community resulted in a 4.8% reduction in the recidivism, Basic Adult Education programs in prison resulted in a 5.1% reduction in the recidivism rates, correctional industries programs in prison resulted in a 7.8% reduction in the recidivism rates, and vocational education in prison resulted in a 12.6% reduction in the recidivism rates of program participants compared to treatment as usual group (Aos et al., 2006).

### **2.1.2.2 Religious/faith-based programs**

Religious and faith-based prison programs are distinguished from other prison programs by their explicitly religious content (Cullen et al., 2007). Religion and spirituality have been examined as ways to cope with imprisonment among African American mothers (Stringer, 2009). Focus groups in this study found that religious involvement provides an opportunity to interact with ministers and volunteers from outside the prison facility (Stringer, 2009). Respondents also reported on the transformative experiences through prayer and the reassurance it brought to them when thinking about the well-being of their children (Stringer, 2009). Religiosity and religious participation have also been examined for their association with the reduction of antisocial behaviors in prison (Kerley, Matthews, & Blanchard, 2005). Here, Kerley et al. (2005) found that religiosity can reduce the odds of arguing and indirectly reduces the likelihood of fighting among inmates.

Though religious programs have been available in the prisons as early as the 1800s (Dammer, 2002; Stringer, 2009), the presidential initiatives of former President Bush in the 1990s also sparked the emergence of faith-based social service programs to serve juvenile and adult offenders (Cullen et al., 2007). The long-standing presence of religion in the prisons are evidenced in the broad array of studies conducted on chaplain's roles, prison adjustment, and spirituality among prisoners (Dammer, 2002; Kerley et al., 2005; Stringer, 2009; Sundt, Dammer, & Cullen, 2002). The key roles of chaplains were examined in Sundt et al. (2002). Here, a sample of 500 chaplains was surveyed to explore their support for rehabilitation, involvement in counseling inmates, and the content in their counseling sessions. Findings included a high level of support (90%) for offender treatment, multi-method treatment

approaches that are consistent with the responsivity principle. Chaplains also appear to be utilizing methods that are associated with treatment effectiveness (Stringer, 2009).

### **2.1.2.3 Treatment approaches**

Cognitive-behavioral treatment approaches are typically associated with correcting distorted or dysfunctional thoughts. The integration of cognitive-behavioral approaches into programming modalities applies to a range of approaches that stem from behaviorism and social learning principles (Kendall & Pollack, 2003). For example, types of skill-building associated with cognitive-behavioral treatment include structured learning experiences that are designed to affect cognitive processes such as interpreting social cues, monitoring one's own thought processes, identifying and compensating for errors in thinking, reasoning about right and wrong, and generating alternative thinking (Landenberger & Lipsey, 2005). These approaches often use structured protocols for teaching skills that restructure one's thinking and have also been associated with some reduction of recidivism.

Strategies and approaches used in prisoner programs have largely been designed with male prisoners in mind (Langan & Pelissier, 2001), and marginalized or minority prisoners may be poorly matched to programs because of this. For example, substance-abusing women have multiple treatment needs related to their health and mental health (James & Glaze, 2006; Mallik-Kane & Visher, 2008; Staton et al., 2003). Additionally, as described by Langan and Pelissier (2001), there are noted gendered differences in cognition among males and females in a substance use program, where males were more likely to report that the main reason they used drugs was for personal enjoyment while females were more likely to report that they had used drugs to self-medicate for physical or emotional pain relief. These differences illustrate that

prison programs offerings may need to take into account gender or other trait or experiential variables to match with the thinking, values, and needs of prisoners.

#### **2.1.2.4 Prerelease programs**

The history of prerelease programs can be linked to the late 1990s when community reintegration and prisoner reentry became more scrutinized. Prerelease programs are geared for inmates nearing their parole dates, end of sentence, or release to probation. The National Institute of Corrections released a report in 2004 that profiled states' practices on prerelease programs (Thigpen & Keiser, 2004). These programs seek to improve inmate re-entry and transition efforts, and while varied, include work release programs that provide opportunity for employment several months prior to release, gate money which typically provides monies for a bus ticket or clothing, résumé and job skills, "life skills", anger management, and parenting classes, among others.

One evaluation conducted by the Minnesota Department of Corrections on their life skills program examined the program's effect on four different types of recidivism: rearrest, reconviction, reincarceration, and technical violation/ revocation and found no significant treatment effects (Clark & Duwe, 2013). Delaware's Department of Correction also conducted an evaluation of their life skills program which is focused on academics, violence reduction, and applied life skills. The core of Delaware's Life Skills Program is Moral Reconciliation Therapy (MRT), which is a step-by-step process of raising moral reasoning level through a series of moral and cognitive stages (Finn, 1998). This evaluation reported statistically significant improvements in self-esteem, more appropriate expressions of anger, and constructive attitudes toward finding employment after release (e.g., planning to rely on a job search rather than on luck) as well

reductions in recidivism (i.e. pending charges or reconviction) among life skills students (19%) and control group members (27%) (Finn, 1998).

#### **2.1.2.5 Self-help programs**

One area of research that is understudied is self-help programs that may offer programs via different modalities for female prisoners. Among the researched prison programs, self-help appears to be the most broad, though least cogent. The diversity in the study of self-help is reflected in the differing definitions of self-help. For example, it has been defined as consumer-initiated groups responding to the gap between felt needs and the existence of available services and facilities (McAnany & Tromanhauser, 1977; Robinson & Henry, 1977), non-market oriented production and/or exchange of goods and services (Williams & Windebank, 2000), bibliotherapy which changes faulty attitudes and to influence poor motivation to more constructive motivations through the assigned readings or articles, pamphlets, and books (Kohutek, 1983; Maunder et al., 2009), a method used among deviant groups to reclaim or redefine their position among humanity (A. Katz, 1981), voluntary, small group structures for mutual aid and the accomplishment of a special purpose (Kaskutas, 1994; A. Katz, 1981), and range of programs whose staff members are formerly incarcerated individuals (Heidemann, Cederbaum, Martinez, & LeBel, 2016; LeBel, Richie, & Maruna, 2015).

Arguably, self-help may gain more acceptance among prisoners, since some researchers find that self-help programs can be used to tackle social exclusion (Williams & Windebank, 2000) as well as provide current prisoners with role models who have similar life experiences (Heidemann et al., 2016; LeBel et al., 2015). Therefore, self-help programs offer some opportunity for female prisoners to engage in prison programming in different modalities from other offerings within the prison. However, the effectiveness of self-help programs on successful

re-entry is undecided, particularly given the problems with literacy in the prisons and low motivation presented in prisoners.

#### **2.1.2.6 Visitation programs**

As prisoners experience isolation from social spheres outside of the prison setting, some institutions have attempted to maintain social ties via visitation programs (Bales & Mears, 2008; Cochran & Mears, 2013; Lappin, 2006). Collica (2010) suggested that female prisoners experience the adjustment to prison more harshly than males due to their separation from their family and children. Thus, visits by family, friends, and community groups are encouraged to maintain the morale of a prisoner and to develop closer relationships between the prisoner, family members, or others in the community (Lappin, 2006). However, access to these privileges are limited as evidenced by the fact that more than half of prisoners do not receive in-person visits (Casey-Acevedo, Bakken, & Karle, 2004; Cochran, 2012; Mumola, 2000). To compound this, any visit to the prison has also been associated with financial and geographical difficulties as many prisons are located far from former residences (Carlson & Cervera, 1991; Casey-Acevedo et al., 2004; Christian, 2005). Furthermore, the relationship between institutional safety and institutional equilibrium has been examined within the context of visitation programs. There remains two predominate perspectives on the association between visitation and rule infraction among females. The reduction of prison rule-breaking (Cao, Zhao, & Van Dine, 1997; Casey-Acevedo et al., 2004; Celinska & Sung, 2014; Siennick, Mears, & Bales, 2012) and the increase of rule breaking (Casey-Acevedo et al., 2004) have both been tied to phone calls and in-person visits. Celinska and Sung (2014) found that among females, the effect of phone calls and in-person visits decreased rule infraction. However, Siennick et al. (2012) suggested that the anticipation and separation following a visit are powerful forces on rule infraction. More

specifically, infractions declined in anticipation of visits, increased immediately following visits, and then gradually declined to average levels.

### **2.1.3 Prison program participation**

Prisons offer programs such as education/vocation (Aos et al., 2006; Batchelder & Pippert, 2002; Harlow, 2003; Harrison & Schehr, 2004; Wilson et al., 2000), visitation programs (Bales & Mears, 2008; Lappin, 2006), cognitive-behavioral programs (Grella, 2008; Kendall & Pollack, 2003; Landenberger & Lipsey, 2005; Langan & Pelissier, 2001), faith-based programs (Camp, Klein-Saffran, Kwon, Daggett, & Joseph, 2006; Hall & Killackey, 2008), and self-help programs (Kaskutas, 1994; A. Katz, 1981; Kohutec, 1983; Maunder et al., 2009; McAnany & Tromanhauser, 1977; Robinson & Henry, 1977; Williams & Windebank, 2000), among others. Perhaps the largest body of research currently available in the study of participation factors among prisoners is in prison education programs (Hall & Killackey, 2008; C. Rose, 2004; K. Rose & Rose, 2014; Ryan & McCabe, 1993; Schlesinger, 2005; Tewksbury, Erickson, & Taylor, 2000; Wilson et al., 2000). If an inmate has been exposed to the value of education, to its patterns of authority in educational settings, and teacher expectations, the inmate is likely to acquire the social capital that is beneficial to the educational experience (C. Rose, 2004). However, the programs successful for reducing recidivism for one person will not be the same for another individual (D. L. MacKenzie, 2012).

The reality is that prisoners' needs vary and individuals participate for differing reasons. Some studies on prison participation found alignment between the purpose of the program content and the needs of the prisoner. For example, among educational and vocational programs, one study reported that its prisoner participants referenced their poverty, their struggle to meet basic needs,

their need to survive, their dealing with racism, and negative employment prospects as motivations to participate (Schlesinger, 2005). In other educational and vocational programs, participants have shared their children's well-being as reasons to participate (Hall & Killacky, 2008; K. Rose & Rose, 2014). Some prisoners in educational programs revealed how they envisioned applying what they would be able to do after the program including developing one's own business post-release, writing a letter to a judge appropriately, or being motivated to set a better example for their children (Hall & Killacky, 2008; Schlesinger, 2005).

Some studies on prison participation explores the role of social and human capital. When prisoners are able to develop social bonds to the prison and become involved in the activities promoted by the prison, they are likely to attach to and get involved in the other forms of programs offered to them (C. Rose, 2004). At the individual-level, the prior experience of a fellow inmate may serve as a reason why inmates participate in programs. Findings from Brosens, De Donder, Vanwing, Dury, and Verte (2014) include the role of social networks on program participation. In this study, the majority of prisoners reported receiving information from other prisoners on activities with, one prisoner noting "*He told me, I told someone else and so it goes on and on.*" However, given the human capital deficits presented by prisoners, one challenge that restricts access to the prison's social capital is the inherent requirement of participation and trust (Brehm & Rahn, 1997; Coleman, 1988). The influence of one's early experiences may influence present-day experiences of trust development (Brehm & Rahn, 1997). For example, minority groups are at increased risk of discrimination or prejudice, which may lead to heightened awareness and questioning of the motives of others. Alternatively, lack of trust may exist among those with lower educational attainment due to suspicions due to educational differences. However, there may also be a subgroup of prisoners who have higher human capital characteristics (e.g. higher educational

attainment pre-incarceration) for whom prison resources do not meet the more sophisticated needs (C. Rose, 2004). For example, prisoners with higher levels of educational attainment may be less likely to participate in prison education programs if these inmates had previously acquired a college education before coming to prison (C. Rose, 2004). Additionally, some prisoners may already be pre-disposed to a lower risk of recidivism, be more motivated to change, and would have lower recidivism even if they did not have an opportunity to participate in a program (D. L. MacKenzie, 2012; Wilson et al., 2000).

A body of studies on prison participation have also reported on different goal-seeking behaviors of prisoners who are seeking to survive within the prison environment. For example, some may seek to associate with friends, get out of one's prison cell, exchange contraband, avoid kitchen assignment, gamble, get away from disliked cellmate, and to have an alternative from boredom (Brosens et al., 2014; Schlesinger, 2005). Some prisoners navigate program participation decisions based on peer pressure within the institution (Brosens et al., 2014; Kohutec, 1983). Choices to participate in programs may also be due to prisoners' needs to be allied and protected against other inmates who seek to exploit another physically, sexually, or economically (Dammer, 2002).

Beyond the individual-level influences on program participation, there are a number of organizational-level influences which also impact programs. The rules and regulations governing the operations of the prison influence program availability, participation, and disruptions in programming. For example, In Hall and Killacky (2008) it was reported that participation in programs to obtain a GED was a prerequisite to participating in other vocational programs. A similar institutional requirement was found in Batchelder and Pippert (2002) where institutional policy mandated that all inmates be engaged in some type of work while incarcerated.

Furthermore, the presence of external funding to provide programs and services for prisoners is also important to note. For example, the influence of the 1965 Higher Education Act, Pell Grant funding, Federal Perkins Funds, private foundation grants, private funds, and state-based education grants have historically allowed prisoners to attend post-secondary education programs while incarcerated (C. Rose, 2004). However, since the reduction in recent years of educational programming, such as Pell Grants' dismantling in 1994, scholars agree that there was impact on participation in post-secondary education programs, for women in particular, as well as declines in program availability overall (C. Rose, 2004; Tewksbury et al., 2000).

Finally, the pre-existing experiences, behaviors, and knowledge from one's community life can influence one's adjustment to the prison. Some inmates acknowledge that their communities' resources, such as educational choices, are better in the prison institution than the choices available to adults in the community (Schlesinger, 2005). Similarly, C. Rose (2004) addressed the lack of opportunity in the community among women who, prior to imprisonment, were on welfare and unemployed, and therefore without the means to pursue a desired post-secondary education in the community. Finally, in addition to educational resources that are unavailable in the community, the health needs of prisoners are confronted with the infrequency of programs in the community (Scroggins & Malley, 2010) to the extent that some women may not seek preventive health services before prison thus increasing the need for prison services (Staton et al., 2003).

#### **2.1.4 Prison rule infraction and its association with program participation**

Inmate rule infraction can result in disciplinary action which involves the limitation or suspension of privileges and prison program participation. Rule breaking behavior may include possession of unauthorized substances or items, verbal assaults on staff, physical assaults on

staff, verbal assaults on another inmate, physical assaults on another inmate, and other minor violations. Rule infraction has been extensively studied as an aspect of adjustment to incarceration (Cao et al., 1997; Celinska & Sung, 2014; Craddock, 1996; Drury & DeLisi, 2010; Goetting & Howsen, 1986; Gover, Perez, & Jennings, 2008; Miles D. Harer & Langan, 2001; Houser & Welsh, 2014; McCorkle, Miethe, & Drass, 1995; Steiner & Wooldredge, 2008; Wright et al., 2007). Increased likelihood of rule infraction among both males and females have been associated with race (Cao et al., 1997; Celinska & Sung, 2014; Craddock, 1996; Goetting & Howsen, 1986; Gover et al., 2008; Poole & Regoli, 1983). It has also been associated with lengthier prison sentence, current violent conviction, substance use disorder, participation in prison programs, and ever being physically abused (Celinska & Sung, 2014). It is also reported that with advancing prisoner age, deviant behavior declines among male and female prisoners (Cao et al., 1997; Celinska & Sung, 2014; Steiner & Wooldredge, 2008; Wooldredge, 1994).

Although it was once commonly believed that male prisoners have more violations and are reported more often than females, more recent studies have shown that females engage in prison misbehavior similar to males (Camp, Gaes, Langan, & Saylor, 2003; Celinska & Sung, 2014; Craddock, 1996; Goetting & Howsen, 1986). Other studies have found that prison guards wield a significant amount of discretionary authority (O'Hear, 2011) and can observe violations, yet do not report all the infractions they witness (Cao et al., 1997). Similarly, while females are found to be reported less frequently, they have been found to receive harsher punishment for the infractions that do get officially reported (Cao et al., 1997; Celinska & Sung, 2014; Miles D. Harer & Langan, 2001). Among female prisoners, reduced rule infraction has been associated with being married, participation in religious services, and participation in prison-based employment (Celinska & Sung, 2014). Some studies have found that visitation programs can

reduce prisoner behavior infractions (Celinska & Sung, 2014; Cochran, 2012; Cochran & Mears, 2013), while others suggest visitations can serve as a catalyst to agitate prisoners who then commit rule infractions (Casey-Acevedo et al., 2004).

For prisoners who are found to compromise the security or safety of the institution, she may find herself transferred to a super-maximum security level of prison housing (i.e. supermax prison) where policies to control inmates will typically include long-term solitary confinement where the prisoner can be held in their cells for up to 23 hours each day with no offer of programming such as training, education, or treatment (Mears, 2006). As outlined by Kurki and Morris (2001) the supermax facility is characterized by: 1) confinement which is long-term and potentially for the rest of the prisoners' life; 2) wide discretion to the prison authorities on the criteria on which a prisoner is transferred into punitive segregation (e.g. gang-affiliation, 3) nearly complete isolation and environmental stimuli, and 4) scant to no programmed activities.

## **2.2 CONCEPTUAL FRAMEWORK**

This section discusses the conceptual framework for this study examining the influence of prisoner characteristics on program participation among female state prisoners. It begins with the pathways to crime perspective, which will bring the focus of prisoners to the gendered ways in which females become involved in crime. This perspective works together with the ideas of prison programs as potential promoters of human capital and social capital. The transfer of the prison's institutional resources into skills, knowledge, and pro-social experience for the prisoner are conceptually presented. Thirdly, the Risk-Need-Responsivity model helps to illuminate the matching of prisoners' needs to programming.

### 2.2.1 Pathways Perspective

The pathways perspective demonstrates the unique pathways into crime that are taken by females (Bloom, Owen, & Covington, 2002; Brennan, Breitenbach, Dieterich, Salisbury, & Van Voorhis, 2012; Chesney-Lind, 1997; Daly, 1992, 1994; Heide & Solomon, 2009; B. Richie, 1996; Simpson, Yahner, & Dugan, 2008; Wattanaporn & Holtfreter, 2014).

In pathways perspective research, the most influential studies were from Daly's qualitative efforts (1992, 1994) wherein she identified five female pathways to felony court from 80 biographies she constructed from court documents. Daly's pathways include: 1) *street women* pathway often include those women who are escape-and-survival involved or fleeing abuse and violence; 2) *drug-connected women* often involve those with a pattern of using and trafficking drugs; 3) *harmed and harming women* were described as experiencing extreme physical and sexual child abuse and neglect, followed by school and delinquency problems, and presenting a hostile withdrawn demeanor and chronic adult criminality; 4) *battered women* reflected extreme victimization from violent partners, leading to criminal behavior that was seen as unlikely apart from this relationship; and 5) "*other*" women who partly followed an "economic" pathway involving fraud, theft, and embezzlement. Though highly influential, a key limitations is the reliance on subjective court files, a single-source of data (Wattanaporn & Holtfreter, 2014).

Other pathways to women's crime that dominate this body of research are the *childhood victimization pathway* and a *relational model* (E. Salisbury & Van Voorhis, 2009), as well as a growing body of research that examine other typologies. The *childhood victimization pathway* is largely informed by the factors identified by Daly's *harmed and harming women* and are also characterized by mental illness history, substance use history, and depression or anxiety. The

*relational pathway* typically begins with intimate partner dysfunction and is followed by depression or anxiety and challenges with substance abuse.

Other pathways that have been replicated in studies include Richie (1996) who examined Daly's *battered* women typology and qualitatively examined it among Black women. Richie found six typologies of an *extreme marginalization pathway* among Black battered women whose crime is a response to the extreme violence and victimization to which they are subjected. This study demonstrates the pure desperation to survive amidst their daily turmoil and some found refuge in the prison environment. An emergent pathways model of research called the *social and human capital model* is based on more recent research that investigates female offenders and social capital (Holtfreter, Reisig, & Morah, 2004; Reisig et al., 2002; E. Salisbury & Van Voorhis, 2009). Here, educational strengths, relationship dysfunction, familial support, employment, and financial difficulties are examined. This model examines the role of women's social relationships and how they facilitate human capital in order to desist from crime.

In addition to these explicit uses of pathways research, there are other studies that, while they do not explicitly mention the use of the pathways perspective, reflect similar uses of gendered variables and circumstances. For example, the females in Saxena et al. (2014) had characteristics consistent with those described in pathways scholarship. This study examined outcomes among female offenders who participated in gender-responsive substance abuse treatment. Their study used longitudinal analyses to predict psychological and substance use outcomes for incarcerated women with histories of physical and sexual abuse who received gender-responsive treatment. Here it was found that physical or sexual abuse shared a strong and positive association with depression and number of substances used. Those who reported prior abuse and received gender-responsive treatment (versus standard treatment) had reduced

depression and reduced substances used. Their study found that for women who did not report a history of physical or sexual abuse, gender-responsive treatments were not as successful in reducing depression or substance abuse. Further, while the extant literature does not have evidence on this program's impact on rule infraction, there is an implication that gender-responsive treatments can assist in symptom management during incarceration which may assist in prison adjustment overall.

### **2.2.2 Social Capital and Human Capital Theories**

The premise behind social capital theory is that an investment in social relations has expected returns (Lin, 1999), though differences remain in how researchers have defined social capital. The definition most frequently used is Putnam's, which equates social capital with participation levels of civic engagement (Putnam, 1995). Both Putnam (1995) and Coleman (1988) explain social capital as a public good to represent solidarity and can be demonstrated by the reproduction of the group (Lin, 1999). For Coleman, social capital depends on the individual members to make efforts to sustain the resources of the group (Lin, 1999). In this definition, social capital is mutually recognized and acknowledged. Bourdieu defines social capital slightly differently as his perspective of social capital recognizes the role of the dominant group which holds the symbolic capital that is reinforced and reproduced (Lin, 1999). His describes the process by which dominant capital is recognized, acknowledged, and perpetuated.

Despite the idea that social capital is associated with desirable outcomes, there is a wide variation of its availability, particularly given the uneven distribution of social networks across social groups. The definition adopted by this dissertation is one proposed by Lin (1999) who acknowledges the contributions of Putnam, Coleman, and Bourdieu, among others and states that

social capital are resources embedded in a social structure which are accessed and/or mobilized in purposive actions (Lin, 1999). Social capital refers to the possibility of individuals to benefit from membership in social networks or other social structures (Portes, 1998). In this dissertation, social capital is derived from the extension of institutional resources of the prison into prison programs.

“Human capital is created by changes in persons that bring about skills and capabilities that make them act in new ways” (Coleman, 1988). Human capital is often intangible and resides in the form of skills and knowledge acquired by the individual. For example, in Lynch, Heath, Mathews, and Cepeda (2012), while a test of human capital theory was not explicit, the study allows for an approximation to human capital gains. Here, the use of gender-responsive programming illustrated that females were able to increase their human capital via coping skills which may assist in behaving in new ways. For example, Seeking Safety is one gender-responsive program for individuals with trauma and substance use disorders. In one study, women who participated in the Seeking Safety program showed more significant decreases in PTSD at follow up interviews than waitlisted women (Lynch et al., 2012). Additionally, while both conditions resulted in improvement of PTSD symptoms, there was significantly more benefit from those in the Seeking Safety condition (Lynch et al., 2012). A second gender-responsive treatment example is called Beyond Trauma which builds on the importance of relationships in women’s emotional well-being (Covington, 2008). Findings from an evaluation of Beyond Trauma revealed a significant decrease in trauma (Covington, 2008) which has implications on addressing female prisoners’ rehabilitation.

One of the few studies found that examined prison programs as social capital was Terry, Duman, and Rostad (2004). Here scholars examined potential human capital returns from prison industries, such as floor assembler (e.g. shoe manufacturing, furniture production), call center

representative, and welder, for where potential post-release employment was most viable. Here, prison programs were examined as vehicles to build social and human capital beyond prison walls. Researchers here noted that some prison industries, such as garment manufacturing and farming, have limited social capital gains in the private sector as these have been largely exported or severely transformed through the use of technology (Terry et al., 2004). Another older study examined self-help groups as social capital. It was found that some prisoner groups have sought out formal recognition via non-profit incorporation following release, though unsuccessful (McAnany & Tromanhauser, 1977).

Researchers confirm that members of some social groups, particularly like those clustered toward the bottom of the socioeconomic spectrum, will experience “capital deficits” (Lin, 1999; Reisig et al., 2002). Capital deficits within an individual or group may promote the development of criminogenic factors, such as antisocial attitudes, values, and beliefs; antisocial associates; temperament and personality factors; a history of antisocial behavior; family dysfunction factors; low levels of educational, vocational or financial achievement; and substance abuse (Andrews, Bonta, & Wormith, 2006; Latessa & Lowenkamp, 2005). For females whose pathways to crime are riddled with challenges including an accumulation of mental illness, health issues, physical and sexual abuses, slighted economic opportunities, and structural discriminations (Brennan et al., 2012; Daly, 1992, 1994; B. Richie, 1996) it becomes apparent that these women are less likely to possess the human capital necessary to overcome their adverse situations and more likely to rely on social resources that facilitate criminal behavior (Reisig et al., 2002). Female offenders who are members of homogenous, unconventional networks with low social capital are vulnerable to becoming further immersed in lifestyles that strengthen this “criminal capital” or “negative capital” (Reisig et al., 2002). These disadvantaged individuals may feel as if there are no

alternatives and their communities are increasingly associated with the loss of advantages from groups that have higher social capital (M. Granovetter, 1983). Given the individual-level challenges and post-release community-level challenges facing offenders, the role of the prison program offers a critical opportunity for promoting successful reentry (Wolff & Draine, 2004). Prison programs may consist of community outreach workers or program representatives who engage the incarcerated prisoner. As outsiders, these outreach workers are of importance in the manipulation of networks as “the channels through which ideas, influences, or information socially distant can be reached (M. S. Granovetter, 1973).

### **2.2.3 Risk-Need-Responsivity Model**

There is a large body of research focused on the measurement of risk among corrections populations and risk assessment research pioneered by Don Andrews, James Bonta, Paul Gendreau, and others, of the “Canadians’ school” or “Ottawa school” of correctional intervention (Smith, Cullen, & Latessa, 2009). Their Risk-Need-Responsivity (RNR) model suggests that enhancing compatibility and match between risk assessment results and programs for the offender could reduce criminal behavior. Their model focuses on the dynamic aspects of gender-neutral characteristics. RNR emphasizes prisoner individuality as a precursor to risk classification and programming needs (Andrews, Bonta, & Hoge, 1990; Andrews et al., 2006; Andrews, Zinger, et al., 1990; Van Voorhis, Peiler, Presser, Spiropoulis, & Sutherland, 1992).

The RNR model is comprised of three key principles that incorporate static offender risks, dynamic risks—which are also called criminogenic needs, and incorporating treatment options that are responsive to the offender’s level of cognitive ability, learning styles, motivation for change, gender, ethnicity, beliefs, and other areas. Criminal behavior has been associated

with characteristics that the Canadian School insists are gender-neutral such as antisocial attitudes, values, and beliefs; antisocial associates; temperament and personality factors; a history of antisocial behavior; family dysfunction factors; low levels of educational, vocational or financial achievement; and substance abuse (Andrews et al., 2006; Latessa & Lowenkamp, 2005).

In the RNR model, the Risk Principle incorporates static offender characteristics, the Need Principle posits the dynamic nature of criminogenic needs, and Responsivity incorporates treatment options that are responsive to the offender's level of cognitive ability, learning styles, motivation for change, gender, ethnicity, beliefs, and other areas. The risk principle states that the most intensive correctional treatment and intervention programs should be reserved for higher-risk offenders (Andrews, Bonta, et al., 1990; Andrews, Zinger, et al., 1990; Latessa & Lowenkamp, 2005). Placing low-risk offenders in more intensive programs and services may increase misbehaviors as it disrupts pre-existing prosocial networks and gives low-risk offenders the opportunity to learn antisocial behavior from high-risk offenders. Static offender characteristics do not fluctuate with time, and typically include number of previous convictions, age, offense type, age at first conviction, marital status, etc. Criminogenic needs, or dynamic risk factors, have the potential to be changed and are the focus of intervention work (Andrews, Bonta, et al., 1990; Andrews, Zinger, et al., 1990). Criminogenic needs include antisocial attitudes and beliefs but can also include anger, stress, anxiety, substance use, and unemployment. Therefore, the amount of intervention that an offender receives must be matched to his or her risk level to reoffend as well as degree of criminogenic need (Dowden & Andrews, 1999). Then, responsivity recommends that the characteristics of program delivery or modality used within a treatment

program should be matched with the learning style of the offender (Dowden & Andrews, 1999; Smith et al., 2009).

However, despite the rich history and availability of empirical support on widely used assessment tools, a body of research on female prisoners continues to acknowledge that some risk assessment tools work differently for gender groups (Collica-Cox, 2013; Holtfreter & Cupp, 2007; Owen, 2003; Van Voorhis et al., 2010; Wright et al., 2007). Some common gender-specific factors include mental health, trauma, poverty, victimization, childcare and parenting skill development, healthcare, counseling, economic marginalization, and social support (Scroggins & Malley, 2010). For example, studies criticize the LSI-R and its failure to consider physical and sexual abuse as risk factors (Lowenkamp, Holsinger, & Latessa, 2001). Additionally, the LSI-R has been criticized due to its insufficient attention to the economic marginality of females (Holtfreter et al., 2004). For example, among female felony offenders in their study, poverty status increased rearrest and increased supervision violation, yet the LSI-R failed to predict recidivism once poverty status was taken into account (Holtfreter et al., 2004). Covington (2008) also addressed assessment inaccuracies that can occur when tools are inappropriately applied to unintended populations. She noted that many women who were considered treatment failures because of their relapse are now appropriately recognized as trauma survivors who returned to alcohol or other drugs in order to medicate the pain of their trauma.

Troubled inmates make poorer adjustment to prison (Wright et al., 2007). Higher levels of custody due to higher levels of need may lead to a more challenged adjustment period and higher misconducts (Chamberlain, 2012). Prison classification systems may actually be misclassifying females due to inappropriate attention to gender-specific needs that are inaccurately measured as risk.

### **2.3 ADDRESSING GAPS IN THE LITERATURE**

In the spirit of the seminal works conducted by Daly (1992,1994), Richie (1994), Johnson (2003), and Brennan et al., (2012) there remains opportunity to illuminate the circumstances that are associated with the multi-dimensions of how abuse situations, substance use, familial environments, and economic marginalization are present across offenders. This dissertation fills an important gap in the literature by examining the role of gendered characteristics among prison program participation and addresses the following:

In today's penological culture, female prisoners and their needs are underaddressed and/or miscategorized, and females' capacity for rehabilitation is misunderstood. The extant literature is expansive and informative on many aspects of female's experiences in corrections settings, though there have not been studies examining participation in prison programs with a comprehensive acknowledgment of prisoner characteristics. Broadening the understanding of the factors that are associated with participation in prison programs among female prisoners is a first step in advancing or tailoring prison programming to meet their needs. Furthermore, there is a larger implication for the reentry success of whole groups of prisoners who may be similarly situated in life circumstances characterized by high human capital deficits.

Literature on gender-responsivity and the female prisoner experience have largely been qualitative. For example, amidst the prominent qualitative history in pathways research which include Daly (1992,1994), Richie (1994), Johnson (2003), Reisig et al., (2002,2006), there remains a minority of studies represented by Brennan et al. (2012) and E. Salisbury and Van Voorhis (2009)

who have offered quantitative assessments of females' pathways into crime. The benefit of quantitative assessment in the study of female prisoners allows for a powerful coupling that is composed of the established qualitative knowledge base with complementary statistical rigor.

Third, the limitation in the extant literature is the breadth of unique variables that are included in studies examining prisoners and their association with program participation. For example, in Chamberlain's (2012) study, she examined whether criminogenic needs were being effectively met via program participation. However, she only examined two criminogenic needs: substance use and educational/vocational deficits. In another study, Batchelder and Pippert (2002) examined the factors that affect inmate choice between participation in prison work and education programs. However, they only included gender, race, age, and offense type as independent variables. Similarly, a study by Kerley et al. (2005) examined male prisoners and the relationship between religiosity and negative prison behaviors. Here their independent variables included religiosity, four criminal history variables (e.g. number of arrests, number of times in prison, length of current prison sentence, and current prison classification), and three demographic variables (e.g. age, race, and educational attainment). Even in K. Rose and Rose (2014) who examined the factors that promote post-secondary participation in prison, their study examined both men and women and only included age, race, educational attainment, monthly income, visitation from children, inmate status, and time served. Finally, studies lack attention to the potential influence of intergenerational characteristics of human capital. Deviance theorists such as Lemert (1951) noted that some persons can "grow to maturity in a family or in a social class where pauperism, begging, or crime are more or less institutionalized ways of life for the entire group" (p.73). There is a body of research supporting the concept of intergenerational transfer of antisocial values, practices, and economic insecurity (Bethencourt & Kunze, 2014; Felson & Lane, 2009; M. S. Granovetter,

1973; Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003). Intergenerational nature of criminal behavior has been examined through the lens of cultural transmission (Bethencourt & Kunze, 2014), economics of crime (Bethencourt & Kunze, 2014), general life course theories (Thornberry et al., 2003), and social learning theories (Felson & Lane, 2009). Some researchers have noted that “crime runs in the family” (Bethencourt & Kunze, 2014).

## **2.4 LITERATURE SUMMARY**

Female prisoners have gendered needs in ways that are measurably different from males. Furthermore, there is a conceptual difference in the framing of women’s needs in the practice of risk assessment. Female prisoners’ needs are insufficiently recognized in standard risk assessment as developers of these tools continue to claim gender-neutrality among risk factors (Andrews et al., 2006; Latessa & Lowenkamp, 2005). As a result of this precedence, feminist criminological scholars have worked to promote the primacy of gender-specific issues for female prisoners.

For some offenders with high human capital deficits, their social networks are characterized by high social capital deficits. Upon release from prison, female offenders commonly return to their communities lacking sustainable reentry skills (Wesely, 2006). Their human and social capital deficits are magnified due to the social isolation experienced by these ex-offenders who have limited contacts outside their networks (Reisig et al., 2002). The impact of prison programming has reentry and human capital building potential.

## **2.5 RELEVANCE TO SOCIAL WORK**

There is an opportunity for social work to play a key role in the facilitation of innovative research that integrates practice with science (Palinkas & Soydan, 2012). For example, the translational approach to working with offenders has begun to inform discussions on the psychopharmacology of aggressive behavior (Comai, Michael, & Gobbi, 2012), behavioral analysis (Mace & Critchfield, 2010), data-driven community prevention strategies (Fagan, Hanson, Hawkins, & Arthur, 2009), genetic risk factors across parents and children who are arrested (Miller & Barnes, 2013), and the malleability of memory and its legal implications (Loftus, 2003). Though the influence and application of translational research extends beyond the scope of this dissertation, it is a critical component to the advancement of correctional practice that brings evidence-based information to improve the strategies of rehabilitation.

In terms of this proposed study's relevance to social work, it sought to advocate for the dignity and worth of people, contribute to an accessible knowledge base for interdisciplinary collaborations that can affect the well-being of individuals, and advocate for increased scrutiny to performance evaluation in correctional practice. Underpinning these reasons were the historical fight to shift prevailing beliefs of immorality and deficit-based beliefs concerning vulnerable and disadvantaged populations.

### **2.5.1 Advocate for the Dignity and Worth of People**

The emergence of the new penology reflects the influence of a more despairing view of poverty and the prospects of achieving equality (Feeley & Simon, 1992). The new penology does not speak of individuals in need of treatment, instead it considers the "criminal justice system" and its systematic

efficiency and rationality (Feeley & Simon, 1992). It seeks to sort and classify, to separate the less from the more dangerous, and to deploy control strategies rationally (Feeley & Simon, 1992). The new penology is neither about punishing nor about rehabilitating individuals; it is about identifying and managing unruly groups (Feeley & Simon, 1992). For example, the surveillance, confinement, and control of whole groups of people is what Wacquant (2000) described as the purpose of the prison to “shore up caste division and help contain a dishonored and supernumerary population viewed as both deviant and dangerous” (p.377). Marx and Engels (1930) also referred to these individuals as the “putrefaction of the lowest strata of the old society” (p.39). The “lumpenproletariat” whose skills and presence in society are rendered valueless have been relegated to a social class that the bourgeoisie tirelessly strives to “manage” through confinement and disenfranchisement to ensure least interference with capitalist economic productivity. This management method, as Henry Braverman points out in M. B. Katz (1996), would consist of “disposing of the rest as cheaply and conveniently as possible through the creation of institutions.” These unworthy and unemployed who are “rendered valueless” (Marx & Engels, 1930, p.35) and viewed as permanently excluded from social mobility and economic integration (Feeley & Simon, 1992).

This dissertation examined individual characteristics and made a case for rehabilitation and gender-specificity because in the new penology, female prisoners are even more marginalized due to their lesser aggregate numbers compared to males. The new penology eschews traditional concerns of criminology that focused on the relationship between the individual and communities, causes and correlates of criminal behavior, and the search for interventions that decrease deviant behavior by focusing on family and workplaces as influencers of socialization and control (Feeley

& Simon, 1992). This study examined and elevates human capital strengths and advocate for the gendered needs presented by the females in the study sample.

### **2.5.2 Participate in Interdisciplinary Collaborations**

Social work researchers specializing in criminology may participate in interdisciplinary teams to bring to the forefront the importance of the relationship between the individual and her environment. Phelps (2011) sought to examine whether prison programming changed throughout the shift from the rehabilitative ideal to the incapacitation era, and found that despite large increases in the incarcerated population, very little had changed inside the prison in terms of rehabilitation.

It is important for social workers to establish a distinct role in the criminal justice system; this importance is made more acute due to anticipation of successful reintegration of prisoners back into the community following a release from prison. First, social worker representation in criminal justice practices, proceedings, and research is needed to influence program and institutional policy changes. For example, knowledge in areas such as females' unique pathways to crime (Brennan et al., 2012; Daly, 1992, 1994; B. Richie, 1996; Simpson & Herz, 2006) and the distinctly female risk factors that are separate from gender-neutral risk factors (Hollin & Palmer, 2006) is essential to the design and administration of programs and services. Second, social workers are needed to work successfully with a population whose pathways into the criminal justice system may not resemble any experience germane to a prison professional's personal life. Social workers can be trained to address the specific needs of each female prisoner and be made aware of strategies to acknowledge and minimize their triggers to ensure the best possible success in recovery and reintegration back into non-prison life. Finally,

social work scholars have a prime opportunity to research with designs adhering to intersections of race, gender, and class, which have only begun to be addressed. Social workers are able to utilize this framework to study crime and recognize the intersecting inequalities facing these female prisoners. Participation in such scholarship can also assist toward discounting the belief that social work is largely absent from multidisciplinary discussions of feminist research (Gringeri, Wahab, & Anderson-Nathe, 2010).

### **2.5.3 Performance Evaluation**

Increasing program access and improving reentry outcomes is an important area of practice and research in social work. It is unclear to what extent prison-based programs can assist in addressing the very different needs and personal histories of female prisoners compared to male prisoners. There are opportunities to contribute to the current work being done on gender-specific risk assessment, particularly where misclassification has been reported among drug-connected and women with histories of abuse (Holtfreter & Morash, 2003; Reisig et al., 2002). Reisig et al. (2002) found that the relationship between risk, need, and recidivism did not accurately capture the influence of women's life experiences and immediate circumstances that lead to female criminality. Here, an assessment tool was found to perform better among females who had not suffered economic hardship but were more motivated by greed (Reisig et al., 2002). Covington (2008) also addressed assessment inaccuracies that can occur when tools are inappropriately applied to unintended populations. She noted that many women who were considered treatment failures because of their relapse are now recognized as trauma survivors who returned to alcohol or other drugs in order to medicate the pain of their trauma. Furthermore, the program opportunities in prison, though found to assist some, fail to shift the prevailing sentiment that ex-

offenders are of low value in any social investment. Social workers have an opportunity to contribute to a paradigm shift of how ex-offenders are perceived in terms of potential and value post-release.

### **3.0 CHAPTER 3**

#### **3.1 STUDY OVERVIEW**

This study examined how gender-specific and gender-neutral prisoner characteristics are associated with program participation among female state prisoners. This study used survey data from state inmates in the 2004 Survey of Inmates in State and Federal Correctional Facilities (United States Department of Justice. Office of Justice Programs. Bureau of Justice, 2007).

Given that service providers, treatment manuals, and criminal justice reports continue to implore for the increases in treatment programs, this dissertation sought to examine the characteristics that are associated with prison program participation among female prisoners. Furthermore, there remains an opportunity to better address the criminogenic needs of female prisoners in order to better understand and tailor programming to possibly reduce recidivism. Experts report that females' rearrest rate is 34% at the end of their first year post-release, 59% within three years of release from prison, 68% within five years of release from prison, and of a consistent pattern of rearrest due to a majority of property and drug offenses (Durose, Cooper, & Snyder, 2014).

### 3.1.1 Definitions

Criminogenic needs are those attributes of a prisoner that are associated with increasing the chances of recidivism (Hannah-Moffat, 2006). Most prison programs are geared to minimize criminogenic needs in order to minimize a variety of institutional administrative problems (e.g. escape, rule infraction, recidivism).

Criminogenic needs are generally argued to be gender-neutral which implies occurrence between men and women (Andrews et al., 2006; Latessa & Lowenkamp, 2005). Most institutions utilize gender-neutral tools to assess criminogenic needs, and target the “Big 4” criminogenic needs, which typically include criminal history, criminal thinking, personality attributes, and criminal peers; criminogenic needs also include the broader “Central 8” which include the Big 4 and includes marital, education/employment, substance use, and recreation (Van Voorhis et al., 2010).

Gender-responsive characteristics describe the distinct needs between men and women. For example, those gender-responsive characteristics for women are those which recognize the importance of histories of victimization and abuse, trauma, child/parental issues, intimate partner or relationship dysfunction, poverty/welfare, and mental illness (Van Voorhis et al., 2010).

Capital deficits refer to the consequences of a process by which differential investment or reduced opportunities produce negative acquisition of capital.

Social capital are resources embedded in a social structure which are accessed and/or mobilized in purposive actions (Lin, 1999). In this dissertation, prison programs are viewed as the institutional capital – the social capital mobilized for the inmates. The social capital in prison programs stem

from the relationships of program administrators, teachers, and other individuals associated with the program. Social capital refers to the possibility of individuals to benefit from membership in social networks or other social structures (Portes, 1998).

Rule infraction is defined as possession of unauthorized substance or items, verbal and physical assaults on staff or another inmate, and other major and minor violations that disrupt prison operations. Rule infractions are measures of institutional misconduct.

### **3.1.2 Research Objectives**

#### **Objective 1**

Examine the strength of association among gender-neutral characteristics (demographics) on prison program participation.

Hypothesis 1.1: Demographic variables will be significantly associated with program participation.

This block consisted of demographic control variables such as race, age, marital status, years served at the time of survey administration, type of offense, and rule infraction. It was anticipated that similar patterns of racial and age disproportionality was to be found. It was also anticipated that most female prisoners would be nonviolent offenders.

#### **Objective 2**

Test whether the addition of static and dynamic offender risk characteristics adds to the explanation of the variance of prison program participation.

Hypothesis 2.1: Offender characteristics will be significantly associated with program participation.

This block consisted of static and dynamic offender characteristics such as criminal history, offense type, employment history, and substance use history. The risk principle stated that the most intensive correctional treatment and intervention programs should be reserved for

higher-risk offenders. Therefore, as these characteristics are more risky, there should be more program participation. The addition of these variables should significantly add to the explanation in the variance of program participation.

### **Objective 3**

Test whether the addition of gender-responsive characteristics adds to the explanation of the variance of prison program participation.

Hypothesis 3.1: Gender-responsive characteristics will be significantly associated with program participation.

Though risk assessment scholars maintain the appropriate application of gender-neutral indicator variables as measures of programmatic need, gender-responsive characteristics should allow for more explanatory value of the needs among female prisoners. Findings here were anticipated to demonstrate a better fit with females' gender-responsive needs; and the addition of these variables should significantly add to the explanation in the variance of program participation.

### **Objective 4**

Test whether the addition of intergenerational capital deficits adds to the explanation of the variance of prison program participation.

Hypothesis 4.1: The influence of intergenerational capital deficits will be significantly associated with program participation. Findings here are anticipated to demonstrate a better fit with females' gender-responsive needs; and the addition of these variables should significantly add to the explanation in the variance of program participation.

There is a body of research supporting the concept of intergenerational transfer of antisocial values, practices, and economic insecurity. Some researchers have noted that "crime runs in the family," and it is assumed that children are first exposed to the influence of their parents before undergoing public education. When paired with the risk-need-responsivity model principles, higher-risk offenders should be receiving more intensive correctional treatment and intervention programs. Therefore, as these characteristics are more risky, there should be more

program participation. The addition of these variables should significantly add to the explanation in the variance of program participation

## **3.2 METHODS**

### **3.2.1 Type of Study and Dataset**

This was an exploratory and descriptive secondary data analysis. This study used codified interview data from state inmates in the 2004 Survey of Inmates in State and Federal Correctional Facilities (SISFCF) (United States Department of Justice, Office of Justice Programs, Bureau of Justice, 2007) which is maintained and distributed by the National Archive of Criminal Justice Data, the criminal justice archive within the Interuniversity Consortium for Political and Social Research (ICPSR). The data for the series were collected by the United States Department of Justice, Bureau of Justice Statistics. The 2004 SISFC used a two-stage sampling procedure where a representative sample of prisons was selected and a representative sample of inmates within sampled prisons was selected in the second stage. Personal interviews were conducted with sampled inmates from October 2003 through May 2004. This dataset was appropriate for this study as data were collected from state and federal inmates about their current offense and sentence, criminal history, family background and personal characteristics, prior drug and alcohol use and treatment programs, gun possession and use, and prison activities, programs, and services.

### 3.2.2 Variables and Analysis

In this study, female prisoners were of primary interest. Three inclusion criteria were used: completed survey interviews, sentenced prisoners, and prisoners for which offense type is known. Three exclusion criteria were used: to remove prisoners serving life sentences, to remove prisoners whose reported age is younger than 18, and to remove prisoners for whom rule infraction status was unknown. All statistical tests in this study were performed at the 0.05 level of significance. All analyses were conducted using SPSS version 23.

### 3.2.3 Objective 1

Examine the strength of association among gender-neutral characteristics (demographics) on prison program participation.

#### *Dependent Variables*

*Participation in prison programs:* Seven separate variables comprised “*prison program participation.*” Each of these seven dependent variables was dichotomized based on the participation in seven types of programs: religious activities, visitation programs, vocational/educational programs, self-help programs, pre-release programs, drug and alcohol programs, and mental health programs. Each prison program was coded based on responses on items that account for an inmate’s participation in these programs since their current admission to prison. One survey question was used for religious activities participation and responses were dichotomized (No/Yes). Two visitation variables were coded for phone calls received and in-person visits as dichotomized measures of visitation (No/Yes). Two survey questions dealt with educational and vocational programs and included questions such as: “*Since admission, have you*

*had any vocational or job-training programs?” and “Since admission, any other educational program?”* Five questions dealt with self-help programs and included questions such as: *“Since admission, have you joined or participated in a Bible club or other religious study group (including Muslims)?”, “Since admission, have you joined or participated in ethnic/racial organization (such as NAACP, African-American or Black Culture group, Hispanic committee, Aztlan, or Lakota)?”, “Since admission, have you joined or participated in inmate assistance groups (such as inmate liaison, advisory, or worker’s councils) or inmate counseling groups?”,* and *“Since admission, have you joined or participated in other inmate self-help/personal improvement groups (such as Toastmasters, Jaycees, Gavel club, veterans club, or parents awareness group)?”* Four questions deal with pre-release programs and included questions such as: *“Have you participated in employment counseling?” “Have you participated in parenting or child rearing skills?”* and *“Have you participated in life skills and community adjustment?”* Three survey questions dealt with drug and alcohol program participation and three survey questions deal with mental health program participation. Responses of “No” serve as the reference category. For a full list of relevant survey items used to create the dependent variables, please refer to Appendix A.

### ***Control Variables - Demographics***

*Race* effects were controlled and categorized into White only, Black only, and Other categories. *Other* includes non-White and non-Black as well as mixed race. White was the reference category.

*Age* was categorized into two groups, 18-24, 25-55, and was statistically controlled. The first category was the reference category.

*Marital status* was controlled and will be based on the prisoners' self-reported status. This variable was dichotomized into *Never Married* and *Ever Married*. *Never Married* was the reference category.

*Length of time incarcerated at the time of survey administration* was controlled to remove the influence of time because the longer an individual is incarcerated, there is more opportunity to participate in programs as well as engage in rule breaking behaviors. This was calculated by subtracting the year of admission from the year of survey administration. It was grouped into three categories: less than one year, one to two years, and more than three years. The first category was the reference category.

*Type of current offense* was controlled to remove influence of prior considerations which can be tied to housing and related programming privileges. It was dichotomized as violent and nonviolent, with violent as the reference category.

*Rule infraction* was controlled to remove the influence of possible privilege removal or disciplinary action on rule breaking. It was dichotomized based on the item, "*Written up or found guilty of breaking any rules?*" and "No" was the reference category.

### **3.2.4 Objective 2**

Test whether the addition of static and dynamic risk characteristics adds to the explanation of the variance of prison program participation.

***Control variables: Static and dynamic risk characteristics***

This block consisted of additional static and dynamic characteristics such as criminal history, employment history, educational attainment, and substance use history.

*Criminal history* was a single dichotomized variable assessed via three variables based on whether the subject was ever on probation, ever on parole, and prior incarcerations. An affirmative response on any of these categories was used to dichotomize criminal history. “No” was the reference category.

*Employment history* was dichotomized based on the question “*In the month before arrest, did you receive income from wages, salary, or pay from a job?*” A response of “No” served as the reference category.

*Educational attainment* was categorized based on the question, “*Before admission, highest grade of school attended?*” This variable was categorized into three categories, *Less than high school*, *High school*, and *More than high school*. *Less than high school* was the reference category.

*Substance use history* was a composite measure based on affirmative responses to three items, “*During the month before your arrest, were you using/had you - methamphetamine such as ice or crank, crack, or cocaine?*” It was dichotomized, No/Yes, and “No” served as the reference category.

### **3.2.5 Objective 3**

Test whether the addition of gender-responsive characteristics adds to the explanation of the variance of prison program participation.

#### ***Independent variables: Gender-responsive characteristics***

This block consists of gender-responsive characteristics and includes mental illness diagnosis, number of children, welfare receipt, physical abuse history, and sexual assault history.

*Mental illness diagnosis* was dichotomized based on seven questions which asked “*Have you ever been diagnosed with: a depressive disorder; manic-depression, bipolar disorder, or mania; schizophrenia or another psychotic disorder; post-traumatic stress disorder; another anxiety disorder, such as a panic disorder; a personality disorder.*” “No” served as the reference category.

*Have children* was dichotomized based on whether females self-reported having any children. “No” served as the reference category.

*Welfare history* was dichotomized based on the response to one question, “*In the month before arrest, did you receive income from welfare?*” “No” served as the reference category.

*Physical abuse history* was dichotomized based on responses to five separate questions which asked, “*Before admission, have you ever been physically abused: pushed, grabbed, slapped, kicked*”, “*...hit with a fist*”, “*...beaten up*”, “*...choked you*” or “*...used a weapon against you?*” “No” served as the reference category.

*Sexual assault history* was dichotomized based on response to two survey questions which asked separately about single incidents of sexual assault and multiple incidents of sexual assault. “No” served as the reference category.

### **3.2.6 Objective 4**

Test whether the addition of intergenerational capital deficits adds to the explanation of the variance of prison program participation.

#### ***Independent variables: Potential intergenerational influencers***

Intergenerational influence was assessed based on three intergenerational measures on welfare, substance use, and criminal history. Each was dichotomized based on questions such as “*While*

*you were growing up, did any of your parents or guardians ever receive welfare or public assistance, for example, AFDC, food stamps, Medicaid, WIC?”, “When you were growing up, did any of your parents or guardians abuse alcohol or drugs?”, and “Have any of your parents or stepparents ever been sentenced and served time in jail or prison?” Responses of “No” served as the reference category.*

### **3.2.7 Analysis Plan**

All data were cleaned, coded, and analyzed in SPSS version 23. The data were screened for assumptions and influential cases. This study used hierarchical logistic regression, also referred to as sequential regression, to specify a fixed order of entry for key variables in order to control for the effects of covariates and to test the effects of other predictors independent of the influence of other. Given the conceptual framework that posits the urgency of gender-responsive characteristics and appreciation for female’s pathways to crime, logistical regressions were performed to ascertain the association between prisoners’ characteristics and prison program participation.

There were 28 regression models based on seven outcome variables. Each logistic regression model had one of seven different prison programs serving as the dependent variable. Then, the following models were used to inform the entry of predictor variables and the assessment for contribution to the model, and whether prison program participation can be explained by demographics, static/dynamic risk characteristics, gender-responsive variables, and intergenerational variables.

Model 1: Step 1: enter demographics and controls

Model 2: Step 1: enter demographics and controls; Step 2: enter static/dynamic offender risk characteristics.

Model 3: Step 1: enter demographics and controls; and static/dynamic offender risk characteristics; Step 2: enter gender-responsive characteristics.

Model 4: Step 1: enter demographics and controls; static/dynamic offender risk characteristics; gender-responsive characteristics; Step 2: enter intergenerational influencers.

#### 4.0 CHAPTER 4

This study used codified interview data of female state inmates in the 2004 Survey of Inmates in State and Federal Correctional Facilities (SISFCF) (United States Department of Justice, Office of Justice Programs, Bureau of Justice, 2007) which is maintained and distributed by the National Archive of Criminal Justice Data, the criminal justice archive within the Interuniversity Consortium for Political and Social Research (ICPSR). This dataset is appropriate for this study as data was collected from state inmates about their current offense, criminal history, family background and personal characteristics, prior drug use, and prison programs. The 2004 SISFC used a two-stage sampling procedure where a representative sample of prisons was selected and then a representative sample of inmates within sampled prisons was selected in the second stage. Personal interviews were conducted with inmates from October 2003 through May 2004.

For this study, inclusion criteria were sentenced, female prisoners who were aged 18 and older, with known offense type (violent or nonviolent), and had complete interviews. Life sentence status could not be used as an exclusionary criterion as this variable contained excessive missing responses (98%) and was not used in the analysis. Missing data diagnostics were also conducted. The degree to which missing data is problematic depends on the pattern of the missing data and on how much data is missing. Missing data patterns that occur randomly throughout the data pose less of a serious problem than data found to be non-random. Data found to be missing completely at random (MCAR) means that the missing liabilities are independent

of both the missing values and the observed values of other variables. This can be confirmed via t-tests and chi-square tests between complete cases and incomplete cases. If tests are found to be significant, then the missing patterns of data are either missing at random (MAR) or missing not at random (MNAR). If data are found to be missing at random (MAR), then the missing liabilities are only independent of the missing values of other variables. Data that are not randomly missing infers that the missing values and the observed values of other variables are dependent.

For five dependent variables, there were no problems with missing responses. However, two dependent variables (drug and alcohol programs, mental health programs) posed significant missing data issues. Among program participation on drug and alcohol programs, 69% of cases had missing responses. Among program participation on mental health programs, 56% of cases had missing responses. Chi-square analyses between complete cases and incomplete cases for respondents of drug and alcohol programs and mental health programs revealed significant group differences on nearly all the predictor variables. Given the high degree of nonresponse in these two variables, complete-case analyses were utilized on these two dependent variables.

Most of the independent variables had less than 2% missing responses. Where independent variables experienced less than 2% nonresponse, listwise deletion of nonresponders was deemed appropriate and executed. Among two independent variables, significant missing data issues were found. *Substance use history* had 52% missing responses, and *having children* had 43% missing responses. Chi-square analyses between complete cases and incomplete cases for *substance use history* and *having children* were assessed via chi-square tests. Chi-square tests revealed significant differences on some variables; however, values of  $\phi < .25$  indicated weak to moderate associations of the differences. In order to mitigate high non-response rates on

*substance use history* and *having children*, hot deck imputation offered a valid alternative to retain information within the sample (Myers, 2011; Roth, 1994). Hot deck imputation involves the replacement of a missing value with the value of a “similar” respondent in the dataset that matches the missing value based on researcher-determined categories (Myers, 2011). Given the support in the literature of female prisoners’ substance use history as a component in their cumulative disadvantage, associated with mental health problems, poor employment history, lower educational attainment and racial disproportionality (Glaze & Maruschak, 2008; Mumola, 2000), these four composed the set of variables (i.e. “deck”) to impute values on the missing responses of substance use history. Additionally, recognizing female mothers’ experiences as being associated with race, age, and marital status, these three then composed the set of variables (i.e. “deck”) to impute values on having children. Finally, assumptions were assessed on all cases and influential cases were removed from the analysis based on examinations of Cook’s distance, leverage values, and dfbetas.

#### **4.1 DESCRIPTIVE STATISTICS**

There were a total of 1,523 female state prisoners in this study, seven dependent variables, and 18 independent variables of interest. For descriptive information on the study sample, refer to Tables 1 through 3 for detail.

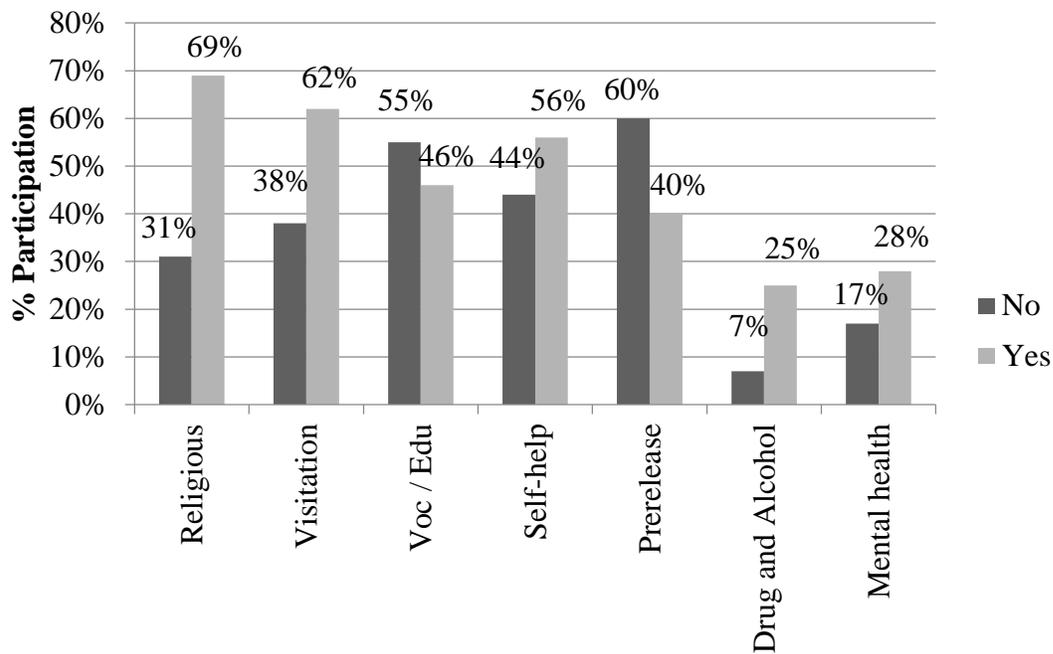
Table 1. *Descriptive Statistics, Independent Variables, Total Sample (n = 1,523).*

Independent Variables		Freq	%	Min	Max	Mean	SD
Age				18	55	34.6	8.5
	18-24	236	16%				
	25-55	1,287	85%				
Time served (years)				0	22	1.8	3.1
	< 1 year	691	45%				
	1 to 2 years	507	33%				
	3 years or more	325	21%				
Race							
	White only	845	56%				
	Black only	517	34%				
	All Other	161	11%				
Marital status							
	Never married	726	48%				
	Ever married	797	52%				
Type of offense							
	Violent	483	32%				
	Nonviolent	1,040	68%				
Written up in prison							
	No	791	52%				
	Yes	732	48%				
Criminal history (probation, parole, incarceration)							
	No	560	37%				
	Yes	963	63%				
Previously employed prior to arrest							
	No	754	50%				
	Yes	769	50%				
Educational attainment							
	Less than high school	169	11%				
	High school	1,096	72%				
	More than high school	158	17%				
Substance use history							
	No	98	6%				
	Yes	1,425	94%				
Mental illness							
	No	813	53%				
	Yes	710	47%				
Have children							
	No	519	34%				
	Yes	1,004	66%				
Welfare recipient							
	No	1,262	83%				
	Yes	261	17%				
Sexual assault history							
	No	859	56%				
	Yes	664	44%				
Physical abuse history							
	No	746	49%				
	Yes	777	51%				
Caretakers or parents: on welfare?							
	No	1,002	66%				
	Yes	521	34%				
substance users?							
	No	946	62%				
	Yes	577	38%				
formerly incarcerated or sentenced to time?							
	No	1,141	75%				
	Yes	382	25%				

Table 2. *Descriptive Statistics, Dependent Variables (n = 1,523).*

Dependent Variables			Freq	%
Prison program participant	Religious	No	478	31%
		Yes	1,045	69%
	Visitation	No	581	38%
		Yes	942	62%
	Vocational/ educational	No	830	55%
		Yes	693	46%
	Self-help	No	676	44%
		Yes	847	56%
	Prerelease	No	921	60%
		Yes	602	40%
	Drug and alcohol	No	107	7%
		Yes	384	25%
		Unknown	1,032	68%
	Mental health	No	257	17%
		Yes	422	28%
		Unknown	844	55%

Table 3. *Percentage participation in prison programs among female state prisoners*



## **4.2 HIERARCHICAL LOGISTIC REGRESSIONS**

Hierarchical logistic regressions were used to evaluate the odds that a female prisoner had participated in a prison program given her pattern of response to questions about her demographics, static and dynamic risk characteristics, gender-responsive characteristics, and intergenerational characteristics. A hierarchical logistic regression was performed on participation in any of seven types of prison programs (religious, visitation, vocational/educational, self-help, prerelease, drug and alcohol, mental health). Each of the seven prison programs' participation was an outcome variable and was dichotomized, no/yes. The reference category was always the first category representing "No" responses. There were 18 categorical predictors which were entered hierarchically into each analysis. The first set of models includes six demographic variables. The second set of models includes an additional four static/dynamic offender risk characteristics. The third set of models includes an additional five gender-responsive variables. The fourth set of models includes an additional three intergenerational variables. Hierarchical logistic regression analyses used SPSS version 23. See Table 4 for detail.

Table 4. *Models in Analysis*

Hypothesis	Model Parameters
1	Demographics (race, age, marital status, length of time incarcerated before survey, offense type, rule infraction)
2	Demographics + Static and dynamic risk characteristics (criminal history, educational attainment, employment history, substance use history)
3	Demographics + Static and dynamic risk characteristics + gender-responsive characteristics (mental illness, having children, welfare, sexual assault history, physical abuse history)
4	Demographics + Static and dynamic characteristics + gender-responsive characteristics + intergenerational factors (welfare, substance use, incarceration)

### 4.2.1 Objective 1

Examine the strength of association among gender-neutral characteristics (demographics and controls) on prison program participation.

Hypothesis 1.1: Demographic variables will be significantly associated with program participation.

The first blocks in each of the seven prison program analyses included six demographic variables: race (White only, Black only, Other), age (18-24 years old, 25-55), marital status (never married/ever married), years served in prison from admission year to year of survey (less than one year, one or two years, more than three years), offense type (violent/nonviolent), and whether the prisoner had broken rules in the prison (no/yes). The first category is the reference group for all categorical variables.

There was a significant prediction of participation in religious programs in prison by two predictors in this model,  $\chi^2(8, N=1,523) = 36.859, p < .001$ , Nagelkerke  $R^2 = .034$ . There was a significant difference on the likelihood of participating in religious programs among the levels of Race,  $\chi^2(2) = 11.258, p = .004$ . Blacks were one and a half times as much as likely as Whites to participate in religious programs, in terms of odds,  $B = .441$ , Wald  $\chi^2(1) = 11.214, p = .001$ ,  $\exp(B) = 1.554$ . Females who have been married were one and a half times as much as likely as females who have not been married to participate in religious programs, in terms of odds,  $B = .454$ , Wald  $\chi^2(1) = 12.703, p < .001$ ,  $\exp(B) = 1.575$ . The findings show that age, years served in prison at the time of the survey, offense type, and rule infraction were not significantly associated with participation in religious programs in prison (Table 5). Thus, the hypothesis was confirmed on two of the variables as predictors of participation in religious programs. Being Black and ever married were significant predictors.

There was a significant prediction of participation in visitation programs in prison by two predictors in this model,  $\chi^2 (8, N=1,523) = 55.665, p < .001$ , Nagelkerke  $R^2 = .049$ . There was a significant difference on the likelihood of participating in visitation programs among the levels of Race,  $\chi^2 (2) = 34.807, p < .001$ . Blacks were nearly two times as less likely than Whites to participate in visitation programs, in terms of odds,  $B = -.663$ , Wald  $\chi^2 (1) = 28.613, p < .001$ ,  $\exp(B) = .515$ . Other Races were also two times as less likely than Whites to participate in visitation programs, in terms of odds,  $B = -.693$ , Wald  $\chi^2 (1) = 15.361, p < .001$ ,  $\exp(B) = .500$ . There was a significant difference on the likelihood of program participation among the levels of years spent in prison at the time of the survey,  $\chi^2 (2) = 8.865, p = .012$ . For females who had spent one to two years in prison at the time of the survey, they were nearly 30% more likely than females who had spent less than a year in prison at the time of the survey to be participants in visitation programs, in terms of odds,  $B = .255$ , Wald  $\chi^2 (1) = 3.896, p = .048$ ,  $\exp(B) = 1.290$ . Additionally, for females who had spent three years or more in prison at the time of the survey, they were 62% more likely than females who had spent less than a year in prison at the time of the survey to be participants in visitation programs, in terms of odds,  $B = .484$ , Wald  $\chi^2 (1) = 8.251, p = .004$ ,  $\exp(B) = 1.623$ . The findings show that age, marital status, offense type, and rule infraction were not significantly associated with participation in visitation programs in prison (Table 5). Thus, the hypothesis was confirmed on two of the variables as predictors for participation in visitation programs. White females who were serving more time at the time of the survey were significant predictors.

There was a significant prediction of participation in vocational/ educational programs in prison by three predictors in this model,  $\chi^2 (8, N=1,523) = 243.498, p < .001$ , Nagelkerke  $R^2 = .198$ . There was a significant difference in the likelihood of participating in vocational/

educational programs among the levels of years spent in prison at the time of the survey,  $\chi^2 (2) = 93.452, p < .001$ . Females who spent one to two years in prison were over two times as much as likely as females who spent less than a year in prison to participate in vocational/ educational programs, in terms of odds,  $B = .877$ , Wald  $\chi^2 (1) = 45.469, p < .001, \exp(B) = 2.403$ . Additionally, females who spent three years or more in prison at the time of the survey were nearly five times as much as likely as those who spent less than a year in prison to participate in vocational/ educational programs, in terms of odds,  $B = 1.591$ , Wald  $\chi^2 (1) = 85.248, p < .001, \exp(B) = 4.907$ . Nonviolent females were 1.3 times as less as likely as violent females to participate in vocational/ educational programs, in terms of odds,  $B = -.281$ , Wald  $\chi^2 (1) = 4.665, p = .031, \exp(B) = .755$ . Females who were rule infractors were nearly two times as much as likely as non-infractors to participate in vocational/ educational programs, in terms of odds,  $B = .568$ , Wald  $\chi^2 (1) = 22.289, p < .001, \exp(B) = 1.765$ . The findings show that race, age, and marital status were not significantly associated with participation in vocational/ educational programs in prison (Table 5). Thus, the hypothesis was confirmed on three of the variables as predictors for participation in vocational/ educational programs. Longer time currently served in prison, violent offenders, and rule infraction were significant predictors.

There was a significant prediction of participation in self-help programs in prison by three predictors in this model,  $\chi^2 (8, N=1,523) = 88.432, p < .001, \text{Nagelkerke } R^2 = .076$ . Females aged 25-55 were one and half times as much as likely as females aged 18-24 to participate in self-help programs, in terms of odds,  $B = .466$ , Wald  $\chi^2 (1) = 8.515, p = .004, \exp(B) = 1.593$ . There was a significant difference in the likelihood of participation in self-help programs among the levels of years served in prison at the time of the survey,  $\chi^2 (2) = 22.962, p < .001$ . Females who have served one to two years in prison at the time of the survey were 34% more likely than

females who served less than a years to participate in self-help programs, in terms of odds,  $B = .290$ , Wald  $\chi^2 (1) = 5.351$ ,  $p = .021$ ,  $\exp(B) = 1.336$ . Additionally, females who served three years or more in prison at the time of the survey were over twice as much as likely as females who served less than one year in prison to participate in self-help programs, in terms of odds,  $B = .807$ , Wald  $\chi^2 (1) = 22.876$ ,  $p < .001$ ,  $\exp(B) = 2.242$ . Females who were rule infractors were 50% more likely to participate in self-help programs as females who were not rule infractors, in terms of odds,  $B = .433$ , Wald  $\chi^2 (1) = 13.528$ ,  $p < .001$ ,  $\exp(B) = 1.542$ . The findings show that race, marital status, and type of offense were not significantly associated with participation in self-help programs in prison (Table 5). Thus, the hypothesis was confirmed on three of the variables as predictors for participation in self-help programs. Females aged 18-55, serving at least one year in prison, and who were rule infractors were significant predictors.

There was a significant prediction of participation in prerelease programs in prison by two predictors in this model,  $\chi^2 (8, N=1,523) = 141.472$ ,  $p < .001$ , Nagelkerke  $R^2 = .120$ . There was a significant difference in the likelihood of participation in prerelease programs among the levels of years served in prison at the time of the survey,  $\chi^2 (2) = 70.180$ ,  $p < .001$ . Females who served one to two years in prison at the time of the survey were twice as much as likely than females who served less than one year to participate in prerelease programs, in terms of odds,  $B = .777$ , Wald  $\chi^2 (1) = 34.727$ ,  $p < .001$ ,  $\exp(B) = 2.174$ . Additionally, females who served three years or more in prison at the time of the survey were nearly four times as much as likely as females who served less than one year in prison to participate in prerelease programs, in terms of odds,  $B = 1.359$ , Wald  $\chi^2 (1) = 65.500$ ,  $p < .001$ ,  $\exp(B) = 3.892$ . Females who commit rule infractions were 48% more likely to participate in prerelease programs compared to those who have not committed rule infractions, in terms of odds,  $B = .392$ , Wald  $\chi^2 (1) = 10.535$ ,  $p = .001$ ,

$\exp(B) = 1.481$ . The findings show that race, age, marital status, and offense type were not significantly associated with participation in prerelease programs in prison (Table 5). Thus, the hypothesis was confirmed on two of the variables as predictors for participation in prerelease programs. Longer years served in prison and females who were rule infractors were significant predictors.

There was not a significant prediction of participation in drug and alcohol programs in prison by any predictors in this model,  $\chi^2(8, N=491) = 12.371, p = .135$ , Nagelkerke  $R^2 = .038$ . The findings show that race, age, marital status, years served, offense type, and rule infraction were not significantly associated with participation in drug and alcohol programs in prison (Table 5). Further, the hypothesis was unconfirmed on the demographic predictors for participation in drug and alcohol programs.

There was a significant prediction of participation in mental health programs in prison by three predictors in this model,  $\chi^2(8, N=679) = 94.942, p < .001$ , Nagelkerke  $R^2 = .178$ . Females aged 25-55 were nearly two times as much as likely as females aged 18-24 to participate in mental health programs, in terms of odds,  $B = .600$ , Wald  $\chi^2(1) = 5.647, p = .017$ ,  $\exp(B) = 1.822$ . There was a significant difference in the likelihood of participation in mental health programs in prison among the levels of years served in prison at the time of the survey, Wald  $\chi^2(2) = 32.749, p < .001$ . Females who served one to two years in prison were twice as much as likely as females who served less than one year to participate in mental health programs, in terms of odds,  $B = .795$ , Wald  $\chi^2(1) = 15.383, p < .001$ ,  $\exp(B) = 2.213$ . Females who served three or more years in prison were over 4.4 times as much as likely as females who served less than one year to participate in mental health programs, in terms of odds,  $B = 1.483$ , Wald  $\chi^2(1) = 29.533, p < .001$ ,  $\exp(B) = 4.408$ . Females who commit rule infractions were 71% more likely than non-

infractors to participate in mental health programs, in terms of odds,  $B = .539$ , Wald  $\chi^2 (1) = 8.296$ ,  $p = .004$ ,  $\exp(B) = 1.714$ . The findings show that race, marital status, and offense type were not significantly associated with participation in mental health programs in prison (Table 5). Thus, the hypothesis was confirmed on three of the variables as predictors for participation in mental health programs. Females aged 25-55, serving at least one year, and who committed rule infractions were significant predictors.

Table 5. Hierarchical logistic regression analysis of demographic variables on prison program participation (n = 1,523).

Independent variables	Religious		Visitation		Voc / Edu		Self-help		Prerelease		Drug and Alcohol <sup>b</sup>		Mental health <sup>c</sup>	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>														
Race-Black	1.55**	[1.20, 2.01]	0.52***	[0.40, 0.66]	0.95	[0.74, 1.23]	0.97	[0.76, 1.23]	0.86	[0.67, 1.11]	0.84	[0.50, 1.38]	0.80	[0.53, 1.19]
Race-Other	1.13	[0.78, 1.63]	0.50***	[0.35, 0.71]	1.23	[0.85, 1.77]	1.08	[0.76, 1.54]	1.27	[0.89, 1.82]	1.07	[0.50, 1.29]	0.82	[.48, 1.41]
Age- 18-24 years <sup>a</sup>														
Age- 25-55	1.29	[0.94, 1.77]	0.76*	[0.55, 1.04]	0.88	[0.63, 1.22]	1.59**	[1.17, 2.18]	0.83	[0.60, 1.14]	0.66	[0.31, 1.42]	1.82*	[1.11, 2.99]
Married (not married) <sup>a</sup>	1.58***	[1.23, 2.02]	1.00	[0.79, 1.27]	0.89	[0.69, 1.14]	1.17	[0.93, 1.49]	1.14	[0.90, 1.46]	1.17	[0.72, 1.90]	0.94	[0.64, 1.38]
Years served- less than 1 year <sup>a</sup>														
Years served- 1-2 years	0.87	[0.67, 1.14]	1.29*	[1.00, 1.66]	2.40***	[1.86, 3.10]	1.34*	[1.05, 1.71]	2.17***	[1.68, 2.82]	1.57	[0.95, 2.60]	2.21***	[1.49, 3.29]
Years served- 3 or more	0.94	[0.67, 1.33]	1.62**	[1.17, 2.26]	4.91***	[3.50, 6.88]	2.24***	[1.61, 3.12]	3.89***	[2.80, 5.41]	1.96	[0.95, 4.06]	4.41***	[2.58, 7.53]
Type of offense (violent) <sup>a</sup>	0.86	[0.66, 1.12]	0.94	[0.73, 1.21]	0.76*	[0.59, 0.97]	0.88	[0.68, 1.13]	1.04	[0.81, 1.34]	0.69	[0.38, 1.27]	0.81	[0.55, 1.20]
Rule infractions (none) <sup>a</sup>	0.80	[0.62, 1.02]	1.11	[0.88, 1.41]	1.77***	[1.39, 2.23]	1.54***	[1.22, 1.94]	1.48**	[1.17, 1.88]	1.09	[0.67, 1.76]	1.71**	[1.19, 2.47]
Block $\chi^2$ (df)	36.86 (8)***		36.86 (8)***		243.50 (8)***		88.43 (8)***		141.47 (8)***		12.37 (8)		94.94 (8)***	
Nagelkerke R <sup>2</sup>	0.034		0.049		0.198		0.076		0.120		0.038		0.178	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup>Reference category. <sup>b</sup>total participants in drug and alcohol = 491. <sup>c</sup>total participants in mental health = 679.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

#### 4.2.2 Objective 2

Test whether the addition of static and dynamic risk characteristics adds to the explanation of the variance of prison program participation.

Hypothesis 2.1: Offender characteristics will be significantly associated with program participation.

The second blocks in each of the seven prison program analyses built upon the first block by adding four static and dynamic offender risk characteristics: criminal history of ever being on probation, parole, or incarcerated (no/yes), educational attainment (less than high school, high school, more than high school), employment status in month prior to incarceration (not employed/employed), and substance use history (no/yes). The first category is the reference group for all categorical variables.

There was a significant prediction of participation in religious programs in prison by five predictors in this model,  $\chi^2(13, N=1,523) = 62.270, p < .001$ , Nagelkerke  $R^2 = .056$ . This additional block of predictors significantly contributed to the overall model,  $\chi^2(5) = 25.410, p < .001$ , change in  $R^2 = .022$ . There was a significant difference on the likelihood of participating in religious programs among the levels of Race,  $\chi^2(2) = 13.303, p = .001$ . Blacks were more than one and a half times as much as likely as Whites to participate in religious programs, in terms of odds,  $B = .492$ , Wald  $\chi^2(1) = 13.295, p < .001$ ,  $\exp(B) = 1.636$ . Females who have been married were one and half times as much as likely as females who have not been married to participate in religious programs, in terms of odds,  $B = .415$ , Wald  $\chi^2(1) = 10.410, p = .001$ ,  $\exp(B) = 1.514$ . Females who had a criminal history were nearly 30% less likely to participate in religious programs compared to those who did not have a criminal history, in terms of odds,  $B = -.260$ , Wald  $\chi^2(1) = 4.466, p = .035$ ,  $\exp(B) = .771$ . There was a significant difference on the likelihood

of participating in religious programs among the levels of prior education,  $\chi^2 (2) = 5.966, p = .051$ . Females with more than a high school education were over one and a half times as much as likely as a female with less than a high school education to participate in religious programs, in terms of odds,  $B = .486$ , Wald  $\chi^2 (1) = 4.790, p = .029$ ,  $\exp(B) = 1.626$ . Females who were employed prior to arrest were 42% more likely to participate in religious programs compared to females who were not employed prior to their arrest, in terms of odds,  $B = .350$ , Wald  $\chi^2 (1) = 9.273, p = .002$ ,  $\exp(B) = 1.419$ . The findings show that age, years served in prison at the time of the survey, offense type, infraction, and substance use history were not significantly associated with participation in religious programs in prison (Table 6). Thus, the hypothesis was confirmed on three of the static and dynamic offender characteristics that were predictors for participation in religious programs. Within this block of predictors, Black females who have ever been married, with no prior criminal history, with more than a high school education and who were employed were significant predictors.

There was a significant prediction of participation in visitation programs in prison by four predictors in this model,  $\chi^2 (13, N=1,523) = 80.660, p < .001$ , Nagelkerke  $R^2 = .070$ . This additional block of predictors significantly contributed to the overall model,  $\chi^2 (5) = 24.995, p < .001$ , change in  $R^2 = .021$ . There was a significant difference on the likelihood of participating in visitation programs among the levels of Race,  $\chi^2 (2) = 32.179, p < .001$ . Blacks were nearly twice as less likely than Whites to participate in visitation programs, in terms of odds,  $B = -.667$ , Wald  $\chi^2 (1) = 27.634, p < .001$ ,  $\exp(B) = .513$ . Other Races were also nearly twice as less likely than Whites to participate in visitation programs, in terms of odds,  $B = -.641$ , Wald  $\chi^2 (1) = 12.742, p < .001$ ,  $\exp(B) = .527$ . There was a significant difference on the likelihood of participating in visitation programs among the levels of time spent in prison at the time of the survey, Wald  $\chi^2$

(2) = 8.530,  $p = .014$ . Females who had spent one to two years in prison ( $B = .260$ , Wald  $\chi^2 (1) = 3.977$ ,  $p = .046$ ,  $\exp(B) = 1.297$ ) and those who spent three or more years in prison ( $B = .478$ , Wald  $\chi^2 (1) = 7.819$ ,  $p = .005$ ,  $\exp(B) = 1.612$ ) were as much as likely than females who had spent less than a year in prison to be participants in visitation programs, in terms of odds. There was a significant difference on the likelihood of participating in visitation programs among the levels of educational attainment,  $\chi^2 (2) = 10.156$ ,  $p = .006$ . Females with more than a high school educational attainment were two times as much as likely than females with less than a high school education to participate in visitation programs, in terms of odds,  $B = .648$ , Wald  $\chi^2 (1) = 9.048$ ,  $p = .003$ ,  $\exp(B) = 1.912$ . Females with a history of employment prior to incarceration were 43% more likely than females without an employment history to participate in visitation programs, in terms of odds,  $B = .359$ , Wald  $\chi^2 (1) = 10.627$ ,  $p = .001$ ,  $\exp(B) = 1.432$ . The findings show that age, marital status, offense type, rule infraction, criminal history, and substance use history were not significantly associated with participation in visitation programs in prison (Table 6). Thus, the hypothesis was confirmed on two of the static and dynamic variables as a predictor for participation in visitation programs. Within this block, being White, who had been in the prison at least one year, having an education more than high school and being employed prior to incarceration were significant predictors.

There was a significant prediction of participation in vocational/ educational programs in prison by four predictors in this model,  $\chi^2 (13, N=1,523) = 249.911$ ,  $p < .001$ , Nagelkerke  $R^2 = .202$ . However, this additional block of predictors did not significantly contribute to the overall model,  $\chi^2 (5) = 6.413$ ,  $p = .268$ , change in  $R^2 = .004$ . There was a significant difference on the likelihood to participate in vocational/ educational programs among the levels of years spent in prison at the time of the survey,  $\chi^2 (2) = 89.714$ ,  $p < .001$ . Females who spent one to two years in

prison at the time of the survey were over twice as much as likely as females serving less than a year to participate in vocational/ educational programs, in terms of odds,  $B = .867$ , Wald  $\chi^2 (1) = 44.114$ ,  $p < .001$ ,  $\exp(B) = 2.379$ . Additionally, females who spent three years or more in prison at the time of the survey were nearly five times as much as likely as females who spent less than a year to participate in vocational/ educational programs, in terms of odds,  $B = 1.565$ , Wald  $\chi^2 (1) = 81.536$ ,  $p < .001$ ,  $\exp(B) = 4.782$ . Nonviolent offenders were 24% less likely to participate in vocational/ educational programs compared to violent offenders, in terms of odds,  $B = -.272$ , Wald  $\chi^2 (1) = 4.245$ ,  $p = .039$ ,  $\exp(B) = .762$ . Females who were rule infractors were nearly two times as much as likely as non-infractors to participate in vocational/ educational programs, in terms of odds,  $B = .583$ , Wald  $\chi^2 (1) = 22.940$ ,  $p < .001$ ,  $\exp(B) = 1.791$ . The findings show that race, age, marital status, offense type, criminal history, educational attainment, prior employment status, and substance use history were not significantly associated with participation in vocational/ educational programs in prison (Table 6). Thus, the hypothesis was not confirmed on any static or dynamic offender characteristic as a predictor for participation in vocational/ educational programs.

There was a significant prediction of participation in self-help programs in prison by five predictors in this model,  $\chi^2 (13, N=1,523) = 104.958$ ,  $p < .001$ , Nagelkerke  $R^2 = .089$ . This additional block of predictors significantly contributed to the overall model,  $\chi^2 (5) = 16.527$ ,  $p = .005$ , change in  $R^2 = .013$ . Females aged 25-55 were 55% more likely than females aged 18-24 to participate in self-help programs, in terms of odds,  $B = .440$ , Wald  $\chi^2 (1) = 7.466$ ,  $p = .006$ ,  $\exp(B) = 1.553$ . There was a significant difference in the likelihood of participation in self-help among the levels of years in prison at the time of the survey,  $\chi^2 (2) = 23.486$ ,  $p < .001$ . Females who have served one to two years in prison at the time of the survey were 34% more likely than

females who served less than one year to participate in self-help programs, in terms of odds,  $B = .296$ , Wald  $\chi^2(1) = 5.482$ ,  $p = .019$ ,  $\exp(B) = 1.344$ . Additionally, females who have served three years or more in prison at the time of the survey were over twice as much as likely as females who served less than a year in prison to participate in self-help programs, in terms of odds,  $B = .827$ , Wald  $\chi^2(1) = 23.400$ ,  $p < .001$ ,  $\exp(B) = 2.286$ . Females who were rule infractors were nearly one and a half times as much as likely as non-infractors to participate in self-help programs, in terms of odds,  $B = .438$ , Wald  $\chi^2(1) = 13.485$ ,  $p < .001$ ,  $\exp(B) = 1.550$ . Females with a criminal history were 26% more likely than females with no criminal history to participate in self-help programs, in terms of odds,  $B = .230$ , Wald  $\chi^2(1) = 4.006$ ,  $p = .045$ ,  $\exp(B) = 1.259$ . Females who were employed prior to their incarceration were 33% more likely to participate in self-help programs, in terms of odds,  $B = .288$ , Wald  $\chi^2(1) = 6.999$ ,  $p = .008$ ,  $\exp(B) = 1.334$ . The findings show that race, marital status, type of offense, educational attainment, and substance use history were not significantly associated with participation in self-help programs in prison (Table 6). Thus, the hypothesis was confirmed on two static offender characteristic as a predictor for participation in self-help programs. Criminal history and prior employment were significant predictors.

There was a significant prediction of participation in prerelease programs in prison by two predictors in this model,  $\chi^2(13, N=1,523) = 146.115$ ,  $p < .001$ , Nagelkerke  $R^2 = .124$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2(5) = 4.643$ ,  $p = .461$ , change in  $R^2 = .004$ . There was a significant difference in the likelihood of participation in prerelease programs among the levels of time served in prison at the time of the survey,  $\chi^2(2) = 70.219$ ,  $p < .001$ . Females who have served one to two years in prison at the time of the survey were over twice as much as likely as females who have served less than a year to participate in

prerelease programs, in terms of odds,  $B = .787$ , Wald  $\chi^2 (1) = 35.392$ ,  $p < .001$ ,  $\exp(B) = 2.198$ . Additionally, females who have served three or more years in prison at the time of the survey were nearly four times as much as likely as females who have served less than a year to participate in prerelease programs, in terms of odds,  $B = 1.368$ , Wald  $\chi^2 (1) = 65.245$ ,  $p < .001$ ,  $\exp(B) = 3.928$ . Females who commit rule infractions were one and a half times as much as likely non-infractors to participate in prerelease programs, in terms of odds,  $B = .399$ , Wald  $\chi^2 (1) = 10.664$ ,  $p = .001$ ,  $\exp(B) = 1.490$ . The findings show that race, age, marital status, offense type, criminal history, educational attainment, employment status prior to arrest, and substance use history were not significantly associated with participation in prerelease programs in prison (Table 6). Thus, the hypothesis was not confirmed on any of the static and dynamic offender characteristics as a predictor for participation in prerelease programs.

There was not a significant prediction of participation in drug and alcohol programs in prison by this model,  $\chi^2 (13, N=491) = 21.492$ ,  $p = .064$ , Nagelkerke  $R^2 = .066$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2 (5) = 9.121$ ,  $p = .104$ , change in  $R^2 = .028$ . Females with a criminal history were two times as less likely to participate in drug and alcohol programs than females without a criminal history, in terms of odds,  $B = -.773$ , Wald  $\chi^2 (1) = 5.558$ ,  $p = .018$ ,  $\exp(B) = .462$ . The findings show that race, age, marital status, years served in prison, offense type, infraction, educational attainment, employment history, and substance use history were not significantly associated with participation in drug and alcohol programs in prison (Table 6). Thus, the hypothesis was confirmed on one static offender characteristics as a predictor for participation in drug and alcohol programs. Not having a criminal history was a significant predictor.

There was a significant prediction of participation in mental health programs in prison by three predictors in this model,  $\chi^2 (13, N=679) = 97.485, p < .001$ , Nagelkerke  $R^2 = .182$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2 (5) = 2.543, p = .770$ , change in  $R^2 = .006$ . Females aged 25-55 were nearly two times as much as likely as females aged 18-24 to participate in mental health programs, in terms of odds,  $B = .616$ , Wald  $\chi^2 (1) = 5.865, p = .015, \exp(B) = 1.851$ . There was a significant difference in the likelihood of participation in mental health programs in prison among the levels of years served in prison at the time of the survey, Wald  $\chi^2 (2) = 32.905, p < .001$ . Females who served one to two years in prison at the time of the survey were two times as much as likely as females who served less than one year, to participate in mental health programs, in terms of odds,  $B = .797$ , Wald  $\chi^2 (1) = 15.326, p < .001, \exp(B) = 2.219$ . Additionally, females who served three or more years in prison at the time of the survey were four and a half times as much as likely as females who served less than one year, to participate in mental health programs, in terms of odds,  $B = 1.501$ , Wald  $\chi^2 (1) = 29.772, p < .001, \exp(B) = 4.487$ . Females who commit rule infractions were 67% more likely compared to non-infractors to participate in mental health programs, in terms of odds,  $B = .512$ , Wald  $\chi^2 (1) = 7.266, p = .007, \exp(B) = 1.669$ . The findings show that race, marital status, offense type, criminal history, educational attainment, employment status, and substance use history were not significantly associated with participation in mental health programs in prison (Table 6). Thus, the hypothesis was unconfirmed on any static or dynamic risk characteristics as a predictor for participation in mental health programs.

Table 6. Hierarchical logistic regression analysis of demographic, static and dynamic variables on prison program participation (n = 1,523).

Independent variables	Religious		Visitation		Voc / Edu		Self-help		Prerelease		Drug and Alcohol <sup>b</sup>		Mental health <sup>c</sup>	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>														
Race-Black	1.64**	[1.26, 2.13]	0.51***	[0.40, 0.66]	0.98	[0.76, 1.27]	1.01	[0.79, 1.30]	0.87	[0.68, 1.13]	0.79	[0.47, 1.32]	0.80	[0.54, 1.21]
Race-Other	1.22	[0.84, 1.76]	0.53***	[0.37, 0.75]	1.21	[0.84, 1.76]	1.15	[0.80, 1.64]	1.32	[0.92, 1.90]	1.00	[0.46, 2.20]	0.80	[0.47, 1.38]
Age- 18-24 years <sup>a</sup>														
Age- 25-55	1.28	[0.93, 1.76]	0.74	[0.53, 1.02]	0.90	[0.65, 1.25]	1.55**	[1.13, 2.13]	0.81	[0.58, 1.12]	0.68	[0.31, 1.48]	1.85*	[1.13, 3.5]
Married (not married) <sup>a</sup>	1.51**	[1.18, 1.95]	0.97	[0.76, 1.23]	0.89	[0.69, 1.14]	1.16	[0.91, 1.47]	1.13	[0.88, 1.44]	1.16	[0.71, 1.90]	0.94	[0.64, 1.39]
Years served- less than 1 year <sup>a</sup>														
Years served- 1-2 years	0.87	[0.67, 1.13]	1.30*	[1.00, 1.67]	2.38***	[1.84, 3.07]	1.34*	[1.05, 1.72]	2.20***	[1.70, 2.85]	1.47	[0.88, 2.44]	2.22***	[1.49, 3.31]
Years served- 3 or more	0.90	[0.63, 1.27]	1.61**	[1.15, 2.25]	4.78***	[3.41, 6.72]	2.29***	[1.64, 3.20]	3.93***	[2.82, 5.48]	1.82	[0.87, 3.80]	4.49***	[2.62, 7.69]
Type of offense (violent) <sup>a</sup>	0.93	[0.71, 1.21]	0.98	[0.76, 1.27]	0.76**	[0.89, 0.99]	0.86	[0.67, 1.11]	1.06	[0.82, 1.37]	0.74	[0.40, 1.36]	0.79	[0.53, 1.18]
Rule infractions (none) <sup>a</sup>	0.83	[0.65, 1.07]	1.16	[0.91, 1.47]	1.79***	[1.41, 2.28]	1.55***	[1.23, 1.96]	1.49**	[1.17, 1.89]	1.19	[0.72, 1.95]	1.67**	[1.15, 2.42]
Criminal history (none) <sup>a</sup>	0.77*	[0.61, 0.98]	0.94	[0.75, 1.18]	0.90	[0.71, 1.14]	1.26*	[1.01, 1.58]	1.00	[0.79, 1.26]	0.46*	[0.24, 0.88]	1.05	[0.72, 1.51]
Less than high school <sup>a</sup>														
High school	1.13	[0.80, 1.60]	1.26	[0.90, 1.77]	0.74	[0.51, 1.05]	0.75	[0.53, 1.06]	1.15	[0.81, 1.64]	1.72	[0.88, 3.34]	0.86	[0.51, 1.48]
More than high school	1.63*	[1.05, 2.51]	1.91**	[1.25, 2.92]	0.60	[0.39, 0.93]	1.03	[0.68, 1.56]	1.48	[0.97, 2.26]	1.37	[0.61, 3.07]	0.73	[0.39, 1.38]
Employment (no) <sup>a</sup>	1.42**	[1.13, 1.78]	1.43**	[1.15, 1.78]	1.08	[0.86, 1.35]	1.33**	[1.08, 1.65]	1.08	[0.87, 1.35]	1.06	[0.67, 1.67]	0.94	[0.66, 1.32]
No substance use <sup>a</sup>	0.73	[0.46, 1.18]	1.19	[0.77, 1.83]	0.84	[0.54, 1.32]	0.83	[0.54, 1.29]	0.97	[0.62, 1.50]	1.01	[0.44, 2.36]	0.72	[0.37, 1.38]
Block $\chi^2$ (df)	25.41 (5)***		25.00 (5)***		6.41 (5)		16.53 (5)**		4.64 (5)		9.12 (5)		2.54 (5)	
Nagelkerke R <sup>2</sup>	0.056		0.070		0.202		0.089		0.124		0.066		0.182	
$\Delta R^2$	0.022		0.021		0.004		0.013		0.004		0.028		0.004	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup>Reference category. <sup>b</sup>total participants in drug and alcohol = 491. <sup>c</sup>total participants in mental health = 679.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

### 4.2.3 Objective 3

Test whether the addition of gender-responsive characteristics adds to the explanation of the variance of prison program participation.

Hypothesis 3.1: Gender-responsive characteristics will be significantly associated with program participation.

The third block in each of the seven prison program analyses built upon the prior two blocks by adding five gender-responsive characteristics: whether the female has a mental illness diagnosis (no/yes), had children (no/yes), had been on welfare prior to incarceration (no/yes), had a sexual assault history (no/yes), and had a physical abuse history (no/yes). The first category is the reference group for all categorical variables.

There was a significant prediction of participation in religious programs in prison by six predictors in this model,  $\chi^2 (18, N=1,523) = 77.244, p < .001$ , Nagelkerke  $R^2 = .069$ . This additional block of predictors significantly contributed to the overall model,  $\chi^2 (5) = 14.974, p = .010$ , change in  $R^2 = .013$ . There was a significant difference on the likelihood of participating in religious programs among the levels of Race,  $\chi^2 (2) = 15.798, p < .001$ . Blacks were more than one and a half times as much as likely as Whites to participate in religious programs, in terms of odds,  $B = .554$ , Wald  $\chi^2 (1) = 15.793, p < .001$ ,  $\exp(B) = 1.740$ . Females who have been married were nearly one and half times as much as likely as females who have not been married to participate in religious programs, in terms of odds,  $B = .394$ , Wald  $\chi^2 (1) = 8.745, p = .003$ ,  $\exp(B) = 1.483$ . Females who had a criminal history were 1.3 times as less as likely to participate in religious programs compared to those who have did not have a criminal history, in terms of odds,  $B = -.277$ , Wald  $\chi^2 (1) = 4.960, p = .026$ ,  $\exp(B) = .758$ . There was a significant difference on the likelihood of participating in religious programs among the levels of prior education,  $\chi^2$

(2) = 6.626,  $p = .036$ . Females with more than a high school education were nearly two times as much as likely as a female with less than a high school education to participate in religious programs, in terms of odds,  $B = .530$ , Wald  $\chi^2(1) = 5.586$ ,  $p = .018$ ,  $\exp(B) = 1.70$ . Females who were employed prior to arrest were 43% more likely to participate in religious programs compared to females were not employed prior to their arrest, in terms of odds,  $B = .357$ , Wald  $\chi^2(1) = 9.491$ ,  $p = .002$ ,  $\exp(B) = 1.429$ . Females with a history of sexual assault were one and half times as much as likely as females without a history of sexual assault to participate in religious programs, in terms of odds,  $B = .446$ , Wald  $\chi^2(1) = 11.820$ ,  $p = .001$ ,  $\exp(B) = 1.563$ . The findings show that age, years served in prison at the time of the survey, offense type, infraction, substance use history, mental illness, whether the female had children, was a welfare recipient, and history of physical abuse were not significantly associated with participation in religious programs in prison (Table 7). Thus, the hypothesis was confirmed on one of the gender-responsive variables as a predictor for participation in religious programs. Having a sexual assault history was a significant predictor.

There was a significant prediction of participation in visitation programs in prison by four predictors in this model,  $\chi^2(18, N=1,523) = 88.685$ ,  $p < .001$ , Nagelkerke  $R^2 = .077$ . However, this additional block of predictors did not significantly contribute to the overall model,  $\chi^2(5) = 8.025$ ,  $p = .155$ , change in  $R^2 = .007$ . There was a significant difference on the likelihood of participating in visitation programs among the levels of Race,  $\chi^2(2) = 32.058$ ,  $p < .001$ . Blacks were nearly twice as less likely than Whites to participate in visitation programs, in terms of odds,  $B = -.687$ , Wald  $\chi^2(1) = 27.507$ ,  $p < .001$ ,  $\exp(B) = .503$ . Other Races were also nearly twice as less likely than Whites to participate in visitation programs, in terms of odds,  $B = -.644$ , Wald  $\chi^2(1) = 12.738$ ,  $p < .001$ ,  $\exp(B) = .525$ . There was a significant difference on the

likelihood of participating in visitation programs among the levels of years served in prison at the time of the survey,  $\chi^2 (2) = 9.194, p = .010$ . Females who had spent between one and two years in prison at the time of the survey were 29% more likely than females who had spent than a year in prison at the time of the survey to be participants in visitation programs, in terms of odds,  $B = .257$ , Wald  $\chi^2 (1) = 3.862, p = .049$ ,  $\exp(B) = 1.293$ . Additionally, females who had spent three years or more in prison at the time of the survey were 66% more likely than females who had spent less than a year in prison at the time of the survey to participate in visitation programs, in terms of odds,  $B = .505$ , Wald  $\chi^2 (1) = 8.630, p = .003$ ,  $\exp(B) = 1.657$ . There was a significant difference on the likelihood of participating in visitation programs among the levels of educational attainment,  $\chi^2 (2) = 9.207, p = .010$ . Females with more than high school educational attainment were nearly two times as much as likely as females with less than high school educational attainment to participate in visitation programs, in terms of odds,  $B = .615$ , Wald  $\chi^2 (1) = 8.030, p = .005$ ,  $\exp(B) = 1.849$ . Females who were employed prior to their incarceration were 43% more likely to participate in visitation programs, in terms of odds,  $B = .357$ , Wald  $\chi^2 (1) = 10.356, p = .001$ ,  $\exp(B) = 1.430$ . The findings show that age, marital status, offense type, rule infraction, criminal history, substance use history, mental illness, having children, welfare receipt, history of sexual assault, and history of physical abuse were not significantly associated with participation in visitation programs in prison (Table 7). Thus, the hypothesis was not confirmed on any gender-responsive variables as a predictor for participation in visitation programs.

There was a significant prediction of participation in vocational/ educational programs in prison by four predictors in this model,  $\chi^2 (18, N=1,523) = 270.344, p < .001$ , Nagelkerke  $R^2 = .217$ . This additional block of predictors significantly contributed to the overall model,  $\chi^2 (5) =$

20.433,  $p = .001$ , change in  $R^2 = .008$ . There was a significant difference of the likelihood of participation in vocational/ educational programs among the levels of years served in prison at the time of the survey,  $\chi^2 (2) = 89.438$ ,  $p < .001$ . Females who served one to two years in prison were over twice as much as likely as females who served less than one year in prison to participate in vocational/ educational programs, in terms of odds,  $B = .884$ , Wald  $\chi^2 (1) = 45.050$ ,  $p < .001$ ,  $\exp(B) = 2.421$ . Females who served three years or more in prison were nearly five times as much as likely as females who served less than one year in prison to participate in vocational/ educational programs, in terms of odds,  $B = 1.572$ , Wald  $\chi^2 (1) = 80.568$ ,  $p < .001$ ,  $\exp(B) = 4.814$ . Females who were rule infractors were 70% more likely than non-infractors to participate in vocational/ educational programs, in terms of odds,  $B = .530$ , Wald  $\chi^2 (1) = 18.330$ ,  $p < .001$ ,  $\exp(B) = 1.700$ . Females with children were 28% less likely than females without children to participate in vocational/ educational programs, in terms of odds,  $B = -.330$ , Wald  $\chi^2 (1) = 6.447$ ,  $p = .011$ ,  $\exp(B) = .719$ . Females with a history of physical abuse were one and a half times as much as likely as females without a history of physical abuse to participate in vocational/ educational programs, in terms of odds,  $B = .450$ , Wald  $\chi^2 (1) = 12.637$ ,  $p < .001$ ,  $\exp(B) = 1.568$ . The findings show that race, age, marital status, offense type, criminal history, educational attainment, employment history, substance use history, mental illness, being a welfare recipient, and having a sexual assault history were not significantly associated with participation in vocational/educational programs in prison (Table 7). Thus, the hypothesis was confirmed on two gender-responsive variables as a predictor for participation in vocational/ educational programs. Not having children and having a physical abuse history was a significant predictor.

There was a significant prediction of participation in self-help programs in prison by seven predictors in this model,  $\chi^2(18, N=1,523) = 146.596, p < .001$ , Nagelkerke  $R^2 = .123$ . This additional block of predictors significantly contributed to the overall model,  $\chi^2(5) = 41.638, p < .001$ , change in  $R^2 = .034$ . Females aged 25-55 were nearly two times as much as likely as females aged 18-24 to participate in self-help programs, in terms of odds,  $B = .536$ , Wald  $\chi^2(1) = 10.245, p = .001, \exp(B) = 1.710$ . There was a significant difference on the likelihood of participating in self-help programs among the levels of years spent in prison at the time of the survey,  $\chi^2(2) = 21.579, p < .001$ . Females who have served one to two years in prison were 37% more likely than females who served less than one year to participate in self-help programs, in terms of odds,  $B = .314$ , Wald  $\chi^2(1) = 6.000, p = .014, \exp(B) = 1.369$ . Additionally, females who have served three years or more in prison at the time of the survey were over twice as much as likely as females who served less than one year to participate in self-help programs, in terms of odds,  $B = .802$ , Wald  $\chi^2(1) = 21.309, p < .001, \exp(B) = 2.229$ . Females who were rule infractors were 40% more likely as non-rule infractors to participate in self-help programs, in terms of odds,  $B = .338$ , Wald  $\chi^2(1) = 7.685, p = .006, \exp(B) = 1.403$ . Females who were employed prior to their incarceration were 37% more likely to participate in self-help programs, in terms of odds,  $B = .316$ , Wald  $\chi^2(1) = 8.122, p = .004, \exp(B) = 1.372$ . Females with mental illness were 43% more likely to participate in self-help programs, in terms of odds,  $B = .360$ , Wald  $\chi^2(1) = 9.812, p = .002, \exp(B) = 1.433$ . Females with children were 1.4 times as less as likely as females without children to participate in self-help programs, in terms of odds,  $B = -.361$ , Wald  $\chi^2(1) = 8.174, p = .004, \exp(B) = .697$ . Females who have a history of physical abuse were 44% more likely to participate in self-help programs, in terms of odds,  $B = .365$ , Wald  $\chi^2(1) = 9.171, p = .002, \exp(B) = 1.441$ . The findings show that race, marital status, type of

offense, criminal history, educational attainment, substance use history, being a welfare recipient, and having a history of sexual assault were not significantly associated with participation in self-help in prisons (Table 7). Thus, the hypothesis was confirmed on three gender-responsive characteristic as predictors for participation in self-help programs. Having mental illness, not having children, and having a physical abuse history were significant predictors.

There was a significant prediction of participation in prerelease programs in prison by four predictors in this model,  $\chi^2(18, N=1,523) = 169.224, p < .001$ , Nagelkerke  $R^2 = .142$ . This additional block of predictors significantly contributed to the overall model,  $\chi^2(5) = 23.109, p < .001$ , change in  $R^2 = .018$ . There was a significant difference on the likelihood of participating in prerelease programs among the levels of years served in prison at the time of the survey,  $\chi^2(2) = 69.180, p < .001$ . Females who have served one to two years in prison were over twice as much as likely as females who have served less than one year to participate in prerelease programs, in terms of odds,  $B = .809$ , Wald  $\chi^2(1) = 36.530, p < .001$ ,  $\exp(B) = 2.245$ . Females who have served three years or more in prison were nearly four times as much as likely as females who have served less than one year to participate in prerelease programs, in terms of odds,  $B = 1.362$ , Wald  $\chi^2(1) = 63.365, p < .001$ ,  $\exp(B) = 3.904$ . Females who commit rule infractions were nearly 40% more likely to participate in prerelease programs compared to those who have not committed rule infractions, in terms of odds,  $B = .325$ , Wald  $\chi^2(1) = 6.826, p = .009$ ,  $\exp(B) = 1.384$ . Females with mental illness were nearly 40% more likely to participate in prerelease programs, in terms of odds,  $B = .311$ , Wald  $\chi^2(1) = 7.045, p = .008$ ,  $\exp(B) = 1.365$ . Females with a history of physical abuse were 30% more likely to participate in prerelease programs, in terms of odds,  $B = .264$ , Wald  $\chi^2(1) = 4.560, p = .033$ ,  $\exp(B) = 1.303$ . The findings show that

race, age, marital status, offense type, criminal history, educational attainment, employment status prior to incarceration, substance use history, having children, welfare receipt, and history of sexual assault were not significantly associated with participation in prerelease programs in prison (Table 7). Thus, the hypothesis was confirmed on two of the gender-responsive variables as a predictor for participation in prerelease programs. Having a mental illness and a history of physical abuse were significant predictors.

There was no significant prediction of participation in drug and alcohol programs in prison by this model,  $\chi^2 (18, N=491) = 24.851, p = .129$ , Nagelkerke  $R^2 = .076$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2 (5) = 3.359, p = .645$ , change in  $R^2 = .010$ . Females with a criminal history were two times less as likely as females without a criminal history to participate in drug and alcohol programs, in terms of odds,  $B = -.767$ , Wald  $\chi^2 (1) = 5.367, p = .021$ ,  $\exp(B) = .465$ . The findings show that race, age, marital status, years served in prison at the time of the survey, offense type, infraction, educational attainment, employment, substance use history, mental illness, having children, welfare receipt, sexual assault history, and physical abuse history were not significantly associated with participation in drug and alcohol programs in prison (Table 7). Thus, the hypothesis was not confirmed on any gender-responsive characteristic as a predictor for participation in drug and alcohol programs.

There was a significant prediction of participation in mental health programs in prison by four predictors in this model,  $\chi^2 (18, N=679) = 115.171, p < .001$ , Nagelkerke  $R^2 = .212$ . This additional block of predictors significantly contributed to the overall model,  $\chi^2 (5) = 17.685, p = .003$ , change in  $R^2 = .030$ . Females aged 25-55 were two times as much as likely as females aged 18-24 to participate in mental health programs, in terms of odds,  $B = .692$ , Wald  $\chi^2 (1) = 6.640, p$

= .010,  $\exp(B) = 1.997$ . There was a significant difference on the likelihood of participation in mental health programs among the levels of years spent in prison at the time of the survey,  $\chi^2 (2) = 33.861, p < .001$ . Females who served one to two years in prison at the time of the survey were over twice as much as likely as females who served less than one year, to participate in mental health programs, in terms of odds,  $B = .837, \text{Wald } \chi^2 (1) = 16.252, p < .001, \exp(B) = 2.309$ . Additionally, females who served three years or more in prison at the time of the survey were 4.5 times as much as likely as females who served less than one year in prison at the time of the survey to participate in mental health programs, in terms of odds,  $B = 1.549, \text{Wald } \chi^2 (1) = 30.415, p < .001, \exp(B) = 4.705$ . Females who commit rule infractions were 61% more likely than non-infractors to participate in mental health programs, in terms of odds,  $B = .474, \text{Wald } \chi^2 (1) = 5.964, p = .015, \exp(B) = 1.606$ . Females with mental illness were two times as much as likely as females without mental illness to participate in mental health programs, in terms of odds,  $B = .741, \text{Wald } \chi^2 (1) = 11.728, p = .001, \exp(B) = 2.098$ . The findings show that race, marital status, offense type, criminal history, educational attainment, employment status, substance use history, having children, welfare receipt, sexual assault history, and physical abuse history were not significantly associated with participation in mental health programs in prison (Table 7). Thus, the hypothesis was confirmed on one of the gender-responsive characteristics as a predictor for participation in mental health programs. Having mental illness was a significant predictor.

Table 7. Hierarchical logistic regression analysis of demographic, static and dynamic, and gender-responsive variables on prison program participation (n = 1,523).

Independent variables	Religious		Visitation		Voc / Edu		Self-help		Prerelease		Drug and Alcohol <sup>b</sup>		Mental health <sup>c</sup>	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>														
Race-Black	1.74***	[1.32, 2.29]	0.50***	[0.39, 0.65]	1.06	[0.81, 1.39]	1.21	[0.93, 1.56]	0.96	[0.74, 1.25]	0.80	[0.47, 1.37]	0.85	[0.56, 1.29]
Race-Other	1.20	[0.83, 1.75]	0.53***	[0.37, 0.75]	1.19	[0.82, 1.73]	1.17	[0.82, 1.69]	1.32	[0.91, 1.90]	1.02	[0.46, 2.26]	0.84	[0.48, 1.47]
Age- 18-24 years <sup>a</sup>														
Age- 25-55	1.25	[0.90, 1.74]	0.79	[0.57, 1.11]	0.98	[0.69, 1.37]	1.71**	[1.23, 2.38]	0.83	[0.59, 1.15]	0.72	[0.33, 1.59]	2.00*	[1.18, 3.38]
Married (not married) <sup>a</sup>	1.48**	[1.14, 1.93]	1.03	[0.80, 1.32]	0.93	[0.72, 1.21]	1.20	[0.94, 1.55]	1.12	[0.87, 1.45]	1.20	[0.71, 2.01]	0.96	[0.64, 1.43]
Years served- less than 1 year <sup>a</sup>														
Years served- 1-2 years	0.88	[0.67, 1.14]	1.29*	[1.00, 1.67]	2.42***	[1.87, 3.13]	1.37*	[1.07, 1.76]	2.25***	[1.73, 2.92]	1.52	[0.91, 2.55]	2.31***	[1.54, 3.47]
Years served- 3 or more	0.85	[0.60, 1.21]	1.66**	[1.18, 2.32]	4.81***	[3.42, 6.79]	2.23***	[1.59, 3.13]	3.90***	[2.79, 5.46]	1.82	[0.86, 3.83]	4.71***	[2.71, 8.16]
Type of offense (violent) <sup>a</sup>	0.96	[0.73, 1.26]	0.97	[0.74, 1.25]	0.80	[0.62, 1.04]	0.94	[0.72, 1.22]	1.15	[0.88, 1.49]	0.75	[0.41, 1.40]	0.80	[0.54, 1.21]
Rule infractions (none) <sup>a</sup>	0.80	[0.63, 1.03]	1.17	[0.92, 1.49]	1.70***	[1.33, 2.17]	1.40**	[1.10, 1.78]	1.38**	[1.09, 1.77]	1.18	[0.71, 1.97]	1.61*	[1.10, 2.35]
Criminal history (none) <sup>a</sup>	0.76**	[0.59, 0.97]	0.95	[0.76, 1.20]	0.90	[0.71, 1.14]	1.22	[0.97, 1.54]	0.99	[0.78, 1.25]	0.47*	[0.24, 0.89]	1.01	[0.69, 1.48]
Less than high school <sup>a</sup>														
High school	1.17	[0.82, 1.65]	1.23	[0.88, 1.73]	0.74	[0.51, 1.06]	0.77	[0.54, 1.10]	1.21	[0.85, 1.74]	1.84	[0.94, 3.62]	0.86	[0.50, 1.49]
More than high school	1.70*	[1.10, 2.64]	1.85**	[1.21, 2.83]	0.61	[0.39, 0.94]	1.04	[0.68, 1.58]	1.57	[1.02, 2.41]	1.44	[0.63, 3.27]	0.77	[0.40, 1.48]
Employment (no) <sup>a</sup>	1.43**	[1.14, 1.79]	1.43*	[1.15, 1.78]	1.09	[0.87, 1.37]	1.37**	[1.10, 1.71]	1.13	[0.90, 1.41]	1.07	[0.68, 1.70]	0.99	[0.69, 1.40]
No substance use <sup>a</sup>	0.74	[0.46, 1.19]	1.19	[0.77, 1.84]	0.87	[0.55, 1.37]	0.86	[0.55, 1.34]	1.04	[0.66, 1.62]	1.01	[0.43, 2.39]	0.71	[0.37, 1.39]
Mental illness (no) <sup>a</sup>	0.85	[0.67, 1.08]	1.13	[0.90, 1.42]	0.98	[0.77, 1.24]	1.43**	[1.14, 1.80]	1.37**	[1.09, 1.72]	1.42	[0.88, 2.29]	2.10**	[1.37, 3.21]
Have children (no) <sup>a</sup>	1.01	[0.78, 1.30]	0.80	[0.62, 1.02]	0.72*	[0.56, 0.93]	0.70**	[0.55, 0.89]	0.90	[0.70, 1.15]	0.89	[0.52, 1.52]	0.79	[0.53, 1.19]
Welfare recipient (no) <sup>a</sup>	1.07	[0.79, 1.45]	0.96	[0.72, 1.27]	1.16	[0.86, 1.56]	0.96	[0.71, 1.28]	1.33	[1.00, 1.78]	0.99	[0.55, 1.79]	0.99	[0.61, 1.59]
Sexual assault history (none) <sup>a</sup>	1.56**	[1.21, 2.02]	0.79	[0.62, 1.01]	0.96	[0.74, 1.23]	1.24	[0.98, 1.58]	1.11	[0.87, 1.42]	1.18	[0.72, 1.94]	1.41	[0.98, 2.02]
Physical abuse history (none) <sup>a</sup>	1.06	[0.83, 1.36]	0.99	[0.78, 1.26]	1.57***	[1.22, 2.01]	1.44**	[1.14, 1.83]	1.30*	[1.02, 1.66]	0.82	[0.49, 1.37]	0.96	[0.65, 1.39]
Block $\chi^2$ (df)	14.97 (5)**		8.025 (5)		20.433 (5)**		41.64 (5)***		23.109 (5)***		3.36 (5)		17.69 (5)**	
Nagelkerke R <sup>2</sup>	0.069		0.077		0.217		0.123		0.142		0.076		0.212	
$\Delta R^2$	0.013		0.007		0.015		0.034		0.018		0.010		0.030	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup>Reference category. <sup>b</sup>total participants in drug and alcohol = 491. <sup>c</sup>total participants in mental health = 679.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

#### 4.2.4 Objective 4

Test whether the addition of intergenerational capital deficits adds to the explanation of the variance of prison program participation.

Hypothesis 4.1: The influence of intergenerational capital deficits will be significantly associated with program participation. Findings here are anticipated to demonstrate a better fit with females' gender-responsive needs; and the addition of these variables should significantly add to the explanation in the variance of program participation.

The fourth block in each of the seven prison program analyses built upon the prior three blocks by adding three intergenerational characteristics: whether parents or caretakers were also welfare recipients (no/yes), whether parents or caretakers were substance users (no/yes), and whether parents or caretakers were sentenced or served time (no/yes). The first category is the reference group for all categorical variables.

There was a significant prediction of participation in religious programs in prison by six predictors in this model,  $\chi^2(21, N=1,523) = 80.968, p < .001$ , Nagelkerke  $R^2 = .073$ . However, this additional block of predictors did not contribute to the overall model,  $\chi^2(3) = 3.724, p = .293$ , change in  $R^2 = .004$ . There was a significant difference on the likelihood of participating in religious programs among the levels of Race,  $\chi^2(2) = 17.843, p < .001$ . Blacks were nearly twice as much as likely as White to participate in religious programs, in terms of odds,  $B = .601$ , Wald  $\chi^2(1) = 17.832, p < .001$ ,  $\exp(B) = 1.824$ . Females who have ever been married were nearly one and half times as much as likely as females who have not been married to participate in religious programs, in terms of odds,  $B = .400$ , Wald  $\chi^2(1) = 8.976, p = .003$ ,  $\exp(B) = 1.492$ . Females who had a criminal history were 1.3 times less as likely to participate in religious programs compared to those who had no criminal history, in terms of odds,  $B = -.277$ , Wald  $\chi^2(1) = 4.929, p = .026$ ,  $\exp(B) = .758$ . There was a significant difference on the likelihood of participating in

religious programs among the levels of prior education,  $\chi^2 (2) = 6.456, p = .040$ . Females with more than a high school education were over one and a half times as much as likely as a female with less than a high school education to participate in religious programs, in terms of odds,  $B = .524$ , Wald  $\chi^2 (1) = 5.348, p = .021, \exp(B) = 1.689$ . Females who were employed prior to arrest were 43% more likely to participate in religious programs compared to females were not employed prior to their arrest, in terms of odds,  $B = .359$ , Wald  $\chi^2 (1) = 9.565, p = .002, \exp(B) = 1.432$ . Females with a history of sexual assault were one and half times as much as likely as females without a history of sexual assault to participate in religious programs, in terms of odds,  $B = .443$ , Wald  $\chi^2 (1) = 11.528, p = .001, \exp(B) = 1.558$ . The findings show that age, years served in prison at the time of the survey, offense type, infraction, substance use history, mental illness, having children, welfare receipt, physical abuse, intergenerational welfare, intergenerational substance use, and intergenerational incarceration were not significantly associated with participation in religious programs in prison (Table 8). Thus, the hypothesis was unconfirmed on any of the three intergenerational variables as a predictor for participation in religious programs.

There was a significant prediction of participation in visitation programs in prison by four predictors in this model,  $\chi^2 (21, N=1,523) = 88.804, p < .001$ , Nagelkerke  $R^2 = .077$ . However, this additional block of predictors did not contribute to the overall model,  $\chi^2 (3) = .119, p = .989$ , change in  $R^2 = 0$ . There was a significant difference on the likelihood of participating in visitation programs among the levels of Race,  $\chi^2 (2) = 31.585, p < .001$ . Blacks were nearly two times as less likely than Whites to participate in visitation programs, in terms of odds,  $B = -.691$ , Wald  $\chi^2 (1) = 26.996, p < .001, \exp(B) = .501$ . Other races were also nearly two times less likely than Whites to participate in visitation programs, in terms of odds,  $B = -.643$ , Wald  $\chi^2 (1) =$

12.672,  $p < .001$ ,  $\exp(B) = .526$ . There was a significant difference on the likelihood of participating in visitation programs among the levels of years spent in prison at the time of the survey,  $\chi^2 (2) = 9.214$ ,  $p = .010$ . Females who had spent one to two years in prison were 29% more likely than females who had spent less than a year in prison at the time of the survey to be participants in visitation programs, in terms of odds,  $B = .257$ , Wald  $\chi^2 (1) = 3.850$ ,  $p = .050$ ,  $\exp(B) = 1.292$ . Additionally, for females who had spent three or more years in prison, they were 66% more likely than females who spent less than a year in prison at the time of the survey to be participants in visitation programs, in terms of odds,  $B = .507$ , Wald  $\chi^2 (1) = 8.661$ ,  $p = .003$ ,  $\exp(B) = 1.660$ . There was a significant difference on the likelihood of participating in visitation programs among the levels of educational attainment,  $\chi^2 (2) = 9.067$ ,  $p = .011$ . Females with more than a high school educational attainment were nearly two times as much as likely than females with less than a high school education to participate in visitation programs, in terms of odds,  $B = .615$ , Wald  $\chi^2 (1) = 7.908$ ,  $p = .005$ . Females who were employed prior to their incarceration were 43% more likely to participate in visitation programs, in terms of odds,  $B = .358$ , Wald  $\chi^2 (1) = 10.365$ ,  $p = .001$ ,  $\exp(B) = 1.430$ . The findings show that age, marital status, offense type, rule infraction, criminal history, substance use history, mental illness, having children, welfare receipt, history of sexual assault, history of physical abuse, intergenerational welfare, intergenerational substance use, and intergenerational incarceration were not significantly associated with participation in visitation in prison (Table 8). Thus, the hypothesis was unconfirmed on any of the three intergenerational variables as a predictor for participation in visitation programs.

There was a significant prediction of participation in vocational/ educational programs in prison by five predictors in this model,  $\chi^2 (21, N=1,523) = 277.422, p < .001$ , Nagelkerke  $R^2 = .223$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2 (3) = 7.078, p = .069$ , change in  $R^2 = .006$ . There was a significant difference in the likelihood of participating in vocational/ educational programs among the levels of years served in prison at the time of the survey,  $\chi^2 (2) = 89.903, p < .001$ . Females who served one to two years at the time of the survey were over twice as much as likely as females who served less than a year in prison to participate in vocational/ educational programs, in terms of odds,  $B = .892$ , Wald  $\chi^2 (1) = 45.441, p < .001$ ,  $\exp(B) = 2.439$ . Females who served three years or more at the time of the survey were nearly five times as much as likely as females who served less than a year in prison to participate in vocational/ educational programs, in terms of odds,  $B = 1.584$ , Wald  $\chi^2 (1) = 80.987, p < .001$ ,  $\exp(B) = 4.872$ . Females who were rule infractors were over one and a half times as much as likely as non-infractors to participate in vocational/ educational programs, in terms of odds,  $B = .526$ , Wald  $\chi^2 (1) = 17.698, p < .001$ ,  $\exp(B) = 1.692$ . Females with children were 28% less likely compared to females without children to participate in vocational/ educational programs, in terms of odds,  $B = -.324$ , Wald  $\chi^2 (1) = 6.219, p = .013$ ,  $\exp(B) = .723$ . Females with a history of physical abuse were nearly one and a half times as much as likely as females without a history of physical abuse to participate in vocational/ educational programs, in terms of odds,  $B = .404$ , Wald  $\chi^2 (1) = 9.949, p = .002$ ,  $\exp(B) = 1.498$ . Females with parents or caretakers with substance use problems were 34% more likely compared to females without parents or caretakers with substance use problems to participate in vocational/ educational programs, in terms of odds,  $B = .293$ , Wald  $\chi^2 (1) = 4.162, p = .041$ ,  $\exp(B) = 1.341$ . The findings show that race, age, marital status, offense type, criminal history, educational

attainment, employment history, substance use history, mental illness, welfare receipt, sexual assault, intergenerational welfare, and intergenerational incarceration were not significantly associated with participation in vocational/ educational programs in prison (Table 8). Thus, the hypothesis was confirmed on one intergenerational variable as a predictor for participation in vocational/ educational programs. Having parents or caretakers with substance use problems was a predictor.

There was a significant prediction of participation in self-help programs in prison by seven predictors in this model,  $\chi^2(21, N=1,523) = 149.104, p < .001$ , Nagelkerke  $R^2 = .125$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2(3) = 2.508, p = .474$ , change in  $R^2 = .002$ . Females aged 25-55 were nearly two times as much as likely as females aged 18-24 to participate in self-help programs, in terms of odds,  $B = .547$ , Wald  $\chi^2(1) = 10.477, p = .001$ ,  $\exp(B) = 1.728$ . There was a significant difference on the likelihood of participating in self-help programs among the levels of years spent in prison at the time of the survey,  $\chi^2(2) = 21.799, p < .001$ . Females who have served one to two years in prison were 37% more likely than females who served less than one year to participate in self-help programs, in terms of odds,  $B = .316$ , Wald  $\chi^2(1) = 6.061, p = .014$ ,  $\exp(B) = 1.372$ . Additionally, females who have served three years or more in prison at the time of the survey were over twice as much as likely as females who served less than one year to participate in self-help programs, in terms of odds,  $B = .807$ , Wald  $\chi^2(1) = 21.531, p < .001$ ,  $\exp(B) = 2.242$ . Females who were rule infractors were 40% more likely as non-rule infractors to participate in self-help programs, in terms of odds,  $B = .334$ , Wald  $\chi^2(1) = 7.359, p = .007$ ,  $\exp(B) = 1.397$ . Females who were employed prior to their incarceration were 37% more likely to participate in self-help programs, in terms of odds,  $B = .317$ , Wald  $\chi^2(1) = 8.150, p = .004$ ,  $\exp(B) = 1.373$ . Females with mental

illness were 40% more likely to participate in self-help programs, in terms of odds,  $B = .333$ , Wald  $\chi^2 (1) = 7.767$ ,  $p = .005$ ,  $\exp(B) = 1.396$ . Females with children were 30% less likely than females without children to participate in self-help programs, in terms of odds,  $B = -.358$ , Wald  $\chi^2 (1) = 8.037$ ,  $p = .005$ ,  $\exp(B) = .699$ . Females who have a history of physical abuse were 41% more likely to participate in self-help programs, in terms of odds,  $B = .341$ , Wald  $\chi^2 (1) = 7.787$ ,  $p = .005$ ,  $\exp(B) = 1.406$ . The findings show that race, marital status, type of offense, criminal history, educational attainment, substance use history, welfare receipt, having a history of sexual assault, intergenerational welfare, intergenerational substance use, and intergenerational incarceration were not significantly associated with participation in self-help in prison (Table 8). Thus, the hypothesis was unconfirmed on any intergenerational characteristics as a predictor for participation in self-help programs.

There was a significant prediction of participation in prerelease programs in prison by four predictors in this model,  $\chi^2 (21, N=1,523) = 170.207$ ,  $p < .001$ , Nagelkerke  $R^2 = .143$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2 (3) = .983$ ,  $p = .805$ , change in  $R^2 = .001$ . There was a significant difference on the likelihood of participation in prerelease programs among the levels of years served in prison at the time of the survey,  $\chi^2 (2) = 69.843$ ,  $p < .001$ . Females who served one to two years in prison at the time of the survey were twice as much as likely as females who served less than one year to participate in prerelease programs, in terms of odds,  $B = .815$ , Wald  $\chi^2 (1) = 36.923$ ,  $p < .001$ ,  $\exp(B) = 2.259$ . Additionally, females who served three or more years in prison at the time of the survey were nearly four times as much as likely as females who served less than one year to participate in prerelease programs, in terms of odds,  $B = 1.372$ , Wald  $\chi^2 (1) = 64.000$ ,  $p < .001$ ,  $\exp(B) = 3.944$ . Females who commit rule infractions were 37% more likely to participate in prerelease

programs compared to those who have not committed rule infractions, in terms of odds,  $B = .312$ , Wald  $\chi^2 (1) = 6.201$ ,  $p = .013$ ,  $\exp(B) = 1.366$ . Females with mental illness were 40% more likely to participate in prerelease programs, in terms of odds,  $B = .332$ , Wald  $\chi^2 (1) = 7.432$ ,  $p = .006$ ,  $\exp(B) = 1.393$ . Females with a history of physical abuse were 30% more likely to participate in prerelease programs, in terms of odds,  $B = .263$ , Wald  $\chi^2 (1) = 4.392$ ,  $p = .036$ ,  $\exp(B) = 1.301$ . The findings show that race, age, marital status, offense type, criminal history, educational attainment, employment status, substance use history, having children, welfare receipt, history of sexual assault, intergenerational welfare, intergenerational substance use, and intergenerational incarceration were not significantly associated with participation in prerelease programs in prison (Table 8). Thus, the hypothesis was unconfirmed on any intergenerational characteristics as a predictor for participation in prerelease programs.

There was no significant prediction of participation in drug and alcohol programs in prison by this model,  $\chi^2 (21, N=491) = 25.119$ ,  $p = .242$ , Nagelkerke  $R^2 = .077$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2 (3) = .269$ ,  $p = .966$ , change in  $R^2 = .001$ . Females with a criminal history were two times less as likely as females without a criminal history to participate in drug and alcohol programs, in terms of odds,  $B = -.780$ , Wald  $\chi^2 (1) = 5.502$ ,  $p = .019$ ,  $\exp(B) = .458$ . The findings show that race, age, marital status, years served in prison at the time of the survey, offense type, infraction, educational attainment, employment, substance use history, mental illness, having children, welfare receipt, sexual assault history, physical abuse history, intergenerational welfare, intergenerational substance use, and intergenerational incarceration were not significantly associated with participation in drug and alcohol programs in prison (Table 8). Thus, the hypothesis was

unconfirmed on any intergenerational characteristic as a predictor for participation in drug and alcohol programs.

There was a significant prediction of participation in mental health programs in prison by four predictors in this model,  $\chi^2(21, N=679) = 118.535, p < .001$ , Nagelkerke  $R^2 = .218$ . This additional block of predictors did not significantly contribute to the overall model,  $\chi^2(3) = 3.364, p = .339$ , change in  $R^2 = .006$ . Females aged 25-55 compared to females aged 18-24 were two times as much as likely to participate in mental health programs, in terms of odds,  $B = .725$ , Wald  $\chi^2(1) = 7.092, p = .008, \exp(B) = 2.064$ . There was a significant difference on the likelihood of participation in mental health programs among the levels of years spent in prison at the time of the survey,  $\chi^2(2) = 34.530, p < .001$ . Females who served one to two years in prison at the time of the survey were over twice as much as likely as females who served less than one year, to participate in mental health programs, in terms of odds,  $B = .853$ , Wald  $\chi^2(1) = 16.731, p < .001, \exp(B) = 2.347$ . Additionally, females who served three or more years in prison at the time of the survey were nearly five times as much as likely as females who served less than one year in prison at the time of the survey to participate in mental health programs, in terms of odds,  $B = 1.575$ , Wald  $\chi^2(1) = 30.944, p < .001, \exp(B) = 4.832$ . Females who commit rule infractions were nearly 60% more likely than non-infractors to participate in mental health programs, in terms of odds,  $B = .453$ , Wald  $\chi^2(1) = 5.405, p = .020, \exp(B) = 1.574$ . Females with mental illness were twice as much as likely as females without mental illness to participate in mental health programs, in terms of odds,  $B = .699$ , Wald  $\chi^2(1) = 9.802, p = .002, \exp(B) = 2.012$ . The findings show that race, marital status, offense type, criminal history, educational attainment, employment status, substance use history, having children, welfare receipt, sexual assault history, physical abuse history, intergenerational welfare, intergenerational substance use, and

intergenerational incarceration were not significantly associated with participation in mental health programs in prison (Table 8). Thus, the hypothesis was unconfirmed on any intergenerational characteristics as a predictor for participation in mental health programs.

Table 8. Hierarchical logistic regression analysis of demographic, static and dynamic predictors, gender-responsive variables, and intergenerational variables on prison program participation (n = 1,523).

Independent variables	Religious		Visitation		Voc / Edu		Self-help		Prerelease		Drug and Alcohol <sup>b</sup>		Mental health <sup>c</sup>	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>														
Race-Black	1.82***	[1.38, 2.41]	0.50***	[0.39, 0.65]	1.10	[0.84, 1.45]	1.23	[0.95, 1.60]	0.94	[0.72, 1.23]	0.79	[0.46, 1.37]	0.85	[0.55, 1.31]
Race-Other	1.21	[0.83, 1.76]	0.53***	[0.37, 0.75]	1.18	[0.81, 1.72]	1.17	[0.81, 1.68]	1.31	[0.91, 1.89]	1.03	[0.46, 2.28]	0.85	[0.47, 1.44]
Age- 18-24 years <sup>a</sup>														
Age- 25-55	1.25	[0.89, 1.74]	0.80	[0.57, 1.11]	0.98	[0.69, 1.38]	1.73**	[1.24, 2.41]	0.84	[0.60, 1.18]	0.74	[0.33, 1.63]	2.06**	[1.21, 3.52]
Married (not married) <sup>a</sup>	1.49**	[1.15, 1.94]	1.03	[0.80, 1.32]	0.94	[0.73, 1.22]	1.21	[0.94, 1.56]	1.13	[0.87, 1.46]	1.20	[0.71, 2.03]	0.97	[0.65, 1.45]
Years served- less than 1 year <sup>a</sup>														
Years served- 1-2 years	0.87	[0.67, 1.14]	1.29	[1.00, 1.67]	2.44***	[1.88, 3.16]	1.37*	[1.07, 1.77]	2.26***	[1.74, 2.94]	1.50	[0.89, 2.54]	2.35***	[1.56, 3.53]
Years served- 3 or more	0.85	[0.60, 1.21]	1.66**	[1.18, 2.33]	4.87***	[3.45, 6.88]	2.24***	[1.59, 3.15]	3.94***	[2.82, 5.52]	1.82	[0.86, 3.83]	4.83***	[2.77, 8.42]
Type of offense (violent) <sup>a</sup>	0.96	[0.73, 1.27]	0.97	[0.75, 1.26]	0.81	[0.62, 1.05]	0.95	[0.73, 1.23]	1.16	[0.89, 1.50]	0.76	[0.41, 1.42]	0.82	[0.55, 1.24]
Rule infractions (none) <sup>a</sup>	0.82	[0.63, 1.05]	1.17	[0.91, 1.49]	1.69***	[1.32, 2.16]	1.40**	[1.10, 1.78]	1.37*	[1.07, 1.75]	1.17	[0.70, 1.95]	1.57*	[1.07, 2.31]
Criminal history (none) <sup>a</sup>	0.76*	[0.59, 0.97]	0.95	[0.76, 1.20]	0.89	[0.70, 1.13]	1.21	[0.96, 1.53]	0.98	[0.77, 1.24]	0.46*	[0.24, 0.88]	0.98	[0.67, 1.43]
Less than high school <sup>a</sup>														
High school	1.16	[0.81, 1.64]	1.23	[0.87, 1.74]	0.74	[0.52, 1.07]	0.78	[0.55, 1.11]	1.23	[0.86, 1.76]	1.89	[0.95, 3.75]	0.91	[0.52, 1.58]
More than high school	1.69*	[1.08, 2.63]	1.85**	[1.21, 2.84]	0.63	[0.40, 0.98]	1.06	[0.69, 1.63]	1.60*	[1.04, 2.47]	1.49	[0.65, 3.41]	0.83	[0.43, 1.62]
Employment (no) <sup>a</sup>	1.43*	[1.14, 1.80]	1.43**	[1.15, 1.78]	1.09	[0.87, 1.37]	1.37**	[1.11, 1.71]	1.13	[0.90, 4.41]	1.08	[0.68, 1.71]	1.00	[0.70, 1.42]
No substance use <sup>a</sup>	0.73	[0.45, 1.17]	1.18	[0.76, 1.84]	0.85	[0.54, 1.33]	0.84	[0.54, 1.31]	1.03	[0.66, 1.61]	0.99	[0.42, 2.36]	0.69	[0.35, 1.34]
Mental illness (no) <sup>a</sup>	0.82	[0.64, 1.05]	1.14	[0.90, 1.45]	0.91	[0.71, 1.16]	1.40**	[1.10, 1.77]	1.39**	[1.10, 1.77]	1.44	[0.87, 2.38]	2.01**	[1.30, 3.12]
Have children (no) <sup>a</sup>	1.01	[0.79, 1.31]	0.80	[0.62, 1.02]	0.72*	[0.56, 0.93]	0.70**	[0.55, 0.90]	0.90	[0.70, 1.15]	0.89	[0.52, 1.52]	0.80	[0.53, 1.19]
Welfare recipient (no) <sup>a</sup>	1.09	[0.80, 1.47]	0.95	[0.72, 1.27]	1.16	[0.86, 1.57]	0.95	[0.71, 1.28]	1.31	[0.98, 1.76]	0.99	[0.55, 1.79]	0.99	[0.61, 1.60]
Sexual assault history (none) <sup>a</sup>	1.56**	[1.21, 2.01]	0.79	[0.62, 1.01]	0.93	[0.72, 1.20]	1.23	[0.97, 1.56]	1.15	[0.86, 1.41]	1.18	[0.71, 1.95]	1.37	[0.95, 1.97]
Physical abuse history (none) <sup>a</sup>	1.05	[0.81, 1.35]	0.99	[0.78, 1.27]	1.50**	[1.17, 1.93]	1.41**	[1.11, 1.79]	1.30*	[1.02, 1.66]	0.81	[0.48, 1.37]	0.91	[0.62, 1.33]
Intergen. welfare (no) <sup>a</sup>	0.79	[0.60, 1.03]	1.02	[0.79, 1.32]	0.84	[0.64, 1.09]	0.91	[0.70, 1.17]	1.12	[0.87, 1.46]	1.08	[0.63, 1.85]	0.94	[0.62, 1.44]
Intergen. subst use (no) <sup>a</sup>	1.10	[0.83, 1.46]	0.96	[0.73, 1.25]	1.34*	[1.01, 1.78]	1.10	[0.84, 1.45]	0.94	[0.72, 1.24]	0.95	[0.54, 1.69]	1.27	[0.84, 1.91]
Intergen. incarceration (no) <sup>a</sup>	1.14	[0.85, 1.52]	1.03	[0.78, 1.35]	1.15	[0.86, 1.53]	1.17	[0.89, 1.54]	1.06	[0.80, 1.40]	1.13	[0.64, 1.97]	1.24	[0.81, 1.92]
Block $\chi^2$ (df)	3.72 (3)		0.119 (3)		7.078 (3)		2.51 (3)		0.98 (3)		0.27 (3)		3.36 (3)	
Nagelkerke R <sup>2</sup>	0.073		0.077		0.223		0.125		0.143		0.077		0.218	
$\Delta R^2$	0.004		0.000		0.006		0.002		0.001		0.001		0.006	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup>Reference category. <sup>b</sup>total participants in drug and alcohol = 491. <sup>c</sup>total participants in mental health = 679.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

#### **4.2.5 Final models**

Each of the seven dependent variables of prison program participation were tested in four different models to assess significant patterns of demographic, static and dynamic risk characteristics, gender-responsive characteristics, intergenerational characteristics, and overall explanation of variance.

The final models for prison programs were found in Model 4, which combined all four sequential blocks of variables types associated with program participation. For additional details, see Tables 10 through 17. However, models for Drug and Alcohol program participation encountered problems with model fit and specification (see Table 9 for additional detail). Here, each sequential block of variables did not significantly contribute to the model and overall model fit was poor. However, Nagelkerke  $R^2$  values continued to slightly increase and -2 Log likelihood values continued to decrease. Ultimately, for the Drug and Alcohol program, Model 4 was retained as the final model used in discussion.

Table 9. *Drug and Alcohol programs model specifications*

Variables	Block $\chi^2$	df	<i>p</i>	Model $\chi^2$	df	<i>p</i>	Hosmer-Lemeshow $\chi^2$	df	<i>p</i>	-2 Log likelihood	Negelkerke R <sup>2</sup>
Demographics	12.371	8	0.135	12.371	8	0.135	16.71	8	0.033	502.458	0.038
Static/dynamic characteristics	9.121	5	0.104	21.492	13	0.064	8.794	8	0.360	493.337	0.066
Gender-responsive characteristics	3.359	5	0.645	24.851	18	0.129	11.01	8	0.201	489.979	0.076
Intergenerational factors	0.269	3	0.966	25.119	21	0.242	12.661	8	0.124	489.710	0.077

*p* = .05

Table 10. Hierarchical logistic regression analysis for religious program participation (n= 1,523).

Independent variables	Model 1		Model 2		Model 3		Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>								
Race-Black	1.55**	[1.20, 2.01]	1.64**	[1.26, 2.13]	1.74***	[1.32, 2.29]	1.82***	[1.38, 2.41]
Race-Other	1.13	[0.78, 1.63]	1.22	[0.84, 1.76]	1.20	[0.83, 1.75]	1.21	[0.83, 1.76]
Age- 18-24 years <sup>a</sup>								
Age- 25-55	1.29	[0.94, 1.77]	1.28	[0.93, 1.76]	1.25	[0.90, 1.74]	1.25	[0.89, 1.74]
Married (not married) <sup>a</sup>	1.58***	[1.23, 2.02]	1.51**	[1.18, 1.95]	1.48**	[1.14, 1.93]	1.49**	[1.15, 1.94]
Years served- less than 1 year <sup>a</sup>								
Years served- 1-2 years	0.87	[0.67, 1.14]	0.87	[0.67, 1.13]	0.88	[0.67, 1.14]	0.87	[0.67, 1.14]
Years served- 3 or more	0.94	[0.67, 1.33]	0.90	[0.63, 1.27]	0.85	[0.60, 1.21]	0.85	[0.60, 1.21]
Type of offense (violent) <sup>a</sup>	0.86	[0.66, 1.12]	0.93	[0.71, 1.21]	0.96	[0.73, 1.26]	0.96	[0.73, 1.27]
Rule infractions (none) <sup>a</sup>	0.80	[0.62, 1.02]	0.83	[0.65, 1.07]	0.80	[0.63, 1.03]	0.82	[0.63, 1.05]
Block $\chi^2$ (df)	36.86 (8)***							
Criminal history (none) <sup>a</sup>			0.77*	[0.61, 0.98]	0.76**	[0.59, 0.97]	0.76*	[0.59, 0.97]
Less than high school <sup>a</sup>								
High school			1.13	[0.80, 1.60]	1.17	[0.82, 1.65]	1.16	[0.81, 1.64]
More than high school			1.63*	[1.05, 2.51]	1.70*	[1.10, 2.64]	1.69*	[1.08, 2.63]
Employment (no) <sup>a</sup>			1.42**	[1.13, 1.78]	1.43**	[1.14, 1.79]	1.43*	[1.14, 1.80]
No substance use <sup>a</sup>			0.73	[0.46, 1.18]	0.74	[0.46, 1.19]	0.73	[0.45, 1.17]
Block $\chi^2$ (df)			25.41 (5)***					
Mental illness (no) <sup>a</sup>					0.85	[0.67, 1.08]	0.82	[0.64, 1.05]
Have children (no) <sup>a</sup>					1.01	[0.78, 1.30]	1.01	[0.79, 1.31]
Welfare recipient (no) <sup>a</sup>					1.07	[0.79, 1.45]	1.09	[0.80, 1.47]
Sexual assault history (none) <sup>a</sup>					1.56**	[1.21, 2.02]	1.56**	[1.21, 2.01]
Physical abuse history (none) <sup>a</sup>					1.06	[0.83, 1.36]	1.05	[0.81, 1.35]
Block $\chi^2$ (df)					14.97 (5)**			
Intergen. welfare (no) <sup>a</sup>							0.79	[0.60, 1.03]
Intergen. subst use (no) <sup>a</sup>							1.10	[0.83, 1.46]
Intergen. incarceration (no) <sup>a</sup>							1.14	[0.85, 1.52]
Block $\chi^2$ (df)							3.72 (3)	
Nagelkerke R <sup>2</sup>	0.034		0.056		0.069		0.073	
-2 log likelihood	1858.209		1832.799		1817.825		1814.101	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup> Reference category

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 11. Hierarchical logistic regression analysis for visitation program participation (n = 1,523).

Independent variables	Model 1		Model 2		Model 3		Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>								
Race-Black	0.52***	[0.40, 0.66]	0.51***	[0.40, 0.66]	0.50***	[0.39, 0.65]	0.50***	[0.39, 0.65]
Race-Other	.050***	[0.35, 0.71]	0.53***	[0.37, 0.75]	0.53***	[0.37, 0.75]	0.53***	[0.37, 0.75]
Age- 18-24 years <sup>a</sup>								
Age- 25-55	0.76*	[0.55, 1.04]	0.74	[0.53, 1.02]	0.79	[0.57, 1.11]	0.80	[0.57, 1.11]
Married (not married) <sup>a</sup>	1.00	[0.79, 1.27]	0.97	[0.76, 1.23]	1.03	[0.80, 1.32]	1.03	[0.80, 1.32]
Years served- less than 1 year <sup>a</sup>								
Years served- 1-2 years	1.29*	[1.00, 1.66]	1.30*	[1.00, 1.67]	1.29*	[1.00, 1.67]	1.29	[1.00, 1.67]
Years served- 3 or more	1.62**	[1.17, 2.26]	1.61**	[1.15, 2.25]	1.66**	[1.18, 2.32]	1.66**	[1.18, 2.33]
Type of offense (violent) <sup>a</sup>	0.94	[0.73, 1.21]	0.98	[0.76, 1.27]	0.97	[0.74, 1.25]	0.97	[0.75, 1.26]
Rule infractions (none) <sup>a</sup>	1.11	[0.88, 1.41]	1.16	[0.91, 1.47]	1.17	[0.92, 1.49]	1.17	[0.91, 1.49]
Block $\chi^2$ (df)	55.67 (8)***							
Criminal history (none) <sup>a</sup>			0.94	[0.75, 1.18]	0.95	[0.76, 1.20]	0.95	[0.76, 1.20]
Less than high school <sup>a</sup>								
High school			1.26	[0.90, 1.77]	1.23	[0.88, 1.73]	1.23	[0.87, 1.74]
More than high school			1.91**	[1.25, 2.92]	1.85**	[1.21, 2.83]	1.85**	[1.21, 2.84]
Employment (no) <sup>a</sup>			1.43**	[1.15, 1.78]	1.43*	[1.15, 1.78]	1.43**	[1.15, 1.78]
No substance use <sup>a</sup>			1.19	[0.77, 1.83]	1.19	[0.77, 1.84]	1.18	[0.76, 1.84]
Block $\chi^2$ (df)			25.00 (5)***					
Mental illness (no) <sup>a</sup>					1.13	[0.90, 1.42]	1.14	[0.90, 1.45]
Have children (no) <sup>a</sup>					0.80	[0.62, 1.02]	0.80	[0.62, 1.02]
Welfare recipient (no) <sup>a</sup>					0.96	[0.72, 1.27]	0.95	[0.72, 1.27]
Sexual assault history (none) <sup>a</sup>					0.79	[0.62, 1.01]	0.79	[0.62, 1.01]
Physical abuse history (none) <sup>a</sup>					0.99	[0.78, 1.26]	0.99	[0.78, 1.27]
Block $\chi^2$ (df)					8.03 (5)			
Intergen. welfare (no) <sup>a</sup>							1.02	[0.79, 1.32]
Intergen. subst use (no) <sup>a</sup>							0.96	[0.73, 1.25]
Intergen. incarceration (no) <sup>a</sup>							1.03	[0.78, 1.35]
Block $\chi^2$ (df)							0.12 (3)	
Nagelkerke R <sup>2</sup>	0.049		0.070		0.077		0.077	
-2 log likelihood	1969.273		1944.278		1936.253		1936.134	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup> Reference category

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 12. Hierarchical logistic regression analysis for vocational/educational program participation (n = 1,523).

Independent variables	Model 1		Model 2		Model 3		Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>								
Race-Black	0.95	[0.74, 1.23]	0.98	[0.76, 1.27]	1.06	[0.81, 1.39]	1.10	[0.84, 1.45]
Race-Other	1.23	[0.85, 1.77]	1.21	[0.84, 1.76]	1.19	[0.82, 1.73]	1.18	[0.81, 1.72]
Age- 18-24 years <sup>a</sup>								
Age- 25-55	0.88	[0.63, 1.22]	0.90	[0.65, 1.25]	0.98	[0.69, 1.37]	0.98	[0.69, 1.38]
Married (not married) <sup>a</sup>	0.89	[0.69, 1.14]	0.89	[0.69, 1.14]	0.93	[0.72, 1.21]	0.94	[0.73, 1.22]
Years served- less than 1 year <sup>a</sup>								
Years served- 1-2 years	2.40***	[1.86, 3.10]	2.38***	[1.84, 3.07]	2.42***	[1.87, 3.13]	2.44***	[1.88, 3.16]
Years served- 3 or more	4.91***	[3.50, 6.88]	4.78***	[3.41, 6.72]	4.81***	[3.42, 6.79]	4.87***	[3.45, 6.88]
Type of offense (violent) <sup>a</sup>	0.76*	[0.59, 0.97]	0.76**	[0.89, 0.99]	0.80	[0.62, 1.04]	0.81	[0.62, 1.05]
Rule infractions (none) <sup>a</sup>	1.77***	[1.39, 2.23]	1.79***	[1.41, 2.28]	1.70***	[1.33, 2.17]	1.69***	[1.32, 2.16]
Block $\chi^2$ (df)	243.50 (8)***							
Criminal history (none) <sup>a</sup>			0.90	[0.71, 1.14]	0.90	[0.71, 1.14]	0.89	[0.70, 1.13]
Less than high school <sup>b</sup>								
High school			0.74	[0.51, 1.05]	0.74	[0.51, 1.06]	0.74	[0.52, 1.07]
More than high school			0.60	[0.39, 0.93]	0.61	[0.39, 0.94]	0.63	[0.40, 0.98]
Employment (no) <sup>a</sup>			1.08	[0.86, 1.35]	1.09	[0.87, 1.37]	1.09	[0.87, 1.37]
No substance use <sup>a</sup>			0.84	[0.54, 1.32]	0.87	[0.55, 1.37]	0.85	[0.54, 1.33]
Block $\chi^2$ (df)			6.41 (5)					
Mental illness (no) <sup>a</sup>					0.98	[0.77, 1.24]	0.91	[0.71, 1.16]
Have children (no) <sup>a</sup>					0.72*	[0.56, 0.93]	0.72*	[0.56, 0.93]
Welfare recipient (no) <sup>a</sup>					1.16	[0.86, 1.56]	1.16	[0.86, 1.57]
Sexual assault history (none) <sup>a</sup>					0.96	[0.74, 1.23]	0.93	[0.72, 1.20]
Physical abuse history (none) <sup>a</sup>					1.57***	[1.22, 2.01]	1.50**	[1.17, 1.93]
Block $\chi^2$ (df)					20.433 (5)**			
Intergen. welfare (no) <sup>a</sup>							0.84	[0.64, 1.09]
Intergen. subst use (no) <sup>a</sup>							1.34*	[1.01, 1.78]
Intergen. incarceration (no) <sup>a</sup>							1.15	[0.86, 1.53]
Block $\chi^2$ (df)							7.078 (3)	
Nagelkerke R <sup>2</sup>	0.198		0.202		0.217		0.223	
-2 log likelihood	1855.488		1849.075		1828.642		1821.564	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup> Reference category

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 13. Hierarchical logistic regression analysis for self-help program participation (n = 1,523).

Independent variables	Model 1		Model 2		Model 3		Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>								
Race-Black	0.97	[0.76, 1.23]	1.01	[0.79, 1.30]	1.21	[0.93, 1.56]	1.23	[0.95, 1.60]
Race-Other	1.08	[0.76, 1.54]	1.15	[0.80, 1.64]	1.17	[0.82, 1.69]	1.17	[0.81, 1.68]
Age- 18-24 years <sup>a</sup>								
Age- 25-55	1.59**	[1.17, 2.18]	1.55**	[1.13, 2.13]	1.71**	[1.23, 2.38]	1.73**	[1.24, 2.41]
Married (not married) <sup>a</sup>	1.17	[0.93, 1.49]	1.16	[0.91, 1.47]	1.20	[0.94, 1.55]	1.21	[0.94, 1.56]
Years served- less than 1 year <sup>a</sup>								
Years served- 1-2 years	1.34*	[1.05, 1.71]	1.34*	[1.05, 1.72]	1.37*	[1.07, 1.76]	1.37*	[1.07, 1.77]
Years served- 3 or more	2.24***	[1.61, 3.12]	2.29***	[1.64, 3.20]	2.23***	[1.59, 3.13]	2.24***	[1.59, 3.15]
Type of offense (violent) <sup>a</sup>	0.88	[0.68, 1.13]	0.86	[0.67, 1.11]	0.94	[0.72, 1.22]	0.95	[0.73, 1.23]
Rule infractions (none) <sup>a</sup>	1.54***	[1.22, 1.94]	1.55***	[1.23, 1.96]	1.40**	[1.10, 1.78]	1.40**	[1.10, 1.78]
Block $\chi^2$ (df)	88.43 (8)***							
Criminal history (none) <sup>a</sup>			1.26*	[1.01, 1.58]	1.22	[0.97, 1.54]	1.21	[0.96, 1.53]
Less than high school <sup>a</sup>								
High school			0.75	[0.53, 1.06]	0.77	[0.54, 1.10]	0.78	[0.55, 1.11]
More than high school			1.03	[0.68, 1.56]	1.04	[0.68, 1.58]	1.06	[0.69, 1.63]
Employment (no) <sup>a</sup>			1.33**	[1.08, 1.65]	1.37**	[1.10, 1.71]	1.37**	[1.11, 1.71]
No substance use <sup>a</sup>			0.83	[0.54, 1.29]	0.86	[0.55, 1.34]	0.84	[0.54, 1.31]
Block $\chi^2$ (df)			16.53 (5)**					
Mental illness (no) <sup>a</sup>					1.43**	[1.14, 1.80]	1.40**	[1.10, 1.77]
Have children (no) <sup>a</sup>					0.70**	[0.55, 0.89]	0.70**	[0.55, 0.90]
Welfare recipient (no) <sup>a</sup>					0.96	[0.71, 1.28]	0.95	[0.71, 1.28]
Sexual assault history (none) <sup>a</sup>					1.24	[0.98, 1.58]	1.23	[0.97, 1.56]
Physical abuse history (none) <sup>a</sup>					1.44**	[1.14, 1.83]	1.41**	[1.11, 1.79]
Block $\chi^2$ (df)					41.64 (5)***			
Intergen. welfare (no) <sup>a</sup>							0.91	[0.70, 1.17]
Intergen. subst use (no) <sup>a</sup>							1.10	[0.84, 1.45]
Intergen. incarceration (no) <sup>a</sup>							1.17	[0.89, 1.54]
Block $\chi^2$ (df)							2.51 (3)	
Nagelkerke R <sup>2</sup>	0.076		0.089		0.123		0.125	
-2 log likelihood	2003.655		1987.128		1945.490		1942.982	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup>Reference category

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 14. Hierarchical logistic regression analysis for prerelease program participation (n = 1,523).

Independent variables	Model 1		Model 2		Model 3		Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>								
Race-Black	0.86	[0.67, 1.11]	0.87	[0.68, 1.13]	0.96	[0.74, 1.25]	0.94	[0.72, 1.23]
Race-Other	1.27	[0.89, 1.82]	1.32	[0.92, 1.90]	1.32	[0.91, 1.90]	1.31	[0.91, 1.89]
Age- 18-24 years <sup>a</sup>								
Age- 25-55	0.83	[0.60, 1.14]	0.81	[0.58, 1.12]	0.83	[0.59, 1.15]	0.84	[0.60, 1.18]
Married (not married) <sup>a</sup>	1.14	[0.90, 1.46]	1.13	[0.88, 1.44]	1.12	[0.87, 1.45]	1.13	[0.87, 1.46]
Years served- less than 1 year <sup>a</sup>								
Years served- 1-2 years	2.17***	[1.68, 2.82]	2.20***	[1.70, 2.85]	2.25***	[1.73, 2.92]	2.26***	[1.74, 2.94]
Years served- 3 or more	3.89***	[2.80, 5.41]	3.93***	[2.82, 5.48]	3.90***	[2.79, 5.46]	3.94***	[2.82, 5.52]
Type of offense (violent) <sup>a</sup>	1.04	[0.81, 1.34]	1.06	[0.82, 1.37]	1.15	[0.88, 1.49]	1.16	[0.89, 1.50]
Rule infractions (none) <sup>a</sup>	1.48**	[1.17, 1.88]	1.49**	[1.17, 1.89]	1.38**	[1.09, 1.77]	1.37*	[1.07, 1.75]
Block $\chi^2$ (df)	141.47 (8)***							
Criminal history (none) <sup>a</sup>			1.00	[0.79, 1.26]	0.99	[0.78, 1.25]	0.98	[0.77, 1.24]
Less than high school <sup>a</sup>								
High school			1.15	[0.81, 1.64]	1.21	[0.85, 1.74]	1.23	[0.86, 1.76]
More than high school			1.48	[0.97, 2.26]	1.57	[1.02, 2.41]	1.60*	[1.04, 2.47]
Employment (no) <sup>a</sup>			1.08	[0.87, 1.35]	1.13	[0.90, 1.41]	1.13	[0.90, 1.41]
No substance use <sup>a</sup>			0.97	[0.62, 1.50]	1.04	[0.66, 1.62]	1.03	[0.66, 1.61]
Block $\chi^2$ (df)			4.64 (5)					
Mental illness (no) <sup>a</sup>					1.37**	[1.09, 1.72]	1.39**	[1.10, 1.77]
Have children (no) <sup>a</sup>					0.90	[0.70, 1.15]	0.90	[0.70, 1.15]
Welfare recipient (no) <sup>a</sup>					1.33	[1.00, 1.78]	1.31	[0.98, 1.76]
Sexual assault history (none) <sup>a</sup>					1.11	[0.87, 1.42]	1.15	[0.86, 1.41]
Physical abuse history (none) <sup>a</sup>					1.30*	[1.02, 1.66]	1.30*	[1.02, 1.66]
Block $\chi^2$ (df)					23.109 (5)***			
Intergen. welfare (no) <sup>a</sup>							1.12	[0.87, 1.46]
Intergen. subst use (no) <sup>a</sup>							0.94	[0.72, 1.24]
Intergen. incarceration (no) <sup>a</sup>							1.06	[0.80, 1.40]
Block $\chi^2$ (df)							0.98 (3)	
Nagelkerke R <sup>2</sup>	0.120		0.124		0.142		0.143	
-2 log likelihood	1902.541		1897.898		1874.789		1873.806	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup> Reference category

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 15. Hierarchical logistic regression analysis for drug and alcohol program participation (n = 491).

Independent variables	Model 1		Model 2		Model 3		Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>								
Race-Black	0.84	[0.50, 1.38]	0.79	[0.47, 1.32]	0.80	[0.47, 1.37]	0.79	[0.46, 1.37]
Race-Other	1.07	[0.50, 1.29]	1.00	[0.46, 2.20]	1.02	[0.46, 2.26]	1.03	[0.46, 2.28]
Age- 18-24 years <sup>a</sup>								
Age- 25-55	0.66	[0.31, 1.42]	0.68	[0.31, 1.48]	0.72	[0.33, 1.59]	0.74	[0.33, 1.63]
Married (not married) <sup>a</sup>	1.17	[0.72, 1.90]	1.16	[0.71, 1.90]	1.20	[0.71, 2.01]	1.20	[0.71, 2.03]
Years served- less than 1 year <sup>a</sup>								
Years served- 1-2 years	1.57	[0.95, 2.60]	1.47	[0.88, 2.44]	1.52	[0.91, 2.55]	1.50	[0.89, 2.54]
Years served- 3 or more	1.96	[0.95, 4.06]	1.82	[0.87, 3.80]	1.82	[0.86, 3.83]	1.82	[0.86, 3.83]
Type of offense (violent) <sup>a</sup>	0.69	[0.38, 1.27]	0.74	[0.40, 1.36]	0.75	[0.41, 1.40]	0.76	[0.41, 1.42]
Rule infractions (none) <sup>a</sup>	1.09	[0.67, 1.76]	1.19	[0.72, 1.95]	1.18	[0.71, 1.97]	1.17	[0.70, 1.95]
Block $\chi^2$ (df)	12.37 (8)							
Criminal history (none) <sup>a</sup>			0.46*	[0.24, 0.88]	0.47*	[0.24, 0.89]	0.46*	[0.24, 0.88]
Less than high school <sup>a</sup>								
High school			1.72	[0.88, 3.34]	1.84	[0.94, 3.62]	1.89	[0.95, 3.75]
More than high school			1.37	[0.61, 3.07]	1.44	[0.63, 3.27]	1.49	[0.65, 3.41]
Employment (no) <sup>a</sup>			1.06	[0.67, 1.67]	1.07	[0.68, 1.70]	1.08	[0.68, 1.71]
No substance use <sup>a</sup>			1.01	[0.44, 2.36]	1.01	[0.43, 2.39]	0.99	[0.42, 2.36]
Block $\chi^2$ (df)			9.12 (5)					
Mental illness (no) <sup>a</sup>					1.42	[0.88, 2.29]	1.44	[0.87, 2.38]
Have children (no) <sup>a</sup>					0.89	[0.52, 1.52]	0.89	[0.52, 1.52]
Welfare recipient (no) <sup>a</sup>					0.99	[0.55, 1.79]	0.99	[0.55, 1.79]
Sexual assault history (none) <sup>a</sup>					1.18	[0.72, 1.94]	1.18	[0.71, 1.95]
Physical abuse history (none) <sup>a</sup>					0.82	[0.49, 1.37]	0.81	[0.48, 1.37]
Block $\chi^2$ (df)					3.36 (5)			
Intergen. welfare (no) <sup>a</sup>							1.08	[0.63, 1.85]
Intergen. subst use (no) <sup>a</sup>							0.95	[0.54, 1.69]
Intergen. incarceration (no) <sup>a</sup>							1.13	[0.64, 1.97]
Block $\chi^2$ (df)							0.27 (3)	
Nagelkerke R <sup>2</sup>	0.038		0.066		0.076		0.077	
-2 log likelihood	502.458		493.337		489.979		489.710	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup> Reference category

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 16. Hierarchical logistic regression analysis for mental health program participation (n = 679).

Independent variables	Model 1		Model 2		Model 3		Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>								
Race-Black	0.80	[0.53, 1.19]	0.80	[0.54, 1.21]	0.85	[0.56, 1.29]	0.85	[0.55, 1.31]
Race-Other	0.82	[.48, 1.41]	0.80	[0.47, 1.38]	0.84	[0.48, 1.47]	0.85	[0.47, 1.44]
Age- 18-24 years <sup>a</sup>								
Age- 25-55	1.82*	[1.11, 2.99]	1.85*	[1.13, 3.5]	2.00*	[1.18, 3.38]	2.06**	[1.21, 3.52]
Married (not married) <sup>a</sup>	0.94	[0.64, 1.38]	0.94	[0.64, 1.39]	0.96	[0.64, 1.43]	0.97	[0.65, 1.45]
Years served- less than 1 year <sup>a</sup>								
Years served- 1-2 years	2.21***	[1.49, 3.29]	2.22***	[1.49, 3.31]	2.31***	[1.54, 3.47]	2.35***	[1.56, 3.53]
Years served- 3 or more	4.41***	[2.58, 7.53]	4.49***	[2.62, 7.69]	4.71***	[2.71, 8.16]	4.83***	[2.77, 8.42]
Type of offense (violent) <sup>a</sup>	0.81	[0.55, 1.20]	0.79	[0.53, 1.18]	0.80	[0.54, 1.21]	0.82	[0.55, 1.24]
Rule infractions (none) <sup>a</sup>	1.71**	[1.19, 2.47]	1.67**	[1.15, 2.42]	1.61*	[1.10, 2.35]	1.57*	[1.07, 2.31]
Block $\chi^2$ (df)	94.94 (8)***							
Criminal history (none) <sup>a</sup>			1.05	[0.72, 1.51]	1.01	[0.69, 1.48]	0.98	[0.67, 1.43]
Less than high school <sup>a</sup>								
High school			0.86	[0.51, 1.48]	0.86	[0.50, 1.49]	0.91	[0.52, 1.58]
More than high school			0.73	[0.39, 1.38]	0.77	[0.40, 1.48]	0.83	[0.43, 1.62]
Employment (no) <sup>a</sup>			0.94	[0.66, 1.32]	0.99	[0.69, 1.40]	1.00	[0.70, 1.42]
No substance use <sup>a</sup>			0.72	[0.37, 1.38]	0.71	[0.37, 1.39]	0.69	[0.35, 1.34]
Block $\chi^2$ (df)			2.54 (5)					
Mental illness (no) <sup>a</sup>					2.10**	[1.37, 3.21]	2.01**	[1.30, 3.12]
Have children (no) <sup>a</sup>					0.79	[0.53, 1.19]	0.80	[0.53, 1.19]
Welfare recipient (no) <sup>a</sup>					0.99	[0.61, 1.59]	0.99	[0.61, 1.60]
Sexual assault history (none) <sup>a</sup>					1.41	[0.98, 2.02]	1.37	[0.95, 1.97]
Physical abuse history (none) <sup>a</sup>					0.96	[0.65, 1.39]	0.91	[0.62, 1.33]
Block $\chi^2$ (df)					17.69 (5)**			
Intergen. welfare (no) <sup>a</sup>							0.94	[0.62, 1.44]
Intergen. subst use (no) <sup>a</sup>							1.27	[0.84, 1.91]
Intergen. incarceration (no) <sup>a</sup>							1.24	[0.81, 1.92]
Block $\chi^2$ (df)							3.36 (3)	
Nagelkerke R <sup>2</sup>	0.178		0.182		0.212		0.218	
-2 log likelihood	805.852		803.308		785.623		782.259	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup> Reference category

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 17. Hierarchical logistic regression final models for prison program participation (n = 1,532)

Independent variables	Religious		Visitation		Voc / Edu		Self-help		Prerelease		Drug and Alcohol <sup>b</sup>		Mental health <sup>c</sup>	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Race-White <sup>a</sup>														
Race-Black	1.82***	[1.38, 2.41]	0.50***	[0.39, 0.65]	1.10	[0.84, 1.45]	1.23	[0.95, 1.60]	0.94	[0.72, 1.23]	0.79	[0.46, 1.37]	0.85	[0.55, 1.31]
Race-Other	1.21	[0.83, 1.76]	0.53***	[0.37, 0.75]	1.18	[0.81, 1.72]	1.17	[0.81, 1.68]	1.31	[0.91, 1.89]	1.03	[0.46, 2.28]	0.85	[0.47, 1.44]
Age- 18-24 years <sup>a</sup>														
Age- 25-55	1.25	[0.89, 1.74]	0.80	[0.57, 1.11]	0.98	[0.69, 1.38]	1.73**	[1.24, 2.41]	0.84	[0.60, 1.18]	0.74	[0.33, 1.63]	2.06**	[1.21, 3.52]
Married (not married) <sup>a</sup>	1.49**	[1.15, 1.94]	1.03	[0.80, 1.32]	0.94	[0.73, 1.22]	1.21	[0.94, 1.56]	1.13	[0.87, 1.46]	1.20	[0.71, 2.03]	0.97	[0.65, 1.45]
Years served- less than 1 year <sup>a</sup>														
Years served- 1-2 years	0.87	[0.67, 1.14]	1.29	[1.00, 1.67]	2.44***	[1.88, 3.16]	1.37*	[1.07, 1.77]	2.26***	[1.74, 2.94]	1.50	[0.89, 2.54]	2.35***	[1.56, 3.53]
Years served- 3 or more	0.85	[0.60, 1.21]	1.66**	[1.18, 2.33]	4.87***	[3.45, 6.88]	2.24***	[1.59, 3.15]	3.94***	[2.82, 5.52]	1.82	[0.86, 3.83]	4.83***	[2.77, 8.42]
Type of offense (violent) <sup>a</sup>	0.96	[0.73, 1.27]	0.97	[0.75, 1.26]	0.81	[0.62, 1.05]	0.95	[0.73, 1.23]	1.16	[0.89, 1.50]	0.76	[0.41, 1.42]	0.82	[0.55, 1.24]
Rule infractions (none) <sup>a</sup>	0.82	[0.63, 1.05]	1.17	[0.91, 1.49]	1.69***	[1.32, 2.16]	1.40**	[1.10, 1.78]	1.37*	[1.07, 1.75]	1.17	[0.70, 1.95]	1.57*	[1.07, 2.31]
Criminal history (none) <sup>a</sup>	0.76*	[0.59, 0.97]	0.95	[0.76, 1.20]	0.89	[0.70, 1.13]	1.21	[0.96, 1.53]	0.98	[0.77, 1.24]	0.46*	[0.24, 0.88]	0.98	[0.67, 1.43]
Less than high school <sup>a</sup>														
High school	1.16	[0.81, 1.64]	1.23	[0.87, 1.74]	0.74	[0.52, 1.07]	0.78	[0.55, 1.11]	1.23	[0.86, 1.76]	1.89	[0.95, 3.75]	0.91	[0.52, 1.58]
More than high school	1.69*	[1.08, 2.63]	1.85**	[1.21, 2.84]	0.63	[0.40, 0.98]	1.06	[0.69, 1.63]	1.60*	[1.04, 2.47]	1.49	[0.65, 3.41]	0.83	[0.43, 1.62]
Employment (no) <sup>a</sup>	1.43*	[1.14, 1.80]	1.43**	[1.15, 1.78]	1.09	[0.87, 1.37]	1.37**	[1.11, 1.71]	1.13	[0.90, 4.41]	1.08	[0.68, 1.71]	1.00	[0.70, 1.42]
No substance use <sup>a</sup>	0.73	[0.45, 1.17]	1.18	[0.76, 1.84]	0.85	[0.54, 1.33]	0.84	[0.54, 1.31]	1.03	[0.66, 1.61]	0.99	[0.42, 2.36]	0.69	[0.35, 1.34]
Mental illness (no) <sup>a</sup>	0.82	[0.64, 1.05]	1.14	[0.90, 1.45]	0.91	[0.71, 1.16]	1.40**	[1.10, 1.77]	1.39**	[1.10, 1.77]	1.44	[0.87, 2.38]	2.01**	[1.30, 3.12]
Have children (no) <sup>a</sup>	1.01	[0.79, 1.31]	0.80	[0.62, 1.02]	0.72*	[0.56, 0.93]	0.70**	[0.55, 0.90]	0.90	[0.70, 1.15]	0.89	[0.52, 1.52]	0.80	[0.53, 1.19]
Welfare recipient (no) <sup>a</sup>	1.09	[0.80, 1.47]	0.95	[0.72, 1.27]	1.16	[0.86, 1.57]	0.95	[0.71, 1.28]	1.31	[0.98, 1.76]	0.99	[0.55, 1.79]	0.99	[0.61, 1.60]
Sexual assault history (none) <sup>a</sup>	1.56**	[1.21, 2.01]	0.79	[0.62, 1.01]	0.93	[0.72, 1.20]	1.23	[0.97, 1.56]	1.15	[0.86, 1.41]	1.18	[0.71, 1.95]	1.37	[0.95, 1.97]
Physical abuse history (none) <sup>a</sup>	1.05	[0.81, 1.35]	0.99	[0.78, 1.27]	1.50**	[1.17, 1.93]	1.41**	[1.11, 1.79]	1.30*	[1.02, 1.66]	0.81	[0.48, 1.37]	0.91	[0.62, 1.33]
Intergen. welfare (no) <sup>a</sup>	0.79	[0.60, 1.03]	1.02	[0.79, 1.32]	0.84	[0.64, 1.09]	0.91	[0.70, 1.17]	1.12	[0.87, 1.46]	1.08	[0.63, 1.85]	0.94	[0.62, 1.44]
Intergen. subst use (no) <sup>a</sup>	1.10	[0.83, 1.46]	0.96	[0.73, 1.25]	1.34*	[1.01, 1.78]	1.10	[0.84, 1.45]	0.94	[0.72, 1.24]	0.95	[0.54, 1.69]	1.27	[0.84, 1.91]
Intergen. incarceration (no) <sup>a</sup>	1.14	[0.85, 1.52]	1.03	[0.78, 1.35]	1.15	[0.86, 1.53]	1.17	[0.89, 1.54]	1.06	[0.80, 1.40]	1.13	[0.64, 1.97]	1.24	[0.81, 1.92]
Block $\chi^2$ (df)	3.72 (3)		0.119 (3)		7.078 (3)		2.51 (3)		0.98 (3)		0.27 (3)		3.36 (3)	
Nagelkerke R <sup>2</sup>	0.073		0.077		0.223		0.125		0.143		0.077		0.218	
$\Delta R^2$	0.004		0.000		0.006		0.002		0.001		0.001		0.006	

Note. OR = Odds Ratio; CI = Confidence Interval.

<sup>a</sup>Reference category. <sup>b</sup>total participants in drug and alcohol = 491. <sup>c</sup>total participants in mental health = 679.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

#### **4.2.6 Results summary**

This study examined associations between demographics, static and dynamic offender characteristics, gender-responsive characteristics, and intergenerational characteristics on prison program participation among a sample of female prisoners. In this study, primary outcome variables included seven types of participation in prison programs and a series of characteristics (independent variables) that were entered hierarchically into logistic regression models.

In the sample of female prisoners, 69% (n=1,045) responded affirmatively that she had participated in religious programs. Among religious program participants, the significant pattern of characteristics included being a Black female who has ever been married, did not have a criminal history (probation, parole or prior incarceration), had educational attainment beyond high school, was employed prior to their arrest, and who had a sexual assault history. It is notable that this is one of two prison programs where race was a significant predictor. In particular, Black females here were nearly two times more likely to participate in religious programs over White females, in terms of odds ratio.

In the sample of female prisoners, 62% (n=942) responded affirmatively that she had participated in visitation programs. Among visitation program participants, the significant characteristics included being White, more time served in prison at the time of the survey, having an educational attainment more than high school, and who were employed prior to their arrest.

In the sample of female prisoners, 46% (n=693) responded affirmatively that she had participated in vocational/ educational programs. Among vocational/ educational program participants, the significant characteristics included serving at least one year in prison at the time

of the survey, prison rule breaking, not having children, history of physical abuse, and having parents or caregivers with substance use problems.

In the sample of female prisoners, 56% (n=847) responded affirmatively that she had participated in self-help programs. Among self-help program participants, the significant characteristics included females aged 25-55, serving more than one year at the time of the survey, who were prison rule breakers, who were employed prior to incarceration, had a mental illness, did not have children, and had a history of physical abuse.

In the sample of female prisoners, 40% (n=602) responded affirmatively that she had participated in prerelease programs. Among prerelease program participants, the significant characteristics included females serving at least one year in prison at the time of the survey, who were prison rule breakers, had mental illness, and had a history of physical abuse.

In the sample of female prisoners, 25% (n=384) responded affirmatively that she had participated in drug and alcohol programs. However, a large percentage of females (68%) chose not to provide a response for drug and alcohol program participation. Among complete-cases analyses (n=591), one significant characteristic included females with no criminal history (i.e. any prior probation, parole, or incarceration). However, model fit was unsatisfactory between the predictors and program participation variable.

In the sample of female prisoners, 28% (n=422) responded affirmatively that she had participated in mental health programs. However, a large percentage of females (56%) chose not to provide a response for mental health program participation. Among complete-cases analyses (n=679), the significant characteristics included females aged 25-55 whose served at least one year in prison at the time of the survey, were prison rule breakers, and a history of mental illness.

Finally, explanation of variance in program participation was assessed. This study found that for females' participation in prison programs, 7% of the change in variance for religious program participation, nearly 8% of the change in variance for visitation program participation, 22% of the change in variance for vocational/ educational program participation, 12.5% of the change in variance for self-help program participation, 14% of the change in variance for prerelease program participation, 8% of the change in variance for drug and alcohol program participation, and 22% of the change in variance for mental health program participation was explained by various patterns of independent variables (offender characteristics) in the statistical models (see Table 18). These Pseudo-R<sup>2</sup> values imply a small to medium significant effect size. Given the nature of sociological inquiry on human behavior, these effects offer an opportunity for meaningful discussion and potential practice and policy implications dealing with female prisoners who have a range of capital deficits and present to the institution.

Table 18. *Nagelkerke Pseudo-R<sup>2</sup> across prison program participation*

Religious	Visitation	Voc/Edu	Self-help	Prerelease	Drug and Alcohol	Mental Health
7.3%	7.7%	22.3%	12.5%	14.3%	7.7%	21.8%

#### **4.2.7 Addendum to religious programs and self-help programs**

The presentation and organization of survey items in the codebook of the 2004 Survey of Inmates in State and Federal Correctional Facilities (SISFCF) informed the manner in which the dependent variable composites were created for this study. For example, the religious program participation variable is defined by one item “*Since your admission, have you participated in*

*religious services, private prayer or meditation, or Bible reading or studying?”* and self-help participation is defined by [five items](#). However, a separate series of post-hoc analyses were conducted with the consideration to recode and test a self-help program survey item as part of the religious program participation dependent variable, since the following self-help item could also be interpreted to be a religious program, *“Since your admission, have you joined or participated in a Bible club, or other religious study group (including Muslims)?”* The religious content of this self-help item warranted an examination for any changes in odds ratios.

Overall, magnitudes of odds ratios did not change dramatically and directionality remained consistent for significant associations between predictor variables and religious program participation. However, with the recoded religious program participation dependent variable, prior criminal history was no longer significantly associated with religious program participation, in terms of odds (Objective 2:  $B = -.203$ ,  $p = .117$ ,  $\exp(B) = .816$ ; Objective 3:  $B = -.234$ ,  $p = .076$ ,  $\exp(B) = .792$ ; Objective 4:  $B = -.239$ ,  $p = .070$ ,  $\exp(B) = .788$ ). This difference, however, is not viewed as an unusual outcome compared to the output stemming from the original coding of religious program participation. As later presented in [Chapter 5](#), the current pattern of participation among female prisoners in religious programs demonstrates a “strength-orientation” of the pattern of responses among female prisoners who participate in religious programs. In this post-hoc analysis, since criminal history is no longer significant, it may further support the interpretation of a need for strengths-orientation for those females who choose to participate in this type of program and also have no self-reported histories of prior probation, parole, or incarceration time.

As one self-help survey item was recoded for use in religious program participation, this necessitated a second series of analyses on a recoded composite for self-help program

participation. Overall, magnitudes of odds ratios did not change dramatically and directionality remained consistent for significant associations between predictor variables and self-help participation. With the recoded self-help program participation dependent variable, prior employment history (Objective 2:  $B = .051$ ,  $p = .648$ ,  $\exp(B) = 1.052$ ; Objective 3:  $B = .080$ ,  $p = .478$ ,  $\exp(B) = 1.084$ ; Objective 4:  $B = .082$ ,  $p = .468$ ,  $\exp(B) = 1.086$ ) and rule infraction (Objective 3:  $B = .171$ ,  $p = .172$ ,  $\exp(B) = 1.186$ ; Objective 4:  $B = .160$ ,  $p = .204$ ,  $\exp(B) = 1.174$ ) are no longer significantly associated with self-help program participation, in terms of odds. However, prior criminal history is significantly associated with self-help participation, in terms of odds (Objective 3:  $B = .436$ ,  $p < .001$ ,  $\exp(B) = 1.546$ ; Objective 4:  $B = .426$ ,  $p = .001$ ,  $\exp(B) = 1.531$ ). These differences are also not viewed as unusual outcomes compared to the output stemming from the original coding of self-help program participation. Consistent with the literature, self-help programs can be one modality where prisoners and ex-offenders are able to become [mentors or staff](#). Additionally, given high rates of [recidivism](#) among female prisoners, a significant association between prior criminal history and program participation can infer that repeated experiences with the criminal justice system potentially allows prisoners to be more aware of self-help program options. Finally, there is also consistency with the literature that self-help programs may be a more [flexible](#) program modality that may not exclude prisoner participation based on higher educational attainment level or prior rule infraction history.

## **5.0 CHAPTER 5**

### **5.1 DISCUSSION**

The completion of this study identified a number of compelling response patterns that have important applications to the field of social work. First, significant and unique combinations of gender-neutral and gender-responsive characteristics provide evidence for strengths-based perspectives that challenge prevailing deficit-based ones, particularly for prisoners who are religious program participants. Secondly, findings from religious program participants also prompts a discussion on the community ties for reentry and the social capital among faith-based institutions, such as the Black Church. Third, this study will discuss sexual assault and physical abuse characteristics which are significant in a number of prison program participants, but will also discuss the lack of gender-responsive characteristics in other participation patterns. Finally, a brief discussion is offered on the significant relationships between program participation, time served, and rule infraction.

#### **5.1.1 Advocate for strength-based perspectives**

A number of significant characteristics among religious program participants were demonstrably strengths-oriented. Among religious program participants, respondents were married at some time in their life, had no self-reported criminal history, attained more than a high school

education, had a history of employment prior to their arrest, and were survivors of sexual assault. Survivors of physical abuse and sexual assault were also found in vocational/ educational, self-help, and prerelease programs. However, often offenders are discussed as being aligned with antisocial values, antisocial peers, and antisocial thinking (Andrews et al., 2006; Latessa & Lowenkamp, 2005) which is informed by a history of studying offender risk characteristics.

The Risk-Need-Responsivity (RNR) model has served as a theoretical foundation for some of the most widely used risk and needs assessment instruments used among offenders and has been noted as the only theoretical model that has been used to interpret the offender treatment literature (Andrews, Bonta, & Wormith, 2011). However, despite its widespread adoption, some have criticized this model for its lack of attention to gendered influences (Hollin & Palmer, 2006; E. J. Salisbury, Van Voorhis, & Spiropoulos, 2008), its lack of strength-based focus by labeling of offenders as “disembodied bearers of risk,” and its general lack of attention to the promotion of leading good lives (Ward & Gannon, 2006; Ward, Mann, & Gannon, 2007).

RNR-informed programming identifies risk factors and then works to mitigate those risk factors, rather than promoting leading good lives. Other orientations to treatment may embrace the reduction of risk factors, but also incorporate those positive aspects of the prisoners’ character, resilience, and individual goals. One particular strength-oriented treatment approach is the Good Lives Model (GLM). The GLM was initially developed as a model for use with male sexual offenders (Ward et al., 2007; Ward & Stewart, 2003) and later extended to work with male violent offenders (Whitehead, Ward, & Collie, 2007) and male domestic violence perpetrators (Langlands, Ward, & Gilchrist, 2009). There is no current evidence that this has been used among female offenders. GLM addresses the issues of personal identity and human agency as an important part of one’s rehabilitation (Ward & Gannon, 2006; Ward et al., 2007). In

the Good Lives Model, one's criminogenic needs are not isolated as risk factors that must be addressed to reduce recidivism, but treated as barriers that challenge the individuals' acquisition of goals/outcomes. The Good Lives Model posits that an individual commits criminal offenses because he lacks the capacity to realize personally fulfilling outcomes in socially acceptable ways (Ward & Gannon, 2006; Ward et al., 2007).

This framework can complement RNR to explore what offenders seek through antisocial actions that had led to their arrest and incarceration. The GLM begins with an assessment of malleable risk factors that indicate a problem in the acquisition of goals. For example, having antisocial peers may indicate barriers in the acquisition of the social goods of community relatedness and friendships. In this case, having antisocial peers may warrant an intervention to help offenders obtain the required skills, cognition, and attitudes to form close prosocial friendships as an alternative (Ward et al., 2007). Another example stems from the GLM application to male sexual offenders. Ward and Gannon (2006) illustrated that among sexual offenders are an underlying goal to achieve intimacy in personal relationships. However, the lack of skills and antisocial cognitions may then misguide the individual to manipulate and control other persons. For some, GLM treatment can also include unpacking emotional loneliness or emotional regulation which addresses practical solutions for conflict resolution (Ward et al., 2007). The GLM approach recognizes the importance of context and the person-in-environment. While addressing risk and behavioral change, the GLM has a noted strengths-orientation that recognizes all humans have the capacity to reach personally satisfying goals to lead a good life. It is plausible that female offenders receiving treatment and programs within the prison could benefit from the complementary approach offered by the GLM. Females' pathways often include sexual assault, physical abuses, and impaired relationships with intimate partners and families.

Helping these women acknowledge their strength, their survival, and the opportunities to lead good lives based on personal goals to alter their pathways in crime may offer a strength-based alternative where there is almost none.

### **5.1.2 Plausible existing social capital networks for religious program participants**

The profile of religious program participants in this dissertation does not perpetrate ideas of individuals whose lives are wholly antisocial. Instead, the participants of religious programs present with more strength-oriented characteristics relative to participants in other prison programs. In addition, what makes the religious program profile unique is that it is the sole prison program with being Black as a significant characteristic—being a Black female in this program had higher odds of participating in religious programs compared to White females. Given the anticipated release of prisoners back into their communities, the emphasis of successful reentry programs, and the high rates of recidivism, bridging collaborative partnerships that leverage prison program participation into continued participation in community-based programs offers ex-offenders a means to reintegrate into their community post-release.

The Black Church is collectively recognized as those denominations whose congregations are predominately composed of Black members. There are seven historically recognized African American/Black denominations ("Historically African American Denominations," 2016):

- The African Methodist Episcopal Church
- The African Methodist Episcopal Zion Church
- The Christian Methodist Episcopal Church
- The Church of God in Christ
- Baptist churches
- United Methodist Church
- Presbyterian Church

Historically, the Black Church has been known to serve as a stable force bridging the Black community and the wider society. A distinguishing feature of the Black Church is the magnitude of its pervasive role in the lives of Black people (Douglas & Hopson, 2001; Du Bois, 1903). The Black Church has a long tradition of the promotion and provision of social, educational, and civic support for their congregation and neighboring communities (Brice & Hardy, 2015; Douglas & Hopson, 2001; Hardy, 2015; Hays, 2015; McRae, Thompson, & Cooper, 1999; Taylor & Chatters, 2010). Furthermore, the Church has been key in how it has addressed disenfranchisement, civil rights, and economic disadvantage that negatively impact Black/African American well-being (Plunkett, 2014; Taylor & Chatters, 2010). However, while the Black Church remains a resource of strength for the Black community, one should not infer that all Black churches share the same strategies and aspirations for the community. As some communities differ along sociodemographic lines, Black churches are also composed of persons from different economic levels, and maintained varying philosophies ("The Black Church, A brief history," 2013). As a reentry resource, the Black Church may serve as a viable bridge for released prisoners and a means to function within their communities (Wolff & Draine, 2004).

### **5.1.3 Gender-responsivity, sexual assault, and physical abuse histories**

In this dissertation, a number of gender-responsive characteristics were examined. Hypothesis 3 specifically gender-responsive variables for their contribution to the variance explained in prison program participation. Women with sexual assault histories were 56% more likely than women without sexual assault histories to participate in religious programs, in terms of odds. Among vocational/educational, self-help, and prerelease programs, histories of physical abuse were

significantly associated with higher odds of program participation. The association between abuse histories and the programs in which these females participate are plausible and logical.

First, the pattern of significant abuse histories is consistent with the literature. Abuse histories are often linked to the typology of the *battered woman* (Daly, 1992, 1994; B. Richie, 1996), as one who experiences victimization from violent partners which leads to criminal behavior. In Daly (1994), females reported their crimes as “fighting back against a violent intimate,” “firing a pistol at her boyfriend,” (p.55), and partaking in economically-motivated crimes (e.g. larceny, shoplifting). In Daly (1992, 1994), Richie (1996), and Wesley (2006), violence among some females has been used as a form of resistance against an abusive intimate and as a response to cumulative victimization.

Thus, for prisoners who are survivors of abuse, participation in programs that engage the women into skill-building and work-focused programs during the critical prerelease and reentry period may offer a set of marketable skills for these women upon release. Participation in these programs may serve as vehicles to challenge their economic marginalization upon release to combat the very restrictions of access to resources, economic power, and social capital that are familiar outside the institution’s wall.

#### **5.1.4 Disparity between prisoner need and choice to participate**

Across Hypothesis 2 and hypothesis 3, the two hypotheses which housed the pertinent risk and need factors among prisoners, it was found that there were disparities between the prisoner characteristic and their choice to participate in prison programs. Among females, whose pathways into crime demonstrate myriad needs, it was anticipated that more gender-responsive variables would be found significantly associated with prison programs, in particular drug and

alcohol and mental health programs. However, while females with mental illness were associated with higher odds of participating in a mental health programs, other patterns in the study leave further questions on why prisoners may not choose to participate in available prison programs. For example, there is a lack of significant association among female prisoners who present with substance use issues with drug and alcohol programs, or low educational attainment with educational programs.

Some have questioned whether correctional institutions are the appropriate venue for services and treatment. The prison institution is dually charged with the responsibilities to punish but also provide rehabilitation services for their inmates, but the incompatibility of these roles are noted when an attempt to expand a service segment is perceived to disrupt the equilibrium of the custody role (Giallombardo, 1966). For example, there may be groups of prisoners who have higher human capital characteristics (e.g. higher educational attainment pre-incarceration) for whom prison resources do not meet the more sophisticated needs among those characteristics due to lack of available programs (C. Rose, 2004). Alternatively, there may be groups of prisoners with greater human capital deficits which also do not have available programming within the prison.

One possible explanation for the lack of these relationships in drug and alcohol and mental health programs may lie in the loss of information stemming from the large amount of nonresponse in these two variables. In this study, among program participation on drug and alcohol programs, 68% of cases had missing responses, and among program participation on mental health programs, 55% of cases had missing responses. Chi-square analyses on complete cases and incomplete cases for respondents of drug and alcohol program revealed significant group differences on many predictor variables. However, these differences were deemed weak and negligible as  $\phi$  values remained less than  $< .20$ . Chi-square analyses on complete cases and

incomplete cases for respondents of mental health programs also revealed significant group differences on many predictor variables. However, while a number of these differences also reported  $\phi$  values less than  $< .24$ , indicating weak associations, chi-square tests between responders and complete cases for sexual assault history and mental illness diagnoses produced values of phi that infer a moderate and strong association of the difference (see Tables 19-20). As the program analyses only utilized complete-cases, many non-responders of mental health programs contained a considerable loss of information on capital deficits. Perhaps then, the lack of some anticipated significant associations between key female prisoner characteristics is demonstrative of the self-reporting behavior patterns of some female prisoners.

Table 19. *Mental Health program nonresponders and complete cases by mental illness*

Mental illness diagnoses		Mental Health program	
		Nonresponder	Complete cases
None	Count	681	132
	% within Mental Health	80.7%	19.4%
	% of Total	44.7%	8.7%
Yes	Count	163	547
	% within Mental Health	19.3%	80.6%
	% of Total	10.7%	35.9%
Total		844	679
% within Mental Health		100.0%	100.0%
% of Total		55.4%	44.6%

$\phi = .61$

Table 20. *Mental Health program nonresponders and complete cases by sexual assault history*

Sexual assault history		Mental Health program	
		Nonresponder	Complete cases
None	Count	594	265
	% within Mental Health	70.4%	39.0%
	% of Total	39.0%	17.4%
Yes	Count	250	414
	% within Mental Health	29.6%	61.0%
	% of Total	16.4%	27.2%
Total		844	679
% within Mental Health		100.0%	100.0%
% of Total		55.4%	44.6%

$\phi = .31$

### **5.1.5 Program participation associated with longer time served and rule infraction**

This study also demonstrated a consistency between females' longer number of years served at the time of the survey and higher odds in program participation for visitation, vocational/educational, self-help, prerelease, and mental health programs. This relationship can be partially inferred by studies arguing that prison settings have a powerful role in how women perceive the rehabilitative environment (Bloom, Owen, & Covington, 2003). Gender-responsive scholars affirm women's perceptions of staff characteristics, environmental context, and relationships in a correction setting are key to promoting a sense of physical and psychological safety for females (Bloom et al., 2003). With longer stays within the prison, females are presented with some adjustment to the environment which could allow increased program participation and a feeling of more control over their environment (Kruttschnitt, Gartner, & Miller, 2000). In Kruttschnitt (2000), women aged in their 30s, which is also the mean age of this dissertation, consistently seemed more comfortable with prison life and were more positive about the prison experience (Kruttschnitt et al., 2000). Inmates in her study who had served several years had shared in their interviews that they had developed ways to "keep themselves busy to make the time pass" (Kruttschnitt, et al., 2000, p.700). Other studies also allude to the prison environment and that those who have been in prison longer may have learned that the environment is not dangerous or have learned ways to cope with the environment to make it less dangerous (Doris Layton MacKenzie, Robinson, & Campbell, 1989). However, for newer inmates the prison environment may actually be dangerous, particularly one who has not developed a network of peers (Doris Layton MacKenzie et al., 1989).

However, what remains less clear are the reasons for why higher rule infraction is associated with program participation. Existing studies suggest that rule infraction does limit or impede program participation. This implies that some programs serve as privileges which can be removed due to rule infraction. What can be inferred from this study is that these variables are associated with longer times served and increased odds in program participation. However, without causality or the measurement of time as a variable it is unknown what may explain this phenomenon. Perhaps for female prisoners, rule infraction also can serve as a measure of the females' adjustment to the policies and practices of prisons which are historically male-oriented (Chesney-Lind, 2006). It is plausible, then, that female prisoners may be more challenged to adjust to the prison environment making them more likely to commit rule infractions. However, results in my study show more program participation is associated with increased rule infraction in vocational/ educational, self-help, prerelease, and mental health programs. This finding is more consistent with rule infraction serving as an indicator of maladjustment to confinement which can warrant referrals into programs. One study found longer-term female prisoners exhibiting more difficulty with institutional infractions thereby needing more specialized interventions compared to short-term inmates (Thompson & Loper, 2005). Beyond these prisoner-focused studies of rule infraction, other studies, have suggested that rule infraction is more of a measure of correctional officer discretion (Cao et al., 1997; O'Hear, 2011). In Clear and Sumter (2002) rule infractions were explained to be dependent not only on the action of the inmates, but on the action of the corrections officers. These conflicting findings alert the need to unpack the nuances of rule infraction and also take into account sensitivities to management styles within prisons (Clear & Sumter, 2002).

## 5.2 LIMITATIONS

The following limitations may have impacted the final results of this study. First, the use of official data has its own limitations, such as reporting bias of prisoners who may seek to negatively depict prison situations and use surveys as a mechanism to do so, the inability for researchers to ascertain institutional differences that may impact program participation and rule infraction such as crowding conditions, or relevant administrative information such as staffing patterns.

Secondly, some variables did not provide high utility for this study. For example, some variables had many missing responses which could influence subsequent analyses. Nearly all health-related, chronic condition variables had very high percentages of incomplete data. These variables, though of interest, were excluded from post-hoc analyses. Likewise, knowing whether a female prisoner is serving a life sentence or whether she had children would have been useful information, yet there were too many missing responses to incorporate these variables into the analysis. More importantly, the loss of information from the complete case analysis of the drug and alcohol and mental health program participants may have contributed to much loss of information about those participants (Allison, 2001; Little, 1992). While a complete case analysis serves as a useful baseline for comparisons, other means to incorporate the incomplete cases should be pursued (Little, 1992).

Third, this study cannot produce the details that may be found in qualitative studies. For example, despite noting that 62% of females participated in visitation programs, one must consider that visitation itself does not specify the difference between those prisoners with potential visitors who do not visit compared to those prisoners who do not have anyone from whom a visit would be expected. There is potentially a greater impact on those prisoners who

have peers or family that he or she anticipated to come for a visit to the prison, but never visit. Conversely, those who are already socially isolated and not anticipating visitations, may not be at risk for additional stressors impacting rule infraction since they are not waiting for anyone to call or visit in-person. Research also finds that prison visitation is an involved and resource-intensive process for the family and friends of prisoners. Studies report that often more than half of prisoners do not receive in-person visits (Casey-Acevedo et al., 2004; Cochran, 2012; Mumola, 2000). A visit to the prison, particularly given the income status of many incarcerated families, can be difficult due to the geographic hurdles of prison location (Carlson & Cervera, 1991; Casey-Acevedo et al., 2004; Christian, 2005) which is not captured in some types of quantitative data.

Fourth, as this study is of a cross-sectional design, while it allows researchers to examine variation among variables at a single point in time, cross-sectional designs create a limitation in interpretation for any directionality or causality. However, it was an appropriate design selected for this study which was primarily interested in examining associations among characteristics. As an initial and exploratory study, its findings have provided some potential avenues for future research using different research methodology.

Fifth, weights were not applied to the analysis. As responses from surveys come from a sample of the population, in this case a sample from a population of prisons and prisoners across the country, estimates may differ from a complete census using the same survey tools and procedures. The accuracy of estimates depends on sampling and nonsampling errors where the extent of nonsampling error is largely unknown. The SISFC calculated five estimates based on the responses of the interviewed inmates to produce a degree of sampling error. A final weight was also provided to be used on responses from the interviewed inmates. However, this study did

not incorporate the weighting variable into the analyses due to a concern over the complexity of the analysis (Kish, 1990).

Finally, there are limitations to the interpretations of results stemming from the choice of statistical analysis. While logistic regression was utilized due to the binary characteristic of the dependent variables and the theoretical importance of entering predictor variables hierarchically, and results are interpretable, there are some limitations on the binary nature of the dependent variables. First, some of the complexity is lost if variables are retained dichotomously instead of as a count variable. Also, there is a noted conceptual difference between the type of “No” responses that may have influenced the findings. For example, “No” could infer that the prisoner had the option to participate and chose to not participate. However, “No” could also infer that the prisoner was “Ineligible” and that the program in question was not an option for the prisoner to consider at all. The difference between the “No” as a choice and as ineligibility is not discernible in the present analyses. An alternative analysis in a zero-inflated Poisson regression may provide a way to retain the dependent variables as a count as well as statistically determine the distinction between true non-participants and those ineligible to participate.

## **5.3 IMPLICATIONS**

### **5.3.1 Implications for Future Research**

This study’s findings address a number of issues relevant to the study of female prisoners, gendered pathways, prison program participation, and reentry, within the field of social work.

This study had a keen interest focused on the pathways of female prisoners, their gendered

characteristics, and prison program participation. Findings from this study may serve as the initial investigation to a number of possible avenues in the field of social work for future research that examines the complexities of these key concepts.

### **5.3.1.1 More closely examine the role of race**

For racial minority women, race, class, and gender represent the three systems that most heavily affect them (Collins, 2009). This study found two significant instances where race had a significant association with prison programs: Black females in religious programs, and White females in visitation programs. One area of future research is to more closely examine racial disparities by stratifying the sample by race, and examining whether there are differences in magnitude or directionality in Odds Ratios.

Secondly, for oppressed populations, future studies using an intersectional framework can involve more than the sum of the specific parts of disadvantage and reflect the multiplicative nature of the intersecting oppressions (Collins, 2009). Engaging in scholarship that utilizes an intersectional framework can redefine relationships between demographics and inequality to examine the influences of race, class, and gender that shape female experience. There are varying styles by which scholars may employ the use of intersectionality (Choo & Ferree, 2010; McCall, 2005). First is the expression of intersectionality by focusing on the inclusion of the experiences among subjects' who reside within marginalized groups (Choo & Ferree, 2010). Also referred to as *intracategorical complexity*, scholars using this approach often focus their studies on boundary-making and grouping processes for those positioned at neglected points of intersection to reveal the complexities of living within such groupings (McCall, 2005). For example, in this dissertation study, there were 1,045 total participants in religious programs. Among these 1,045 women, 562 were White only, 373 were Black only, and 110 were another

Race. Among these women, 478 had a mental illness. However, post-hoc descriptive analyses notes that there were 138 Black women with a mental illness. Given this intersectional distinction, future studies can emerge to examine how the clustering of multiple identities potentially informs the participation of prison programs.

Second, the practice of intersectionality also includes the analytic interaction effect (Choo & Ferree, 2010). Here, an analytic shift occurs where scholars move away from additions of independent variables to a multiplication, thus transforming main effects into interactions (Choo & Ferree, 2010). In this approach, exploratory analyses could present race as a potential interaction variable in which a series of interaction terms could be used to explore the potential role of race in the examination of racial disproportionality and racial inequality lines of inquiry.

### **5.3.1.2 Explore role of religious congregations as a vehicle of social capital**

Reentry among released prisoners has already been examined in the context of one's faith. For example, among females, one qualitative study examined the coping strategies of women inmates concerning their release from confinement, it was found that one's use of prayer along with education and 12-step programs were coping strategies to deal with the obstacles of housing, employment, familial reintegration, and substance abuse (Severance, 2004). In another study, Bakken, DeCamp, and Visser (2014) found that higher levels of spirituality among male prisoners indicated a greater chance of desisting from alcohol and cocaine use after release from prison. The primacy of the role of faith-based institutions provides an important link for ongoing inquiry into the experience of female prisoners and the opportunities presented by community-based faith services. For many African Americans and Blacks, the primacy of the Black Church in their lives serves as a critical source for social capital in the form of support and services within their congregations.

In light of the significant association between being a Black female and a participant in religious prison programs, future research should continue to examine the relationship between gender, race, reentry, and religion. Future research that engages congregations within churches can examine the role the church plays during early engagement with female prisoners and through to transition into the community. Research may also examine the resources currently leveraged among congregation members to sustain their role as advocate and social service center within the community. The relationship among gender, race, and religious participation may draw upon the existing literature on the church, spirituality, and the higher rates of religious involvement among Blacks and African Americans (Chatters, Taylor, Bullard, & Jackson, 2009; Taylor & Chatters, 2010; Taylor, Chatters, & Jackson, 2009). Studies have demonstrated that being Black, married, and educated are associated with religion and spirituality (Taylor & Chatters, 2010). In Taylor and Chatters (2010), 93% of African American women reported that both religion and spirituality were important aspects in their daily lives. Additionally, persons with higher levels of education were more likely to support the role of spirituality in their lives (Taylor & Chatters, 2010). Furthermore, for some, the Black Church is the preferred choice for mental health services (Hays, 2015). Studies that assess spiritual history may account for an individual's religious and spiritual life, her practices and beliefs, and the social, personal, and intrapsychic resources that the individual identifies as being important (McRae et al., 1999; Plunkett, 2014).

### **5.3.1.3 Explore intergenerational substance abuse**

The extant literature has informed of the association of intergenerational involvement with criminal justice (Bethencourt & Kunze, 2014; Felson & Lane, 2009; M. S. Granovetter, 1973; Mallicoat, 2011; Thornberry et al., 2003). However, there was only one significant

intergenerational factor found among all dependent variables in my study. Having a parent or caregiver with a substance use problem was significantly associated with participation in vocational/ educational programs. One opportunity to further explore this influence can be accomplished via qualitative research methods that can inquire about the nuances within the relationship between the female and her parents or caregivers. Another opportunity to research these key variables is examining the relationship between current substance use, intergenerational substance use, and participation in drug and alcohol programs. Given the inadequate model specification for participation in drug and alcohol programs in my dissertation, it is unclear whether there is a relationship. Future research could identify a better specified model of the relationships among substance use.

#### **5.3.1.4 Reentry policy analyses on female prisoners**

Finally, rigorous evaluations of policies can provide empirical support on what works for female prisoners. For example, future research may re-examine the influence of the War on Drugs on a new generation of female offenders. Despite the discussion of the role that the War on Drugs had on increasing the number of total females in corrections, the majority within this study sample were not sentenced during the 1980s-1990s. In this study, the average time served among female prisoners from admission to the time of the survey administration was under two years and the majority of the sample had served less than three years in prison. This future research opportunity would offer a nuanced take on the changing understanding of drug-involved offenders and perhaps a new pathway into crime among recent female detainees.

Studies examining reentry success can also promote further understanding of the needs presented by this prisoner population. At the federal level, one of the most prominent policies associated with criminal justice is the Second Chance Act which was signed into law in 2008 to

reduce recidivism via expanded services to offenders and their families for reentry into society such as jobs, housing, substance abuse/ mental health treatment, and families (*Second Chance Act*, 2016). Most recently, the U.S. Justice Department announced in October 2015 that \$53 million in grants to reduce recidivism among adults and youth would be awarded to 45 jurisdictions (*Justice Department announces \$53 million in grant awards to reduce revidivism among adults and youth*, 2016).

Treatment needs among prisoners can also serve as viable evaluation opportunities, particularly when they are mandated by policy. A report by the Urban Institute also highlighted a number of state-level policy changes aimed at mental health centers or the evaluation and processing of defendants with mental illness (Kim, Becker-Cohen, & Serakos, 2015). For example, in Arizona, a House Bill instituted standards for the design and training to establish mental health courts in the state. Other states such as South Dakota, Oklahoma, and North Dakota updated policies with regard to clinical assessments, whether it was for the training of magistrate and circuit court judges, assessments conducted at the initial court appearance. Also, a number of states also enacted bills in the areas of probation and parole for offenders sentenced directly to probation or were released to probation or parole following a period of incarceration. For example, in Montana, their House Bill 68 creates a pilot reentry task force and requires the state Department of Corrections to consult with the task force to develop contracts with community-based organizations that provide mental health services to ex-offenders.

Finally, the rise of paternal neoliberalism and its presence of a racialized, gendered, and bifurcated system of surveillance between welfare for women and criminal justice for men (Soss, Fording, & Schram, 2011) seems to partially explain why being a welfare recipient was not significantly associated in any of the models of program participation. After all, as noted by

Worrall in 1990, “criminality is still assumed to be a masculine attribute and women criminals are therefore perceived to be either ‘not women’ or ‘not criminals’” (as cited in Wesley, 2006, p. 31). Studies that further examine the associations between welfare recipients and criminal justice-involved individuals may offer additional insight into how various systems manage their subjects.

### **5.3.2 Implications for Social Work Practice in the Field of Criminal Justice**

Given the context of the new penology which seeks to manage groups deemed unruly through the deployment of surveillance and control tactics, this dissertation sought to encourage the thinking of researchers and practitioners to revive the traditional concerns of criminology and social work that focus on the relationship between the individual and communities, causes and correlates of behavior, and the search for interventions that decrease deviant behavior.

Social work’s representation in criminal justice practices, proceedings, and research is needed to influence policy changes. For example, knowledge in areas such as females’ unique pathways to crime (Brennan et al., 2012; Daly, 1992, 1994; B. Richie, 1996; Simpson & Herz, 2006) and the distinctly female risk factors is essential to the design and administration of programs. Social workers are needed to work successfully with a population whose pathways into the criminal justice system may not resemble any experience germane to a prison professional’s personal life.

Social work practices are founded on a strengths-based approach to working with individuals, communities, and organizations. Social workers are uniquely skilled at collectively examining the person-in-environment relationship and recognizing the multidimensional nature of these interactions. For example, the strengths-based approach to case management with people

with severe mental illness is well established (Saleeb, 1996), and there remains an opportunity to examine participation in prison programs, characteristics of offenders, and the larger implication with reentry and the transition back to community life through a strengths-based approach. Supporters of the Good Lives Model (GLM) contradict the RNR model which argues that the primary reduction of criminogenic needs will enhance personal fulfillment. The GLM potentially could align these women with their strengths as a means to identify goals that are personally satisfying and can reduce criminal options.

Finally, social workers have historically played prominent roles in public and private health care arenas as one of the largest groups of professional mental health and substance use service providers (CSWE, 2014; *Testimony of Elizabeth J. Clark, PhD, ACSW, MPH, Executive Director, National Association of Social Workers*, 2002). This study's findings can bring heightened attention to new social workers in training and current providers working within these specialized services in the institution and among community providers that are accessible to these women. The final models in this study demonstrated the bleak circumstances of many of the female prisoners in terms of lengthy stays in prison, histories of sexual assault, physical abuse, and others. These are also areas of profound need among prisoners and research suggests the criminalization of substance use, mental illness, and disparate pathways of these women. For social workers, establishing a distinct role in the criminal justice system allows them to continue in their mission of advocating for vulnerable populations such as female prisoners.

## 5.4 CONCLUSIONS

“How do women in prison do time?” has been a question asked among researchers studying women, crime, and criminology. This study aimed to investigate the participation of female prisoners in prison programs and the characteristics among these women. Based upon the findings, this study has enriched the existing body of literature by challenging the appropriateness of prison as a place of confinement for female populations. This study challenged a prevailing deficit-based approach to presenting prisoner populations and highlights some important strength-base attributes of the women in this study including areas of higher educational attainment and holding employment prior to their incarceration. Finally, this study demonstrates, in a similar tradition of pathways research, the bleakness of capital deficits among female prisoners, as well as the presence of sexual assault histories and physical abuse histories across participants. One cannot acknowledge the primacy of gender by couching it as secondary to principles of need and risk (Hannah-Moffat, 2006). As a result, standard risk assessment tools minimize the interlocking role of gender by dichotomizing needs in oppositions to male normative standards (Hannah-Moffat, 2006). This results in a failure to examine gender operating in all contexts of a females’ lived experience. Thus, gendered needs should be recognized as a true risk factor, associated with recidivism, and has meaningful targets that can be addressed through prison programming (Fortin, 2004; Hannah-Moffat, 2006).

## **APPENDIX A**

### **RELEVANT ITEMS FROM THE 2004 SURVEY OF INMATES IN STATE AND FEDERAL CORRECTIONAL FACILITIES**

The following survey questions were used to create the dependent variable measures of program participation in religious, visitation, vocational/educational, self-help, prerelease, drug and alcohol, and mental health programs.

#### **Religious**

- Religious services, private prayer or meditation, or Bible reading or studying.

#### **Visitation**

- How many telephone calls have you made or received? Do not include calls to or from a lawyer.
- Have you had any visits, not counting visits from lawyers?

#### **Vocational/ educational**

- Have you ever been in any vocational or job-training program, excluding prison work assignments?
- Have you ever been in any other education program? Exclude vocational training.
- What kind of program was that - basic classes up to the 9th grade?
- What kind of program was that - high school classes to get a diploma or GED?
- What kind of program was that - college level classes?
- What kind of program was that - English as a second language?

**Self-help**

- Have you joined or participated in - A Bible club or other religious study group (including Muslims)?
- Have you joined or participated in - An ethnic/racial organization (for example, NAACP, African American or Black Culture Group, Hispanic Committee, Aztlan, or Lakota)?
- Have you joined or participated in - Inmate assistance groups (for example, inmate liaison, advisory, or worker's councils) or inmate counseling groups?
- Have you joined or participated in Other inmate self-help/personal improvement groups, for example, Toastmasters, Jaycees, Gavel club, veterans club, or parents awareness groups?
- Have you [attended/been in/used] Self-help group or peer group counseling, such as Alcoholics Anonymous, Narcotics Anonymous, Cocaine Anonymous?

**Prerelease**

- Have you joined or participated in Employment counseling (including how to find a job, interviewing skills)?
- Have you joined or participated in Classes in parenting or child rearing skills?
- Have you joined or participated in Classes in life skills and community adjustment (including anger management, conflict resolution, personal finance, etc.)?
- Have you joined or participated in Other Pre-release programs?

**Drug and Alcohol**

- Have you [attended/been in/used] an alcohol or drug program in which you live in a special facility or unit?
- Have you [attended/been in/used] counseling with a trained professional while NOT living in a special facility or unit? [for drugs, alcohol or both?]
- Have you [attended/been in/used] an education or awareness program explaining problems with alcohol and/or drugs?

**Mental health**

- Have you been admitted to a mental hospital, unit, or treatment program since your admission to prison?
- Have you received counseling or therapy since your admission to prison?
- Have you received treatment since your admission to prison?

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