PROBATION OFFICER-PROBATIONER RELATIONSHIPS

AND THEIR EFFECT ON COMPLIANCE AND RECIDIVISM

by

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DEDICATION

For my parents

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LIST OF ABBREVIATIONS

Abbreviation	Description
CCP	Core Correctional Practice
CFA	Confirmatory Factor Analysis
DRI-R	Dual-Role Relationship Inventory, Revised
IAT	Implicit Association Testing
IIA	Independence of Irrelevant Alternatives
ISP	Intensive Supervision Probation
NFI	Normed Fit Index
PDM	Participatory Decision-Making
PJM	Procedural Justice Measure
PO	Probation Officer
PSI	Pre-Sentencing Investigation
RCC	Revised Community Corrections Officer Orientation Scale
RNR	Risk/Need/Responsivity
RMR	Root Mean Square Residual
RMSEA	Root-Mean-Squared Errors Approximation

SEM	Structural Equation Modeling
SES	Socioeconomic Status
SMI	Serious Mental Illness
VIF	Variance Inflation Factor
WAI	Working Alliance Inventory

ABSTRACT

The quality of the relationship between probationer and probation officer may be instrumental in determining a favorable or unfavorable probation outcome. This dissertation uses the Dual-Role Relationship Inventory Revised (DRI-R), which measures the nature of the probationer/probation officer relationship, in a cross-sectional survey to predict traditional probation outcome measures (i.e. violating the terms of probation without being caught, technical violation, and/or new arrest). The DRI-R has previously been validated through confirmatory factor analysis (CFA), but only on a population of probationers with a diagnosed mental illness. Other research has examined parolees' relationship with their parole officer (PO), demonstrating the DRI-R's effect on further arrests as evidence for the measure's validity. However, there is a need to validate the DRI-R using a general probation sample. This dissertation will examine the 3-factor, 30-item DRI-R using a sample of probationers from three Texas counties. Prior research has examined general risk factors for probation failure (e.g. legal, socio-demographic, and other extra-legal variables) and this dissertation incorporates these factors as control variables, exploring how they affect the influence of the DRI-R on probationer outcomes. Furthermore, this study examines the individual DRI-R subscales—Trust, Caring/Fairness, and Toughness—to further estimate the predictive utility of the measure. Related to quality of the relationship, this study also evaluates the effects of race and gender concordance on probationer-PO relationships. This study will help probation departments understand how these relationships affect probationer compliance. Finally,

this research contributes to current literature on race and gender concordance between probationers and their POs.

I. INTRODUCTION

Overview

Probation is the most widely used sanction in the United States corrections system, yet few studies have analyzed the relationship between probationers and their assigned probation officers (POs). Psychotherapy research demonstrates that the quality of the relationship between a patient and therapist can affect patient outcomes even more than clinical techniques (Asay & Lambert, 1999; Luborsky et al., 2002). A poor therapeutic alliance between a client and therapist will lead to distrust or a lack of concern for the client's best interest (Manchak, Kennealy, & Skeem, 2014). From an evidence-based practitioner perspective, these findings suggest it is important to examine PO techniques and the quality of their relationships with probationers. Although these relationships are not equivalent to patient-therapist relationships (the former are mandated and the latter are not), both rely upon trust between the two parties to be successful. For probationers, their lack of choice in a PO could result in a lower level of compliance and challenge their working relationship with their PO. This relationship is complicated by the POs' two roles: not only are they "counselors," they are also law enforcers (Trotter, 2015). In addition, POs must be prepared to explain the intent of probation as an intervention (Trotter, 2015).

A probationer's perception of their PO can be influenced by their interactions (Skeem, Encandela, & Eno Louden, 2003). Therefore, researchers should further study mandated treatment in the community corrections setting (Manchak, Skeem, & Rook, 2014) by adapting the Dual-Role Relationship Inventory (DRI-R). The DRI-R captures the probationers' perceptions of their PO through an interpersonal procedural justice

measure, which assesses how POs affect mandated rule compliance (Skeem, Eno Louden, Polaschek, & Camp, 2007; Blasko & Taxman, 2018).

The present study addresses a gap in criminal justice literature by examining the influence of probationer-PO relationships on probationers' outcomes. Probationers' perceptions about their experiences while they are placed on probation are understudied (Applegate, Smith, Sitren, & Fariello Springer, 2009; Delude, Mitchell, & Barber, 2012). By conducting and analyzing a cross-sectional survey of probationers in three Texas counties, the researcher investigates whether a specific supervisory model reduces the likelihood of a probationer receiving a technical violation,[1] violating the terms of their probation without being caught, and/or recidivating (a new arrest). Furthermore, the researcher considers how gender and race concordance affect these relationships and the probation system in general.

The United States correctional system is replete with conflicting goals; departments are encouraged to prioritize treatment while also enforcing court mandates. However, research has demonstrated that correctional staff must prioritize treatment for offender behavior to change (Trotter, 2015). Thus, POs often take on the role of counselor; becoming responsible for overseeing their probationers' treatment progress. To understand the importance of evaluating the relationship between the PO and probationer it is necessary to review previous research in similar, although not identical,

[1] While under the supervision of a probation officer, a probationer can receive a technical violation. The violation signals that the probationer has not remained compliant with the terms of their probation. A technical violation is for misbehavior, such as a missed payment, that in itself is not a criminal offense and therefore does not typically lead to rearrest. A missed payment can be failure to pay a fee to the probation officer for counseling or services rendered, or failure to pay a fine mandated by the probation department. If a probationer violates any term of their probation, they may be subject to a hearing, which could result in the revocation of their probation and their return to jail or prison.

settings. In psychotherapy, for example, the patient-client relationship is an essential variable for understanding treatment compliance (Wolfe & Goldfried, 1988).

To better understand probationers' outcomes, it is also necessary to consider the unique role of POs. POs play a specific role in the courtroom decision-making process, as their opinion is considered in the sanction process. According to Leiber, Reitzel, and Mack (2011), there was a statistically significant positive correlation between the POs' recommendation for community supervision, jail, and prison for the participants in their sample and the judicial outcome for probationers. This finding shows that POs have a voice in sentencing offenders to either community supervision, jail, or prison; as such, they play a prominent role in probation revocation.

The most common form of PO input into sentencing outcomes is the presentencing investigation (PSI) report. The PSI report should be an objective measure conducted by the PO; the judge reviews this report before determining the offender's sanction (Leiber, Beaudry-Cyr, Peck, & Mack, 2017). Empirical studies have determined that the PO's sentencing recommendation for incarceration reduced the likelihood of non-incarceration by approximately 50% (Frazier, Bock, & Henretta, 1983; Leiber et al., 2017). Additionally, being female increased the likelihood of non-incarceration by roughly 20-30% (Frazier et al., 1983; Leiber et al., 2017). When the POs introduced their recommendation for non-incarceration to the judge, there was a reduction of approximately 33% in the effect of gender on the dispositional outcome. These findings attribute the gender effect on probationer sentencing to the PSI report and PO.

Leiber et al. (2017) found that when POs recommended community supervision, approximately 80% of all cases received that sanction. Similarly, when a PO

recommended incarceration for a case, the offender was sentenced to incarceration over 60% of the time. Furthermore, their findings demonstrated gender disparities based on the PSI reports: female defendants were more likely to receive community supervision than males and were 30% less likely to receive jail or prison time. The probationer's gender had a direct effect on judicial decision-making, regardless of the PO's recommendation. Females with prior convictions were more likely to be incarcerated. Concordance between the PO's recommendation and actual sanction was consistent with previous research (Frazier et al., 1983; Leiber et al., 2011; Leiber et al., 2017).

In addition to affecting pre-sentencing decisions, gender has also been shown to influence post-sentencing relationships between probationers and POs. Seng and Lurigio (2005) qualitatively analyzed POs' perceptions of probationers and determined that gender affected their perceptions: female POs were more likely to sympathize with female probationers. Female POs noted that female probationers spent more time in their scheduled office visits, wanting to speak about personal issues such as childcare. Alternatively, male probationers seemed more reserved during office visit interactions compared to female probationers. Their assessment showed that male and female POs believed probationers of different genders had different supervision needs, though women were ultimately more compliant with the terms of their probation.

Statement of the Problem

Probation is the most commonly imposed sanction for offenders who enter the criminal justice system; it comes as no surprise, therefore, that probation populations have increased by over 200% from 1982 to 2007 (Pew Foundation, 2009). Because there has been an increase in probationer populations there is a need to examine the failure rate

of those on probation. According to Taxman, Henderson, and Lerch (2010), slightly over 40% of probationers that receive a probation sentence do not complete their terms of supervision. Skeem, Encandela, and Eno Louden (2003) found that POs believed the quality of their relationships with probationers contributed to criminal justice outcomes. In their research, POs have two roles: care providers and rule enforcers. From a research perspective, it is imperative to further include dual-role relationship measures in survey research to determine whether the relationship between a probationer and a PO is a predictor of probationer outcomes. There is strong evidence that the PO's dual-role relationship can influence probationers' recidivism (Skeem et al., 2007; Skeem et al., 2003). Although there is currently no research that demonstrates the effect of a PO and probationer having the same race and gender on the quality of their relationship, previous clinical studies in the medical field has revealed that race and gender concordance positively affects client-patient relationships and overall patient satisfaction (Maramba & Hall, 2002).

The current study advances the field of criminal justice by specifically investigating whether the relationship between probationers and their POs affects probationers' outcomes. Scholars of criminal justice and community corrections have yet to examine how race or gender concordance influence probationer outcomes. It is necessary to study gender and race concordance between probationers and their POs in order to determine whether these forms of concordance affect probationer outcomes. While every probation department may not be able to address gender and race concordance, it is still important because it has the potential to impact probationers' success or failure. Previous researchers have limited their analysis of probation sanctions

to only one binary variable, focusing on technical violations, revocations, or rearrest in isolation from other outcomes (Sims & Jones, 1997; Olson, Alderden, & Lurigio, 2003; Schulenberg, 2007). The study examines the same dependent variables as these previous studies, but will extend beyond these studies by incorporating the DRI-R measure and by assessing race and gender concordance, along with many other risk factors, as possible predictors of probationer outcomes.

If race and/or gender concordance are found to have significant effects on probationer outcomes, then there is a need to educate POs to mitigate negative effects by providing unbiased rehabilitative services to probationers. Such education may help probationers to develop positive views toward their POs and thereby reduce negative probationer outcomes. Probationers should not have their race/ethnicity or gender used against them while they are under community correctional supervision. Specifically, shared race/ethnic and/or gender identification may increase probationer's completion of the terms of their probation by fostering positive views of their personal status along with beliefs that they are members of a respected group. The study will help probation departments understand how their probation officers' relationships with their probationers affect compliance. It will also evaluate the effects of race and gender on these relationships. The researcher hopes to share these results with probation departments so they may modify caseloads and PO training to maximize probationer success. Furthermore, the research aims to contribute to the current literature on race and gender concordance between probationers and their POs.

Objective of the Study

The objective of this study is to understand probationers' perceptions of their PO and assess the effect of probationer-PO relationships on probationer outcomes, including technical violations, evasion of the probationer's terms of probation without getting caught, and/or new arrests. This research is based on self-report survey data gathered from a convenience sample of probationers assigned to probation in three Texas counties.

The researcher examined the 30-item Dual-Role Relationship Inventory-Revised (DRI-R), which evaluates probationers' perceptions of their relationship with their PO. The DRI-R is the only fully validated measure that examines this relationship (Skeem et al., 2007). Individual subscale scores of the DRI-R and the overall DRI-R total scores correlate to compliance (Kennealy, Skeem, Manchak, & Eno Louden, 2012; Morash, Kashy, Smith, & Cobbina, 2015). The study evaluates the relationship between the probationer and their PO, as well as gender and race concordance and other control variables, on probation outcomes.

Chapter Descriptions

Chapter 1 presents the study and its rationale. Chapter 2 reviews relevant literature on probation, PO surveillance style, and models of treatment, as well as the effect of gender and race concordance with POs on the probationers' compliance with the terms of their probation. Chapter 3 establishes a comprehensive methodological structure for the research, including hypotheses, data collection procedures, measurement of variables, and description of the study's analytical plan. Chapter 4 presents the results of the statistical analyses, Chapter 5 presents a discussion of the findings, and Chapter 6

discusses the limitations of the study and the implications of the findings for policy and future research.

II. LITERATURE REVIEW

Historical Overview

Bostonian shoemaker John Augustus is considered the creator of probation in the United States. John Augustus was the first individual to ever post bail for a man charged with being intoxicated in 1841. When the defendant went before the judge, Augustus asked the judge to defer the man's sentence for three weeks and release him under Augustus' supervision. After the offender completed his supervised time with Augustus, he went back in front of the judge and stated that he was reformed; he only received a fine. Augustus coined this process "probation", based on the Latin word *probatio,* which refers to a process of investigation or putting something to a test (Petersilia, 1997). During his lifetime, Augustus bailed out over 1,800 low-risk individuals in Boston courts. He would then help these people find jobs and housing or pursue education, reporting to courts on their progress (Petersilia, 1997). After Augustus passed away, volunteers (typically from Christian or Jewish communities) continued to act as supervisors for the Boston court. Following Augustus' lead, probation departments employed a social work philosophy for approximately 150 years (Taxman, 2012). The goal of this philosophy was to assist probationers in stabilizing their lives within the community rather than through incarceration. The social work philosophy prioritized the safety of the community, and then probationers.

Boston employed its first professional probation officer in 1878, the same year that Massachusetts created a probation statute. Initially, two-thirds of states legalized juvenile probation. It would take up to two decades for those same states to a create similar status for adults (Johnson, 1928). In 1901, for example, New York passed the first

statute authorizing probation for adult offenders. On a similar level, roughly 34 bills were signed to establish a federal probation system between 1909 and 1925. In 1925, President Calvin Coolidge signed a probation bill into law creating the federal U.S. Probation and Pretrial Services System (Johnson, 1928). Federal probation officers became an appointed position in 1927, when the first federal PO, Richard McSweeney, was appointed by the district court of Massachusetts. POs' responsibilities expanded with the creation of the National Parole Board in 1930, which charged POs with supervising federal parolees. These new responsibilities required additional resources and training. The United States Courts administrative office began writing about federal probation in the 1940s with *The Presentence Investigation Report*, a monograph to aid POs in preparing investigations and reports (1943) (Dressler, 1962). A decade later, the Federal Probation and Pretrial Officers Association was created (1955) to provide a forum for POs to discuss their concerns with the administration of federal probation, as well as to request and receive additional training (Dressler, 1962).

By 1956 all states had adopted probation laws for adults and juveniles (Petersilia, 1997). However, the probation system fell into relative obscurity for the next two decades even though the Criminal Justice Act (1966) established rehabilitative programs for probationers and parolees, and the Federal Judiciary Center (FJC) began evaluating probation practices after its creation in 1967 (Mays & Winfree, 2014; Petersilia, 1997). In 1968, President Johnson signed the Omnibus Crime Control and Safe Streets Act, which gave federal funding to diversion programs across the United States. This signaled a shift in criminal justice funding that did not prioritize community-based corrections over arrest, adjudication, and/or incarceration.

During the 1960s, research that tested labeling theory among institutionalized populations indicated that recidivism rates were not declining; as a result, POs were abandoning the treatment and social work techniques for more punitive supervision methods (Petersilia, 1997). Probation supervision became unstructured and capricious because every county and city had its own way of handling probationers (Rothman, 2002). Researchers found empirical support that being an incarcerated offender could actually induce further criminal behavior (Lukens & Blomberg, 2012; Scull, 1977). This coincided with a push for deinstitutionalizing both juvenile and adult offenders' status, and reduce confinement in jails and prisons.

A landmark study conducted by Martinson in (1974), however, demonstrated that probation did not effectively reduce recidivism through rehabilitation (Lipton, Martinson, & Wilks, 1975; Martinson, 1974). This led to a "nothing works" perspective. Court agents turned to deterrence and mass incarceration as the optimal solution to achieve crime control. In the 1980s, probation shifted to a "get-tough" approach, focusing on deterrence and incapacitation (e.g. mandatory minimum sentencing laws, and three strikes laws; Rhine, 1997) for the roughly one million probationers in the United States (Maruschak & Parks, 2012). This intensive supervision demanded that POs closely monitor offenders. These policies led to many offenders being incarcerated and to an increase in the number of offenders being placed on probation (Currie, 1998; Austin & Irwin, 2012). The get-tough approach was not considered successful because it increased the number of people incarcerated (Andrew & Bonta, 2010; Wood & Dunaway, 2003). Later iterations of the get-tough approach, such as the three-strikes laws (habitual offender laws), only increased prison populations by mandating life sentences for

criminals with two prior convictions who commit a violent offense (although the laws vary by state). There is no empirical evidence demonstrating that these get-tough approaches effectively reduced recidivism either (Doob & Webster, 2003; Smith, Goggin, & Gendreau, 2002; von Hirsch, Bottoms, Burney, & Wikström, 1999).

By 1990, every state had implemented intensive probation supervision programs because they believed it would lead to lower recidivism rates and fewer technical violations (Petersilia & Turner, 1990). Intensive supervision reduces prison overcrowding without sacrificing public safety. Furthermore, intensive supervision leads to reduced caseloads (Drake, 2018). However, the probation model shifted to evidenced-based correctional interventions. Andrews et al. (1990) introduced the Risk/Need/Responsivity (RNR) model. They stated that rehabilitation is achieved more often when a PO focuses on probationers who have a high risk of recidivism (the risk principle), targets risk factors that predict further criminal offending (the need principle), and implements rehabilitative efforts matched to the probationer's learning style (the responsive principle). If these three things happen, the probationer is likely to develop skills necessary to succeed and not reoffend.

Today, probation is designed to rehabilitate and to reintegrate offenders back into society through mandated rule compliance (Latessa & Allen, 1999). It is the most common sanction in the criminal justice system, with over 3.6 million probationers as of 2016 (Kaeble & Cowhig, 2018). However, it does not receive much financial or public support (Petersilia, 2011), in part because of the perception of probation as "soft" on crime. Unlike parole, which is an administrative decision by a state, probation is a sentencing option used by local or state judges. Probationers are placed under court-

ordered constraints and the direct supervision of a PO instead of being sentenced to prison. A probationer must agree to court-ordered stipulations, including that the probationer must obey all laws, pay fines and fees, submit to random personal and home searches, and report to their immediate PO. The probationer must notify their immediate PO if they choose to change their address or place of employment. They cannot possess a firearm, associate with other criminals, or leave the jurisdiction in which they were sentenced unless the court has approved the travel request (Abadinsky, 2014). A probationer cannot have their probation revoked based on missed fines or fees, as long as the probationer can state that their lack of payment is due to unemployment (based on the holding of *Bearden v. Georgia*, 1983).

Many probationers have tried to challenge their conditions of probation, but case law has consistently allowed the court to impose constraints on probationers as long as they are constitutional, reasonable, and imposed to promote rehabilitation or to protect the public. The sentencing court has the immediate authority to change the conditions of a probationer's supervision either by modifying the conditions or revoking the probationer's probation based on the probationer's behavior while under supervision (Allen, Latessa, & Pounder, 2015).

Probation in Texas

At the end of 2015, Texas ranked second to Georgia in number of adults on probation. Together, the top five states (Georgia, Texas, California, Ohio, and Florida) accounted for 40% of all offenders supervised under community correctional control in the United States (Petersilia, 2011). Texas' modern probation model originated in 1913. Before then, if an offender was facing a criminal offense, they would either be sentenced

to jail/prison time or acquitted of all charges. In 1935, Texas voters approved Article 4, Section 11A to the Texas Constitution. This amendment allowed for state courts to suspend the imposition or execution of sentence and to place a defendant on probation. In 1947 (and again in 1957), Texas enacted the Adult Probation and Parole Law, eventually repealing the outdated Suspended Sentence Act in 1957 (Probation Law in Texas, 2009). Today's probation statute dates to 1965, but has been modified several times (Probation Law in Texas, 2009).

Before 1977, local government oversaw probation departments in Texas. The district judges oversaw all personnel, designating their responsibilities, titles, and even salaries with the approval of the local commissioner's court. The counties also funded their respective departments. The Texas Legislature created the Texas Adult Probation Commission (TAPC) in 1977, which provided counties with funds to operate probation departments (though district judges still oversaw the operations). The TAPC also standardized probation across the state by imposing caseload requirements, implementing programs, and ensuring that facilities and necessary equipment were made available. In 1989, the Texas legislature consolidated the TAPC, the Department of Corrections, and the Board of Pardons and Paroles (Probation Law in Texas, 2009). They replaced these three entities with the Texas Department of Criminal Justice (Probation Law in Texas, 2009). The TAPC was renamed the Community Justice Assistance Division and fell under the purview of the executive (and not judicial) branch (Probation Law in Texas, 2009).

In 1993, Texas legislature approved the renaming of "probation" to "community supervision," and referred to the departments as "community supervision and corrections

departments." This amendment also required probationers to take part in specific programming and made them subject to "sanctions," although it did not establish parameters regarding either. This left sanctioning probationers to the discretion of the PO rather than a fixed set of guidelines. Today, departments supervise probationers convicted of felonies and Class A and B misdemeanors (Probation Law in Texas, 2009). As of January 1st, 2016, there were over 380,000 individuals on probation in the state of Texas, with 240,000 under direct supervision. In 2017, 12,500 adult felony probation revocations in Texas were due to technical violation revocations (Kaeble & Bonczar, 2017).

Probation Officers

A probation officer is an administrative officer of the court. They are trained on local and state laws and policies. Based on household data from the Bureau of Labor Statistics in 2018, there were 104,000 POs employed in the United States. Of those, 57% were women, 69% were White, 27% were African American, 16% were Hispanic, and 0.6% were Asian. According to the Bureau of Labor Statistics, employment for POs is expected to grow 6% between 2016 and 2026, especially as community corrections is a less expensive alternative to incarceration. However, there is a high turnover for POs because of heavy and stressful caseloads. They learn to score and administer risk assessment instruments and write presentence investigation reports (Annison, Eadie, & Knight, 2008). POs across the United States may receive relapse prevention training, but the training is not focused on the risk, needs, and/or responsivity of the individual probationer (Dowden, Antonowicz, & Andrews, 2003). A PO's primary responsibility is to ensure the probationer meets the court-ordered terms of their probation. The PO

functions as a helper and a rule enforcer. Specifically, the PO can act as a counselor to the probationer. They can encourage the probationer to share personal information regarding their needs.

The ultimate responsibility of a PO is to ensure that the court-ordered conditions of probation of the probationers they supervise are met. For example, POs draft a rehabilitation plan for probationers that includes goals or places probationers into specialized programs that assist with particular issues (e.g., anger management, Narcotics' Anonymous, Alcoholics Anonymous, etc.). They oversee random drug testing and they assist with finding employment. Each probation department typically tracks employers willing to hire probationers and have a job network. If a probationer's court-ordered conditions of probation are not met, then POs will issue a technical violation or violations. Then they bring the lack of rule compliance to the sentencing court's attention (Morgan, 2016). POs have large amounts of latitude in dealing with misbehavior of probationers. Officers have discretion to give a stern warning or issue a technical violation, and also to recommend a revocation hearing (Abadinsky, 2014). POs can also recommend probation at a pre-trial hearing.

Often, probation meetings are face-to-face contacts between the PO and the probationer. The goal of these meetings is to review the probationer's progress and determine appropriate referrals if issues arise. The number of these meetings varies depending on the probation department and the probationer's offense (Taxman, 2012). Some probation officers will meet with their probationers once a month or every week. POs also use oversight methods including drug testing, electronic monitoring, breathalyzers, and interlock systems to monitor probationers. According to a 2005

National Criminal Justice Treatment Practices survey of community correctional agencies, the most common oversight method was random drug screenings; 59% of community corrections agencies test probationers for drugs (Taxman, Perdoni, & Harrison, 2007).

Probationers

Almost all national data describing adult probationers comes from the Bureau of Justice Statistics (BJS), the statistical branch of the U.S. Department of Justice (DOJ). Probation is the most commonly imposed sentence, accounting for 56% of the total correctional population and over 82% of the total community supervision population (Kaeble, Maruschke, & Bonczar, 2015). Almost all demographic groups are represented in the community supervision population; however, many states do not report ethnicity data, or it is self-reported. Therefore, it is difficult to have a holistic portrait of probationers' race and ethnicity nationwide. In terms of gender, there are three times as many men as women on probation (Kaeble et al., 2015).

Based on the last BJS national survey of probation supervision (1995), 84% of probationers had fines and fee requirements, 32% had drug screening requirements, 40% had drug and alcohol treatment requirements, 34% had employment requirements, and 26% had community service requirements (Bonczar, 1997). The average probationer reported 13 conditions on their probation. Some probationers had monthly reporting fees while others paid flat fee rates. In a traditional probation setting, the sentencing judge determines the conditions of each probationers' terms of probation.

According to the Bureau of Justice Statistics' Annual Probation and Parole Survey 2016, roughly 80% of probationers were sentenced for a nonviolent crime.

Although probation is the most frequent sentence in the criminal justice system, the overall correctional population has been steadily declining for the last seven years at roughly a 1% decline per year (Kaeble, Glaze, Tsoutis, & Minton, 2016). The decline in probation is largely due to the reduction in its use by courts (Kaeble et al., 2016). However, in any given year almost half of the new offenders entering state prisons across the United States are made up of offenders whose probation has been revoked (Taxman, 2012). In 2016, roughly 30% of almost 2 million probationers did not complete the terms of their probation. There is little information available about probationers who do not successfully complete the terms of their probation (Taxman, 2012). Typically, there are three reasons probationers do not complete the terms of their probation: probation is revoked, and the probationer is reincarcerated (40%), probationers are charged with a new offense (30%), and the third reason is attributed to unknown factors (Glaze & Bonczar, 2008). Because probation is the most frequently imposed sanction, this type of correctional population has increased by over 200% since 1982 (Pew Foundation, 2009). Therefore, it is especially important to determine why probationers are not successfully completing the terms of their probation.

Outcome Measures of Probationer Recidivism

Probation has been criticized for failing to rehabilitate offenders (Morgan, 1994). There are inconsistencies in the literature examining probation success—defined as completing the terms of one's probation—and failures such as absconding, revocation, and being sentenced for a new offense (Morgan, 1994; Petersilia, 1985; Sims & Jones, 1997). These inconsistencies may be explained by researchers focusing on different probationer outcomes depending on the data available to them and using different criteria

to define failure and success. In order to understand the most common predictors of probation outcomes, there is a need to examine literature on these various outcomes: technical violations, revocations, new arrests, time until new arrests, and time until technical violation. For example, Olson, Alderden, and Lurigio (2003) examined technical violations as the outcome measure. They considered technical violations to include missed appointments, failure to complete treatment, and failure to comply with restitution orders. Alternatively, in Schulenberg's (2007) study, the outcome measure was missed payments in the previous year.

Different predictors have been found to be statistically significant depending on the outcome being measured (e.g. technical violation, revocation, and/or new offense). Some studies (Johnson & Jones, 1998; Sims & Jones, 1997) examined revocation as an outcome measure, but included rearrest in the revocation category. In other studies, rearrest was the only outcome measure (Cuniff, 1986). Some of these studies did not define their outcome variables or articulate how they measured them, but they relied upon official records. By examining only one measure, these studies overlook other outcomes related to probationers' mandated rule compliance. Olson and Lurigio (2000) argue that both technical violation and rearrest may not result in a formal revocation of one's probation, but are nonetheless considered negative outcomes. Therefore, they should be included in analyses. They also found that the strength of the risk factors varied depending on which outcome measures were analyzed. Focusing only on one outcome measure rather than multiple measures can limit the generalizability of a researcher's findings.

Whereas the focus of most studies of probationer outcomes has been on official records of success or failure, there have been no studies analyzing self-reported technical violations, rearrests, or evasion of the terms of probation in a general adult probation sample. Because official crime data has been criticized for underestimating less serious offenses (Steiner & Wooldredge, 2014) such as these, it is necessary to incorporate self-reported data, especially as a majority of crimes and infractions go unreported. Both self-reported data and official arrest data have been used by many criminal justice researchers as valid measures of criminal behavior (Kirk, 2006; Krohn, Thornberry, Gibson, & Baldwin, 2010). Farrall (2005) examined official records alongside self-reported data; they were similar. Nonetheless, there are potential issues with self-reported data such as sample selection.

Different risk factors have predicted these negative probationer outcomes. Therefore, there is a need to examine which risk factors are predictive of revocation, technical violation, new arrest, time to rearrest, and time to technical violation.

Predictors of Revocation

Researchers have examined many risk factors as predictors of revocation. Early research found that factors such as education level, criminal history, age at first arrest, number of prior convictions, and probation sentence length predicted revocation (Roundtree, Edwards, & Parker, 1984; Sims &Jones, 1997). Other researchers (Morgan, 1994) have found that female probationers were more likely to have their probation revoked; however, previous research has not found gender to be a statistically significant predictor of revocation (Olson & Lurigio,2000; Kingsnorth, MacIntosh, & Sutherland, 2002; Gould, Pate, & Sarver, 2011). Additionally, Morgan (1994) found marital status,

employment status, and prior felony offense predicted revocation if the probationer was convicted of a property offense, age, race, and if the probationer was sentenced to probation for more than five years. If a probationer had one or more prior convictions, they were more likely to have their probation revoked (Morgan,1994; Olson et al., 2000). Finally, in Olson et. al's (2000) study there were only two variables that were negative predictors of revocation: age and income level.

Just as gender is not always a significant predictor of revocation, the race of the probationer (non-white versus white) is also not always a predictor of revocation. Minority probationers were more likely to have their probation revoked compared to white probationers (Olson et al., 2000; Sims & Jones, 1997). Other studies, however, have not found race of the probationer to have a significant effect on revocation (Morgan, 1994; Roundtree et al., 1984).

Predictors of Technical Violation

When examining technical violations as the main dependent variable there are inconsistent findings regarding which risk factors are predictive of technical violations. Previous researchers have found that income and age were inversely related to receiving a technical violation (Olson et al., 2000; Olson & Lurigio, 2000; Olson, Alderden, & Lurigio, 2003). If the probationer was female, they were less likely to commit a technical violation compared to a male probationer (Olson et al., 2000). Minority probationers were more likely to receive a technical violation compared to white probationers (Olson et al., 2000; Olson & Lurigio, 2000; Olson et al., 2003). Probationers who had one or more prior convictions were more likely to receive a technical violation compared to

probationers who did not have any prior convictions (Olson et al., 2000; Olson & Lurigio, 2000; Olson et al., 2003). Schulenberg (2007) examined only one specific type of technical violation, if the probationer missed a payment within the last twelve months and found that having a prior arrest record, having a family member that had been involved in the criminal justice system, and residential instability to be statistically significant predictors of missing a payment in the past 12 months.

Predictors of New Arrest

In two studies age was inversely related to probationers being rearrested (Olson et al., 2003; Olson et al., 2000). Also, being a female probationer was associated with reduced likelihood of being rearrested compared to a male probationer (Olson et al., 2003; Olson et al., 2000). The probationer's income was a negatively related to a probationer being rearrested (Olson et al., 2003; Olson et al., 2000). Olson et al. (2003) found that married probationers were less likely than non-married probationers to be rearrested for a new offense. Minority probationers were more likely to be rearrested compared to white probationers (Olson et al., 2003; Olson et al., 2000). Also, having a prior conviction led to an increased likelihood of probationer being rearrested while on probation (Olson et al., 2003; Olson et al., 2000). The longer the probationers' current probation sentence length is, the more likely the probationer would be rearrested while on probation. Olson et al. (2003) found that gang members were more likely than non-gang members to be rearrested for a new offense while on probation. Olson et al. (2003) and Olson et al. (2000) found that felony probationers were more likely than misdemeanor probationers to receive a new offense while on probation for their current term. There have also been researchers that have examined similar risk factors, but the outcome

measure was time to rearrest or time to technical violation, rather than just examining the event occurring or not. This way the researcher knows the number of days until the event occurred.

Predictors of Time to Rearrest and Time to Technical Violation

Research has also examined time until rearrest and time until a specific probation/parole violation (Gray et al., 2001). Gray et al. (2001) were among the first researchers to examine both time until rearrest and time until technical violation. Different predictors were found to be statistically significant for those offenders who committed technical violations compared to those who were rearrested. Only four variables were predictive of time until technical violation. These four variables were race, level of education, prior drug use, and offense type. Gray et al. (2001) did find that non-white offenders committed technical violations sooner than white offenders. The five predictors of time until rearrest were employment status, criminal history, the offense type that placed the offender on probation, the level of supervision, and the number of violations that the probationer committed while on probation. Gray et al. (2001) found race to be a predictor of technical violations, but not a statistically significant predictor of rearrests. Previous researchers have focused on random samples of probationers or convenience samples of probationers for a period of time, but they have not specifically controlled for the offense type (e.g. felony or misdemeanor) for which the probationer is being supervised. The following section describes two additional factors that may predict probationers' outcomes: probation officers' demographic characteristics and POs' interpersonal relationships with probationers.

Probation Officers Effects on Probationer Outcome

Research examining predictors of probation outcomes has focused on a wide variety of characteristics of probationers, including sociodemographic risk factors such as race and sex. However, probation outcomes are at least partly determined by probation officer decision-making. Yet research on the effects of characteristics of probation officers themselves is scarce. Springer, Applegate, Smith, and Sitren (2009) found that when probationers perceived that their PO was of the same race as themselves, they had a more positive view of their relationship with the PO. However, no research has examined the impact of race or sex concordance, despite its likely connection to relationship quality between PO and probationer, on probation outcomes. Relatedly, little is known about the impact of the probation officer's supervisory style on probationer outcomes; the supervisory role can impact probationers' perceptions of their relationship with their PO as well as their perception of interpersonal procedural justice (Kennealy, Skeem, Manchak, & Eno Louden, 2012; Skeem & Manchak, 2008). These perceptions may be instrumental in determining probationer outcomes as well.

Interpersonal procedural justice

The first research to examine procedural justice was conducted by Thibaut and Walker (1975). They examined satisfaction among defendants who received a trial for their criminal offenses and who were processed by an inquisitorial court. Defendants were who received a trial for their criminal offenses were more satisfied than those who did not receive a trial. In 1980 Leventhal inferred that Thibaut and Walker's (1975) assessment of courtroom actors and procedural justice may be too narrow. He stated researchers should examine the interpersonal concepts as an assessment of internal

procedural fairness. Previously, Thibaut and Walker (1975, 1978) stated that an individual's perception of the fairness of an outcome is derived from interactions with other individuals. Drawing from equity theory, Thibaut and Walker (1978) define perceived outcome fairness as equity. From this viewpoint, individuals perceive fairness as the amount of input that they have in terms of the outcome they receive from a decision-maker. This viewpoint is known as the control model of procedural justice.

The group-value model provides a rationale for understanding why individuals care about procedural justice (Lind & Tyler, 1988). The group-value model is concerned about how individuals perceive the fairness of procedures; however, this perception of fairness is seen as related to the individuals' status among other group members. According to this model, an individual's views are shaped by long-term relationships with authority figures, not singular encounters with these figures. The group-value model is premised upon people valuing membership within specific social groups; therefore, social group identification is rewarding to individuals (Tyler, 1989). Another vital issue is that an individual's standing within a group is reflected by interpersonal encounters with authority figures within that group (Tyler, 1989). The group-value model is based on the theoretical underpinnings of social identity theory, which states that individuals develop a sense of self-identity through their membership in groups (Tajfel & Turner,1979, 1986). According to Tyler and Blader (2000), three main constructs measure the relational dynamics of procedures: status recognition, trust, and neutrality in the authority figure's decision-making process, which all affect an individual's perception of the procedures enacted on their behalf. Research has found that these three related constructs are important predictors of procedural justice, and they tend to

outweigh judgments made on their behalf (Tyler & Huo, 2002; Tyler, 1987, 1988, 1994; Tyler et al., 1996). Through the confines of the group-value model, individuals are focused on the relational aspects of the procedures themselves (Tyler, 1989; Tyler et al., 1996). An individual's recognized status by an authority figure, an individual's trust in the authority figure's motive, and the unbiased nature of the authority figure's decision all constitute relational components of procedural justice (Tyler & Blader, 2000).

The group-value model of procedural justice has progressed through the years into what is known as the relational model of procedural justice (Tyler & Lind, 1992). The relational model is grounded in the group-value model and is configured around the experiences one has with authority figures (Tyler & Lind, 1992). It is important to emphasize that both the group-value and the later relational model of procedural justice are based on the premise of social identity theory, in which individuals use groups to gain and retain information about others within the group as well as themselves (Tajfel & Turner, 1979, 1986). Bies and Moag (1986) identified two critical aspects that are vital to individuals forming perceptions of procedural justice. The first is that individuals examine their interpersonal experiences with someone who has immediate authority over them (specifically, for the purposes of the study, their PO). Leventhal (1980) states that interpersonal connection can be an independent source of one's perceptions of procedural justice. Tyler and Lind (1992) found that individuals are concerned with the quality of their interpersonal treatment and group respect of individuals' rights. The second vital aspect examines the nature of the decision-maker's (in this case, the PO's) authority, assessing whether this decision-maker's use of discretion is perceived as fair based on

accepted norms of adequate and appropriate decision-making procedures (Bies & Moag, 1986; Tyler & Bies, 1990).

Interpersonal interactions between an individual and an authority figure can have a direct effect on one's perception of procedural justice (Tyler, 1988, 1994; Tyler & Huo, 2002). Though Thibaut and Walker (1975) examined defendants' satisfaction with different courtroom procedures, they did not specifically investigate interpersonal components of the defendant's perception of the formal procedures conducted in the courtroom setting.

According to Tyler, (2003) the quality of interpersonal interaction between authority figures and individuals shapes trust in the social bond between both actors. However, further research is needed to determine how this interpersonal reaction may be affected by demographic factors including race and gender concordance. In studies by Tyler (2001, 2003), findings did not account for racial or ethnic differences; both white and non-white subjects in both samples were concerned with the quality of treatment, which was linked to their perceptions of procedural justice. Previous literature has also found that individuals' rule compliance and acceptance of decisions made by authority figures are linked to procedural justice (Kim & Mauborgne, 1993; Tyler, 1989; Paternoster, Brame, Bachman, & Sherman, 1997).

The literature on interpersonal procedural justice underscores the possible influence of probation officers themselves, over and above the impact of probationer characteristics, on probationer outcomes. Gender and race characteristics of POs, particularly as they are concordant or discordant with that of probationers, may have an effect on the success or failure of the probationer.

Race and Gender Concordance

Gender and race are considered social categorizations (Hogg, Abrams, Otten, & Hinkle, 2004). Research has shown social identification to be an influential factor for in-group homogeneity and out-group heterogeneity (Tajfel & Turner, 1986; Turner et al., 1987). Social comparison can affect individuals' sense of group identification and self-validation (Festinger, 1954). Social identity theory operates through self-categorization and self-enhancement, which guides one's self-categorization through in-group favoritism (Hogg & Abrams, 1993; Hogg & Mullin, 1999; Long & Spears, 1997). A key principle of social identity theory is that since individuals are motivated to enhance their self-worth, they seek to belong to groups that are perceived as high-status (Tajfel, 1974, 1975; Tajfel & Turner, 1979).

By categorizing people into in-groups and out-groups, individuals produce as well as reinforce intragroup bias (Brewer & Campbell, 1976; Dovidio & Gaertner, 2010; Yzerbyt & Demoulin, 2010). Therefore, in-group and out-group categorizations can affect group membership (Turner, Oakes, Haslam, & McGarty, 1994). Individuals who categorize people into in-groups and out-groups are instilling in-group favoritism both implicitly and explicitly (Otten & Moskowitz, 2000; Otten & Wentura, 1999). Furthermore, individuals who self-identify with an in-group perceive themselves as sharing attitudes and values with that in-group (Robbins & Krueger, 2005).

Based on self-categorization theory, individuals often subconsciously experience positive feelings toward other individuals who are considered part of their in-group and are more likely to respond to the needs of another in-group individual (Dovidio & Gaertner, 2010). When an individual is not sure about their status, they may look to

authority figures to reinforce their status and change their views accordingly (Abrams & Hogg, 1990). An individual's social categorization is the root cause of discrimination; therefore, inter-group relationships must be improved before bias towards preconceived social categories can be reduced (Brewer & Miller, 1984).

Social identity theory (Tajfel, 1978) and self-categorization theory (Turner et al., 1987) explore how individuals belong to multiple self-social categorized groups and thus hold multiple social identifications. Identity-based theories argue that cooperation between group members arises from individuals' desire to have a favorable social identity. Based on these theories, matching probationers with POs based on race and gender concordance may lead to a favorable group status and, consequently, improve probationer cooperation.

Social identity theory is not concerned with relationships among different groups, but rather with relationships between individuals within those groups. According to Tyler and Blader (2000), there is a link between cooperation, based in a desire to maintain a favorable social identity, and procedural justice. This link has also been articulated by Lind and Tyler (1988); the group-value model of procedural justice states that individuals use the procedure's fairness as measures to assess their own status. Therefore, if individuals experience fair procedures within the group, they perceive high-status group membership and have favorable viewpoints of the group. Conversely, if their group status declines, this decline can lead to a reduction in rule compliance. The group-value model assumes that individuals are concerned with long-term social relationships with authority figures, rather than singular encounters. Individuals value having group social membership (Tyler, 1989).

According to Tyler and Blader (2000), cooperative behavior among individuals is directly linked to both social identity and status judgments (e.g. pride and respect). There is existing literature which states that when individuals have concordant racial and/or ethnic characteristics with legal authority figures, then those individuals may have more positive views of those authority figures (Baker et al., 2015; Tyler & Huo, 2002; Weitzer & Tuch, 2006).

Baker et al. (2015) conducted a self-report survey of female inmates. They examined racial and ethnic concordance between 554 female inmates and the courtroom actors involved in their sentencing (defense attorneys and presiding prosecutors). Baker et al. (2015) used the variables of racial and ethnic concordance with the courtroom actors as proxy measures of social identity. The researchers did not find that racial or ethnic concordance was associated with the offender's perceptions of procedural justice.

The racial concordance measures by Baker et al. (2015) are similar to the measures used to assess shared identity by Tyler and Huo (2002), who sampled citizens' willingness to accept decisions made by police and court officials. Tyler and Huo (2002) found that minority citizens' acceptance of the decisions made by criminal justice actors were not affected by the race/ethnicity of the authority figures. However, the researchers did not control for the shared race/ethnicity of the sample participants and how that affected their perceptions of procedural justice or their obligation to obey the law. The researchers did not find that racial or ethnic concordance of the offender's attorney affected the offender's procedural justice perceptions (Baker et al., 2015).

Baker et al. (2015) determined that when non-white females were prosecuted by non-white prosecutors, this concordance had a statistically significant positive association

with their perception of courtroom procedural justice. The study also found for white females, racial/ethnic concordance had a positive statistically significant effect on their obligation to obey the law. The variable that measured the obligation to obey the law consisted of three items using a four-point Likert-scale (from 1 = strongly disagree to 4 = strongly agree). It is important to understand that Baker et al. (2015) used a homogenous sample's self-reported obligation to obey the law as a dependent variable, rather than measuring participants' actual compliance. Furthermore, the study found the amount of input that an inmate has over their sentencing outcome to be the strongest predictor of procedural justice.

In a 2017 study, Baker examined over 300 male offenders to assess if the group-value model (applied to offenders' racial/ethnic concordance with courtroom actors) may increase the offender's perception of their status. In this male sample, the study found results comparable to those of the 2015 female sample. Both studies determined that there was a positive and statistically significant association between offenders' perception of court procedural justice and their obligation to obey the law. This same relationship held for both white and non-white, male and female offenders (Baker et al., 2015; Baker, 2017). Baker (2017) found that when non-white male offenders were racially/ethnically concordant with the prosecutor, there was an increase in their perception of courtroom procedural justice. This finding supports the importance of examining both the group-value model and social identity theory (Baker, 2017).

In 2018 Baker researched male inmates to explore the effects of sharing race concordance with the police officer that led to them being incarcerated and how that relationship affects the inmate's perceptions of voice, procedural justice, and obligation

to obey the law. Police officers, like POs, are authority figures and can affect offender's perception of in-group status, which in turn affects their status within their own in-group (Abrams & Hogg, 1990; Tajfel & Turner, 1986). Unlike previous studies conducted by Baker et al. (2015) there was not a statistically significant finding between shared race/ethnicity between the inmate and their arresting officer and perceptions of police procedural justice (Baker, 2018).

Consistent with Baker's (2017) findings, both Tyler and Huo (2002) and Baker et al. (2015) found that when the courtroom actors were white, the white offenders were more likely to perceive the relationship to be positive. Also, Baker et al. (2015) found that for non-white female inmates who had a non-white prosecutor (regardless of racial and ethnic concordance), there was a positive and statistically significant association with court procedural justice. Based on Baker et al.'s (2015) and Baker's (2017) findings, shared racial/ethnic concordance has the ability to improve offenders' perceptions about procedural justice. According to Tyler (2006), the more an individual perceives an authority figure as fair, the more likely that individual is to obey the law, even if the outcome is not positive for them (Tyler, 2006). There is a need to further examine and quantify how gender can be articulated as a risk factor in probationer samples, along with how gender concordance can aid or hinder a probationer's mandated rule compliance.

Because of the limited research in criminal justice on race and gender concordance, turning to literature on patient-physician relationships can provide a foundation for understanding the effects of race and gender on probationer satisfaction. There is a similar dynamic between physicians and their patients and probation officers and their probationers, especially in terms of power dynamics and communication

patterns (McKinlay, Potter, & Feldman, 1996). Patient satisfaction relates directly to the quality of their treatment, but also their relationship with their physician as defined by participatory decision-making (PDM) (Levy, 1985). PDM style is rated on a 3-item 5-point Likert-scale measure; its variables measure a physician's consideration of their patient in the decision-making process. A patient is asked whether they were provided with several treatment options and whether the physician allowed them to decide their treatment (or have power and responsibility for determining their treatment). The highest score that a patient can rate a physician is 12. The higher the score, the more the patient was allowed to participate in their treatment.

Studies have demonstrated a relationship between race and PDM satisfaction. According to a study conducted by Cooper-Patrick et al. (1999), African American patients rated their physicians lower in terms of PDM style. All minority patients in their sample rated their physicians lower in terms of PDM total scores than white patients. African American patients had a statistically significant less participatory visit with white physicians than white patients (Cooper-Patrick et al., 1999). Furthermore, Asian and Latino patients had less participatory visits with African American physicians than African American patients (although these results are based on a small subgroup of Latino and Asian patients). It is important to note the researchers also examined the race and gender concordance between a patient and physicians. Patients with racially concordant physicians rated their physicians as statistically significantly more participatory than patients with racially discordant physicians. The researchers did not find gender concordance between the patients and the physicians to be related to the PDM scores. The patients who were race concordant with their physicians did have

higher perceptions of participatory decision-making than the patients who were race discordant. The researchers also found that patients who were both race concordant were more satisfied with their physicians.

Conceptually, this research demonstrates how the patients' perceptions influence patients' behavior along with their perceptions of their physician. Patients rate their satisfaction with physicians according to trust, involvement in treatment decision-making, and racial and ethnic concordance (Cooper et al., 2003; King, Wong, Shapiro, Landon, & Cunningham, 2004; LaVeist, & Nuru-Jeter, 2002; LaVeist, Nuru-Jeter, & Jones, 2003). Based on findings from Street, O'Malley, Cooper, and Haidet (2008), race concordance between patients and physicians affected shared identity between a patient and a physician. It also affected patient-centered communications between a physician and a patient. Previous studies have also found that patients typically select a doctor of the same race, with studies such as Bertakis (1981) demonstrating over 90% of participants preferring a racially concordant physician. Saha, Komaromy, Koepsell, and Bindman (1999) found that African American patients with African American physicians were more likely to rate their experiences favorably than those who received clinical services from physicians of other races.

Similar previous medical research has examined patient-physician communication styles and patient satisfaction by dividing patients and physicians into four categories based on gender: female patient and female physician, male patient and female physician, female patient and male physician, and male patient and male physician (Schmittdiel, Grumbach, Selby, & Quesenberry, 2000). In this study, researchers stratified their logistic regression and multiple regression analysis according to whether the patient chose or was

assigned their physician. Patients who chose their physicians were more satisfied with their physician in comparison to patients who did not choose their physician. In terms of patient satisfaction, female patients who chose a female physician were less satisfied compared to male patients who chose a male physician. When patients chose their physician, those who chose a physician of the opposite sex were more satisfied than those who chose a physician of the same sex (Schmittdiel et al., 2000). However, this interaction was not seen among patients who did not choose their physician (Schmittdiel et al., 2000). This study does not account for the gender discordant findings, but it does suggest that male and female patients have different expectations in regard to the care they receive from their physicians (Schmittdiel et al., 2000). The results of this study demonstrate a need for a better understanding of gender concordance on relationship quality, particularly between a practitioner and a patient, which can be extended to PO-probationer relationships. Schieber et al. (2014) study examined patients' relationships with their doctors, more specifically the patients' agreement with their doctors regarding treatment recommendations. Their findings revealed that when patients were of the same gender as their doctor, they were more likely to agree with their doctor's advice, and vice versa. For example, female patients with male doctors often disagreed about the patient's need to lose weight, while female patients with female doctors were more likely to agree upon a plan of diet and exercise. Not all patient research confirms this finding, however; some studies suggest that gender concordance leads patients to be more secretive (Roter et al., 2014).

Despite these mixed findings, it is important to extend this line of research to criminal justice to better understand how gender and race concordance affect

probationers and their POs. Specifically, there is a need to explore how probationer outcomes are affected by both race and gender concordance. Based on medical literature, there is a rationale to assess whether gender concordance leads to better outcomes for probationers. Although patients usually get to choose the physicians and therapists who provide care and guidance to them, probationers do not receive that luxury when assigned to a PO's caseload. Therefore, it is critical to ascertain whether gender concordance affects criminal justice outcomes for those under community supervision. In addition, there is a need to understand how race as a categorical independent variable and racial concordance with POs affects probationer outcomes.

Probation Officers' Roles

Just as theories of interpersonal procedural justice imply that gender and race concordance may influence probationer outcomes, so also do they implicate the relationship between PO and probationer, especially as it is represented in the PO's supervisory role. One of the first studies to examine the different types of POs was conducted by Ohlin, Piven, and Pappenfort in 1956. They stated there were three PO styles: punitive officer, protective officer, and the welfare officer. The punitive PO maintains probationer's compliance through threats; they focus on protecting the community. The protective PO balances the offender's interests with the community's interests. The welfare PO's primary goal is to provide emotional and objective support to the probationer. Following Ohlin and colleagues' (1956) typology, Glaser (1969) created a fourth type, the passive PO. The passive PO views their job as easy. The probationers on their caseload receive little to no support. These typologies were fundamental to Klockars' (1972) triad of supervisory tactics. Klockars' model divides probation

supervision into three principal tactics: the surveillance model focuses on community safety, the treatment model promotes rehabilitation, and the hybrid model is a blend of the two. “Law enforcers” and “time servers” are both types of probation officers who follow this supervisory model as defined by Skeem & Manchak (2008). Both “law enforcer” and “time server” probation styles maintain probationers’ compliance through the threat of incarceration (Skeem & Manchak, 2008). From a law enforcer’s perspective, a PO must only hold a probationer accountable for the court-ordered sanction; their primary caseload function is to ensure probationers’ rule compliance by providing order and structure. Most POs embrace the surveillance model (Cullen & Gendreau, 2000). “Therapeutic” POs focus on rehabilitation and counseling, using the offense history and social environment to help rehabilitate the probationer.

A PO who utilizes a hybrid method, blending therapeutic and surveillance models, is referred to as a *synthetic* type (Klockars, 1972; Paparozzi & Gendreau, 2005; Skeem & Manchak, 2008). The synthetic officer balances competing roles: supporting the probationer by helping them solve problems (e.g. finding a job), while enforcing probationer compliance (Trotter, 2015). A synthetic officer must be caring/respectful, fair and non-authoritarian. Therefore, a “firm but fair” approach encourages compliance (Andrews & Kissling, 1980), and may reduce recidivism. Synthetic POs serve as authority figures while also helping probationers navigate stressors in their lives (Trotter, 2015). Receiving praise and rewards for compliance has been shown to correlate with lower probationer recidivism rates (Trotter, 2015). According to Skeem and Manchak (2008), a plausible rationale for Trotter’s (2015) finding is that only a *synthetic* PO can monitor their clients’ behavior and help them receive adequate treatment.

In the early 2000s, community corrections shifted towards the hybrid model because the surveillance model did not reduce recidivism (Taxman, Shepardson, & Byrne, 2004). The few studies that have examined the quality of working relationships between POs and probationers suggest that this relationship can influence probationer rehabilitation (Klockars, 1972; Paparozzi & Gendreau, 2005; Skeem & Manchak, 2008). If a PO and probationer have a therapeutic alliance bond, then this bond can positively impact success in treatment and compliance to probation rules (Kennealy et al., 2012; Skeem et al., 2007). Nevertheless, the hypothesis that a PO's relationship with a probationer will reflect Klockars' models, and that one model is more effective than the others, needs more empirical support. A PO's power comes from their ability to revoke probation, send the probationer back to jail or prison, or to give the probationer a technical violation, increasing the length of the probation sentence. Whereas "time servers" and "law enforcement" POs are more likely to use and follow through with the threat of revocation, synthetic and therapeutic officers do not typically resort to revocation as a sanction (Klockars, 1972).

According to the "Core Correctional Practice" (CCP), the most effective community correctional officers are those who have a high-quality relationship with offenders. The CCP has five components (Dowden & Andrews, 2004). The first component is that a PO should be "firm but fair" when interacting with the offender. The PO should more explicitly state the court's rules and regulations pertaining to the probationer's community supervision sentence, and make sure the probationer understands the court's stipulations. The second component is that the PO should instill anti-criminal attitudes in interactions with the probationer. POs can decrease recidivism

by promoting this positive attitude. The third component is teaching problem-solving skills to the probationer. The fourth component is using community resources to help the probationer comply with their probation (i.e. subsidized housing or helping the probation maintain employment). The fifth and most vital component states that interpersonal encounters between the probationer and their PO have the ability to influence probationer's compliance positively or negatively. In Dowden and Andrews' (2004) study, the fifth component was conceptualized as relationship factors and skills factors that lead to a reduction in recidivism.

There are mixed findings in the literature regarding the efficacy of different probation models, and probation agencies employ a range of approaches in practice. Some probation agencies have used the synthetic model of community supervision, while others have relied solely on the practice of authoritative control (Skeem & Manchak, 2008). Most probation agencies in the United States employ the surveillance approach, which includes classic Intensive Supervision tactics (Skeem, Emke-Francis, & Eno Louden, 2006; Skeem & Manchak, 2008). From a surveillance perspective, officers may view technical violations as a method of combatting new crimes (Farabee, 2005), despite the lack of adequate evidence to support this claim. Nonetheless, the threat of incarceration is the primary incentive for compliance in the surveillance model (Skeem & Manchak, 2008). Further complicating this issue is a lack of awareness among POs about the efficacy of different supervision tactics. A recent study by Miller (2015) surveyed a national representative sample of 1,500 POs to assess their supervision tactics. This study concluded that nearly all officers are synthetic. Also, it is important to note that Miller's

study used different measures than previous research, which may explain the inconsistency in these findings.

There are discrepancies in research about how and why officers' correctional typologies are labeled. For example, Ricks and Eno Louden (2015) surveyed community corrections officers, asking them about their attitudes towards the decisions made by their supervisors. The researchers found considerable variability among the sample. The officers were categorized using a scale created from the Parole Officer Punishment and Reintegrative Orientation Questionnaire. Ricks and Eno Louden (2015) modified the title to Revised Community Corrections Officer Orientation Scale (RCC), categorizing officers into law enforcers, synthetic officers, and/or social workers. Other studies, however, have not found the same variability.

POs have the discretion to set supervision recommendations and determine sanctions (Medina, 2016). The judge then decides what sanction to impose based on the offense but relies on the PO's recommendation when making a final decision (Medina, 2016). According to Schneider, Ervin, and Snyder-Joy (1996), this discretion can result in arbitrary decisions based on PO bias, especially given the varying levels of probation department oversight across jurisdictions (Skeem & Manchak, 2008). Probation functions as a practitioner-driven occupation and is thus driven by the philosophy of each individual PO as well as the norms of each probation department (Klaus, 1998).

One of the few studies analyzing probationers after they violated the terms of their probation was conducted by Clear et al. (1992). The researchers examined over 7,000 probationers from six departments across five states. Over 25% of the sample had violated probation. Only 177 of the 25% were taken out of community supervision

immediately, and the remaining violators were removed months later. Most of the violators did not commit serious violations, only minor infractions. POs reported that their rationale for sanctioning probationers reflected department policy, job experience, and interactions with other POs and judges. Ultimately, the study determined that a small number of probationers violate their probation. Based on the rationale that the PO and the probationer are working together in the probationer's rehabilitative process, there is a need to examine the relationship from the offender's perspective, rather than only the PO's.

Dual-Role Relationship Inventory (DRI-R)

Because compliance is a concern for probation departments, it is necessary to understand the probationer's perception of their PO. Carl Klockars' theory (1972) describes how POs balance two roles supervising probationers, resulting in three types of PO-styles. *Synthetic* officers are caring and fair, while avoiding authoritarian relationships. In 2007, Skeem and colleagues developed the DRI-R to measure this relationship between probationers and their supervising PO. The DRI-R measures two of Klockars' PO supervisory styles: the *synthetic* approach articulated by the DRI-R total score, and the *surveillance* approach articulated by the reverse coded toughness subscale score. The treatment style is not measured by the DRI-R or any of the subscale measures. According to Skeem et al. (2007) and MacCoun (2005), the DRI-R measures either an interpersonal form of procedural justice or portrays the synthetic officer supervisory style (Klockars, 1972) or both. The quality of an individual's perception of interpersonal treatment by an authority figure is a distinct construct of procedural fairness, which is separate from examining the quality of the decision maker's process. The perceptions of

individuals being treated with dignity, respect, and caring in encounters between a probationer and their supervising PO are components in the DRI-R.

Before developing the Dual-Role Relationship Inventory (DRI-R) in 2007, Skeem et al. (2003) created five focus groups with probationers suffering from mental illness. They analyzed the relationship between these probationers and their supervising probation officers (some POs had specialty caseloads, others did not). Based on their qualitative findings, probationers who characterized their PO as flexible and less authoritative were more likely to comply with the terms of their probation. Furthermore, they had access to more rehabilitative services. These results led them to devise a method for understanding the PO-probationer relationship and its effect on probationer compliance.

In 2007, Skeem et al. developed the Dual-Role Relationship Inventory-Revised (DRI-R) to measure the bond between the PO and probationer. Written for a fifth-grade reading level, the DRI-R groups probationer responses into three factors: Caring/Fairness, Trust, and Toughness. There are 30 items on the DRI-R. The responses for each item fall on a seven-point Likert scale, where 1 = never, 2 = rarely, 3 = occasionally, 4 = sometimes, 5 = often, 6 = very often, and 7 = always. The subscale of Caring/Fairness has 20 items, the subscale of Trust has 5 items, and the subscale of Toughness has 5 items.

When Skeem et al. (2007) initially created the DRI-R, the internal consistency scores of the Caring-Fairness, Toughness, Trust, and Total scales were all above $\alpha = .85$. However, actual confidence in the DRI-R validity is mainly based on its patterns of associations with other criterion-related variables such as the Working Alliance Inventory

(WAI), which is often used to measure therapeutic alliance (Horvath & Greenberg, 1989). Consequently, Skeem et al. (2007) determined the DRI-R can effectively assess the relationship between a probationer and their PO and demonstrate how the strength of this relationship affects compliance. The lower the DRI-R total score, the more likely a probationer will violate their probation (Skeem et al., 2007). The total DRI-R score also reflects the different surveillance methods employed by the probation officers:

> In DRI-R terms, the *synthetic* or hybrid approach is marked by caring, trust, fairness, and an authoritative approach; in contrast, the *surveillance* approach is marked by an authoritarian approach (inflexible, obedience-oriented, and disinterested in probationers' views and feelings). These approaches were operationalized using DRI-R total scores (synthetic) and toughness-authoritarianism scores (surveillance), respectively. (Skeem & Manchak, 2008, p. 226)

DRI-R scores not only demonstrate the differing surveillance types; they also reinforce previous research which concludes that some methods are more effective than others. For example, Paparozzi and Gendreau (2005) found that a surveillance approach increased parolee technical violations by more than 40%, while a synthetic approach resulted in fewer technical violations. Finally, the inventory's total score predicted rule compliance (Skeem et al., 2007).

In 2012, Kennealy et al. examined a sample of 109 parolees (without mental illness). The study's goal was to use a survival analysis to further establish a relationship between the DRI-R individual measure scores, the DRI-R total scores, and the re-arrest of the general offenders in the sample. When running multiple Cox potential hazard

regression analyses, the researchers found that for each point increase in the participants' DRI-R total scores, there was more than a 30% reduction in the rate of rearrests, which was statistically significant at the .001 level (Kennealy et al., 2012). Their findings led to the conclusion that offenders who had higher scores on the DRI-R, specifically the Caring/Fairness measures, are less susceptible to rearrests. This was determined while controlling for other variables, including personality and risk assessment. Their study adds to the literature on using the DRI-R for general offenders, as Skeem et al. (2007) only examined offenders with a mental illness; however, their study examined the DRI-R with a sample of parolees instead of probationers.

The DRI-R independently predicted rearrest, unlike other personality and risk assessment tools (Kennealy et al., 2012). This predictive association highlights the importance of examining the relationship between a probationer and their PO (Skeem et al., 2007; Kennealy et al., 2012). Probationers who perceive their PO as being more caring, trusting, and fair are less likely to reoffend than probationers that have a poor relationship with probation officers (Skeem et al., 2007; Kennealy et al., 2012).

The literature suggests that a well-balanced probation officer, with high levels of the traits identified by the DRI-R, can help change the behavior of the probationers they supervise (Skeem & Manchak, 2008). Because the DRI-R assesses two of the three PO supervisory tactics (the Trust and Caring/Fairness scores measure *synthetic* tactics, and the Toughness items measure *surveillance* supervisory tactics), it was possible for these researchers to use logistic regression to assess the effect of the probationers' DRI-R Toughness subscale score. For example, for every unit increase on the probationers' DRI-R Toughness score, the odds of probation revocation increased by over 90%, on average

and while controlling for the other variables in the model. The treatment approach cannot be measured by the DRI-R because the DRI-R captures the *surveillance* approach and the authoritarian approach, whereas the treatment approach was measured by the Working Alliance Inventory (WAI) and was found not to be correlated with recidivism, technical violation, or probation revocation (Skeem & Manchak, 2008).

The short-term effects of the relationship between POs and female probationers were studied by Morash et al. (2015). Morash and colleagues (2015) interviewed a mixed sample of 330 female offenders who were on probation or on parole. They used the Dual-Role Relationship Inventory Revised (DRI-R) (Skeem et al., 2007) to assess the relationship between the POs and the offenders on their caseload. The DRI-R was used as an independent variable, rather than a dependent variable. The dependent variable was the probationers' anxiety during two time periods, measured by the Brief Symptom Inventory (Derogatis & Melisaratos, 1983). Their results supported the assertion that having a more supportive PO during community supervision, office visits, and field visits lowers the female probationers' anxiety and decreased their likelihood to recidivate. The inverse was also demonstrated: a more authoritative PO led to higher probationer anxiety and additional criminal behavior (Morash et al., 2015).

In 2017, researchers assessed the relationship between probationers with serious mental illness (SMI) and probation program staff using the DRI-R and qualitative interviews. They compared three types of probation programs: mental health court, specialty mental health caseloads, and standard probation (Epperson, Thompson, Lurigio, & Kim, 2017). They found probationers in mental health court gave the highest DRI-R total score. Meanwhile, the "standard" probationers who had a mental illness gave the

lowest DRI-R scores. The researchers used a stepwise approach in their regression analysis; the overall DRI-R score was the dependent variable. The two covariates that were the most statistically significant predictors of DRI-R scores were the probationer's sentence length and previous probation sentence (Epperson et al., 2017). The longer a probation sentence, the lower the quality of the probationer-PO relationship. Furthermore, previous probation was a significant predictor of lower DRI-R total scores, Caring/Fairness subscale scores, and Trust subscale scores (Epperson et al., 2017).

If the probationer did not believe that the officer cared for his or her interests, this disbelief corresponded to lower levels of trust and sanctions that were characterized as unjust and authoritarian based on the qualitative findings (Epperson et al., 2017). These findings provide a rationale to examine how probationers' mental illness affects both DRI-R subscale scores and the DRI-R overall score.

A vital role of the DRI-R scale is to quantify the quality of the relationship between a PO and a probationer based on the theoretical underpinnings of therapeutic alliance. The subscales of the DRI-R (e.g. Caring/Fairness, Trust, and Toughness) are designed to capture the aspects of a therapeutic alliance. A lower score in the toughness subscale indicates a less authoritarian surveillance approach by the PO, which can be associated with a higher quality relationship (Skeem, et al., 2007). A higher Caring/Fairness subscale score indicates a stronger therapeutic alliance between the probationer and PO.

Theoretically, the DRI-R evaluates the relationship quality between the probationer and the PO. Findings have demonstrated that POs who blend care and control with probationers/parolees on their caseload are instilling a therapeutic alliance with

those probationers/parolees (Skeem et al., 2007; Kennealy et al., 2012). Horvath and Greenberg (1989) created the 36-item Working Alliance Inventory (WAI) to measure the therapeutic alliance between therapists and patients. In 2013, Alegría et al. (2013) used the WAI to measure the therapeutic alliance between patients and health care providers, establishing that the therapeutic alliance has an independent effect on continuance of care. Considering the results of these choice-based relationships (that is, where clients choose their treatment provider), it is probable that higher DRI-R scores would be the result of a greater quality in working alliance between the probationer and their PO (e.g. lower sanctions), as the DRI-R was created to assess the quality of mandated treatment and the probationer's perception of their assigned PO's fairness and clarity (Skeem et al., 2007). Although the DRI-R examines the quality of satisfaction for mandatory relationships, it does not exactly measure therapeutic alliance as the WAI does. The DRI-R examines the quality of satisfaction for mandatory relationships. It does not measure therapeutic alliance like the WAI. The working alliance or therapeutic alliance has three key concepts: *goals* a client and therapist must work on, *tasks* necessary to achieve their primary goal, and the therapeutic *bond* between the two parties (Bordin, 1979; Horvath & Greenberg,1989). These measures are not adequately understood in mandated treatment scenarios, like probation, because they involve authoritarian relationships (Blasko & Taxman, 2018; Skeem et al., 2003; Skeem et al., 2007). Two working alliance concepts, *goals* and *bond,* can be measured in procedural justice, while *goals* and *tasks* can be measured in distributive justice (Bordin, 1979; Lerner & Clayton, 2011).

When Skeem et. al (2007) created the DRI-R they deleted 28 items that examined working alliance measures such as goals and tasks because these concepts are more

relevant to psychotherapy. Clients and therapists have the ability to agree on treatment decisions, unlike probationers who are told what to do by their PO. When the PO takes on the role of care provider and law enforcer the dual roles of the PO may lead to probationers agreeing to terms of their probation through the discretion used by their PO. Therefore, when Skeem et al. (2007) examined the predictive utility of the DRI-R versus the WAI, the DRI-R predicted negative probationer outcomes more successfully than the WAI. Skeem et al. (2007) ran a survival analysis and found that the probationers' WAI total score did not predict time until probation failure; however, the DRI-R was predictive of future rule compliance and future revocation. They determined the WAI does not adequately capture the relationship between a probationer and their PO because the WAI was designed to study relationships in which the client has the choice of care-provider.

The relationship quality captured by the DRI-R can be linked to rule compliance (Skeem et al., 2007) through the framework of procedural justice (MacCoun, 2005). Although a higher DRI-R score can be attributed to the PO's synthetic role, a probationer's DRI-R score may also be measuring their perception of procedural justice. According to Tyler (1990) and Tyler and Huo (2002), procedural justice shows the willingness of citizens to comply with a legal authority's decisions. These procedural justice attributes are captured by the measures assessed by the DRI-R (Skeem et al., 2007). Procedural elements examine two components—quality of decision-making and quality of treatment—which can be articulated by the composite DRI-R score (Tyler, 2003). When a PO allows the probationer to have a voice in the PO's decision, it affects the probationer's community supervision, and the probationer may consequently feel more compelled to follow the law and make the PO's job easier (Kennealy et al., 2012).

In contrast, if the PO is overbearing and authoritarian, the probationer may feel coerced and less motivated to comply with the probation terms enforced by their PO (Kennealy et al., 2012). Due to the fact that POs are criminal justice actors, they have the ability to affect probationers' compliance based on the procedures they use (Mazerolle, Antrobus, Bennett, & Tyler, 2013; Sunshine & Tyler, 2003). According to Skeem et al. (2007), the DRI-R total score can potentially measure an "interpersonal form of procedural justice" (p. 399), which can affect the willingness of probationer to accept decisions made on their behalf by their PO (Tyler, 1994).

The rationale for examining the DRI-R as an interpersonal measure is based on Colquitt's (2001) work. Colquitt proposes procedural justice, interpersonal justice, and informational justice are distinct measures that conceptually assess different constructs. However, all three are correlated and have interrelated effects on outcome variables. Furthermore, Kernan and Hanges (2002) confirmed interpersonal, informational, and procedural justice are unique constructs and should be considered as separate measures when examined in relation to justice outcomes. While traditional procedural justice measures have not been validated in community corrections except by Blasko and Taxman (2018), the DRI-R has been validated with multiple samples.

The relevance of procedural justice can be seen in other areas of correction research. Recent research on institutionalized offenders has found procedural injustice affects prisoners' rule compliance. Prisoners are under constant surveillance and forced to comply, unlike individuals on community supervision (Jackson et. al, 2010). Prisoners are more likely to comply with prison guards if they perceive they are treated fairly. In addition, the prisoners are less likely to self-report misconduct and to violate institutional

rules (Beijersbergen, Dirkzwager, Eichelsheim, Van der Laan, & Nieuwbeerta, 2015; Beijersbergen, Dirkzwager, & Nieuwbeerta, 2016; Reisig & Mesko, 2009; Sparks & Bottom, 1995). According to Beijersbergen et al. (2015), the fairness of the procedures implemented is expected to increase social order because the fairness signifies valued group membership, whereas unfair treatment makes the prisoner feel disrespected and marginalized.

Scholars who have examined perceptions of procedural justice of prisons state that a limitation of their research is that there has not been an established standard to measure procedural justice (Colquitt ,2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Hinds & Murphy, 2007; Reisig & Mesko, 2009; Sprott & Greene, 2010; Thibaut & Walker, 1975; Thibaut, Walker, LaTour, & Houlden, 1973; Tyler, 2006). Also, some scholars have found procedural justice is a one-dimensional construct (Henderson, Wells, Maguire, & Gray, 2010; Reisig, Bratton, & Gertz, 2007). It lacks measures of neutrality, trust, perceived dignity and respect, and/or fairness of decision-making, along with measures of the quality of treatment by the decision maker (Peterson-Badali et al., 2007; Sunshine & Tyler, 2003). This lack of a measurement standard leads to conflicting findings (Beijersbergen et al., 2015).

The DRI-R is a valid measure for predicting compliance in samples of 322 mentally-ill probationers and 109 non-mentally ill parolees. Furthermore, the DRI-R has been able to predict a wider range of offenses, when compared with other measures of procedural justice (Blasko & Taxman, 2018), such as technical violation, revocation, and new arrest. Meanwhile, procedural fairness measures have only been able to predict self-

reported criminal offending, fewer official arrests, and fewer number of technical violations. They cannot predict the time until probation revocation.

The Current Study

The current study sought to overcome some limitations of the previous research by surveying both felony and misdemeanor probationers and examining the interpersonal relationships between probationers and their POs. Previous research examining risk factors as predictors of negative probationer outcomes does not consider how the probationer and PO relationship might influence probationer outcomes (e.g. technical violation, evasion of probation without being caught, and/or new arrest). Thus, there is a need to understand how one-on-one relationships between probationers and POs affect mandated rule compliance while controlling for both sociodemographic variables and legal factors. Researchers must examine PO strategies for supervising probationers and assess how different supervision tactics affect rule compliance. There is a need to understand supervision strategies used by POs and how these aid or hinder probationer outcomes. The primary roles of POs are to focus on the public safety and rehabilitation/reintegration of probationers into the community (Paparozzi & Guy, 2013). From this perspective of the PO having dual philosophies POs must supervise probationers in the community and this is seen as a form of punishment for those convicted of criminal acts by the criminal justice system. Therefore, POs take a law enforcement approach by monitoring the probationer's whereabouts in the community, focusing on goals of public safety, and holding probationers accountable for their actions. Contrary to the public safety emphasis, POs must help probationers rehabilitate themselves and reintegrate themselves into the community. The goal of rehabilitating the

probationer is to provide the probationer with the skills needed to reintegrate themselves back into the community without committing further criminal acts. Therefore, there is inherent value in examining the different PO supervisory styles from the perspective of the probationer.

The study examined shared racial and gender identity within the community correction system by assessing how shared race/ethnicity with a PO affects a probationers' sense of interpersonal procedural justice and obligation to comply with probation terms. At present, to the researcher's knowledge, there are no existing studies that specifically evaluate whether offenders placed on community supervision who interact with racially similar POs are more likely to have greater procedural justice, which affects one's obligation to obey the court-mandated terms of one's probation. The theoretical foundation surrounding an individual's obligation to follow the law is rooted in the process-based model of self-restraint (Tyler, 1989). The process-based model is based on two assumptions: first, authority figures influence individual's perceptions of procedural justice and second, the individual's perceptions of procedural justice are based on perceived motives of the authoritative figure and the individual's perception of one's obligation to comply with the law (Sunshine & Tyler, 2003; Tyler & Huo, 2002).

The researcher focused on influential risk factors to see which are more predictive of negative probationer outcomes (e.g. technical violation, evasion of probation without being caught, and/or new arrest). The characteristics that Andrews (2012) states are essential to high quality relationships are respectfulness, caring, collaboration, and valuing the offender's autonomy, as well as providing pro-social modeling to the offender. These traits are gained through interactions between

probationers and POs, and should be examined alongside criminogenic risk factors. Rather than examining risk/need assessments tools, the primary researcher will examine sociodemographic, legal, and extra-legal factors that affect recidivism. Most researchers examine CCP at the program-level rather than at the interpersonal-level (Kennealy et al., 2012). The researcher examined individual risk factors instead of risk-need assessments tools. Recent research has found POs often administer risk assessment tools at intake, but do not use the results to aid in the probationer's rehabilitation (Viglione, Rudes, & Taxman, 2015). POs typically classify offenders into low, medium, and high risk based on criminogenic factors (Oleson et al., 2012). For example, POs' primarily focused on probationers' employment, housing, and fines/restitutions in a qualitative study of 42 POs (Viglione, Rudes, & Taxman, 2015). The POs did not fully understand the rationale behind administering risk assessment tools and preferred their individual discretion. Rather, they find the tools to be additional unnecessary paperwork. Instead of examining risk assessment tools and their utility at predicting further rule compliance, the researcher will include empirical predictors of negative probationer outcomes because most POs concentrate on risk factors they view as predictors of further recidivism (Viglione et al., 2015). Since Skeem et al. (2007) and Kennealy et al. (2012) found that the DRI-R can be linked to past and future rule compliance, the researcher will utilize this measure instead of other procedural justice instruments. There is no standard for measuring procedural justice (Reisig et al., 2007).

III. METHODOLOGY

Chapter Three establishes the study's primary research hypotheses, explains the research design, and details the quantitative survey (i.e. the DRI-R instrument, independent and control variables, and dependent variables) and the data collection process. The hypotheses are more fully addressed in the Analysis section. Methods of analysis include confirmatory factor analysis, and logistic regression models.

The study investigates the following five research questions:

1) Is the DRI-R's three-factor 30-item inventory an effective tool for measuring the interpersonal relationships between probationers and their POs in a sample of general population probationers?
2) Does the DRI-R total score (trichotomized into high, medium, and low subscale scores) correlate to probationer outcomes?
3) Do the DRI-R subscales (Caring/Fairness, Trust, and Toughness) correlate to probationer outcomes?
4) Does race and/or gender concordance between probationers and POs influence the PO-probationer relationship as measures by the DRI-R and its subscales?
5) Does race and/or gender concordance between probationers and POs influence probationer outcomes?

Hypothesis 1.

If the DRI-R measures the quality of the relationship between probationers and their supervising Probation Officers (PO), then the DRI-R should be generalizable to a general probation sample. Hypothesis 1 responds to Research Question 1.

This hypothesis was based on previous research by Skeem et al. (2003), who conducted five focus groups and observed interactions between over 30 POs and 20 probationers. The probationers were mentally ill and on standard and specialty probation. Skeem et al. (2003) found that when probationers perceived their PO interactions as caring and respectful rather than overly authoritative, they were more likely to comply with the terms of their probation. The study investigated whether this association between positive PO interactions and probationer compliance exists in a general population of probationers.

There is a need to measure interpersonal interactions between probationers and their PO to assess how those interactions can affect mandated rule compliance. The DRI-R was created to measure the bond between the PO and probationer. To determine whether the DRI-R is generalizable, Skeem et al. (2007) tested the measure via a Confirmatory Factor Analysis (CFA) on a sample of 322 mentally ill probationers. The model fit for the CFA had a Comparative Fit Index (CFI) where values above 0.90 and root-mean-squared errors approximation (RMSEA) values below 0.10 were used to define an acceptable fit for the three-factor measurement model (Byrne, 1994).

Skeem et al. (2007) found that the DRI-R captures something inherently different than therapeutic alliance constructs. Skeem et al.'s (2007) findings were consistent with Skeem et al.'s (2003) conclusion that the quality of the probationer-probation officer relationship predicted technical violations, revocation, and new arrests. The current study replicated Skeem et al.'s (2007) analysis of the DRI-R as a three-factor measurement model, but it extends beyond this previous research by examining a general population of probationers, rather than focusing only on a mentally ill population. The researcher

obtained over 400 completed surveys from probationers in three anonymous counties in Texas. In the survey, through administration of the DRI-R, the respondents were asked to indicate (on an ordinal scale from 1= never, to 7= always) how they perceived their interactions with their PO. Based on the measurement model developed by Skeem et al. (2007), the researcher will analyze a three-factor structure, measuring the latent factors of caring/fairness, trust, and toughness. The researcher assumes a covariance/correlation between these three factors. No other specification was chosen for the model, which is depicted in Figure 1 of this study. Once the researcher assessed the DRI-R as a three-factor latent structure in a sample of general population probationers, then the researcher moved forward using the DRI-R, total scores and the subscale scores, for further inferential statistical analyses.

Hypothesis 2.

As the DRI-R total score increases, then the probationer will be less likely to violate the terms of their probation without being caught, receive a technical violation, and/or new arrest. If the probationer perceives the PO as more synthetic (that is, balancing caring/fairness and trusting while avoiding harsh authoritarian punishment), then the probationer will be more likely to comply with the court mandated terms of their probation, while avoiding negative probation outcomes (e.g. technical violation, revocation, or new arrest). Hypothesis 2 responded to Research Question 2.

When examining community correctional supervision, there is a vital need to understand the factors that affect probationers' compliance with mandated rules. Previous research has suggested that a positive relationship between probationers and POs can support mandated rule compliance (Kennealy et al., 2012; Skeem et al., 2007). This

possibility warrants further research because it has significant implications for the practice of correctional supervision; for example, new training could be implemented to teach POs how to strengthen their relationships with probationers and thereby improve probationer outcomes.

There is currently only one validated measure which examines probationer-PO relationships: the DRI-R. The development of the DRI-R is focused on mandated treatment. To develop the DRI-R, Skeem et al. (2007) first sampled 90 probationers who were mentally ill, then cross-validated the measure with 322 probationers who had previously been diagnosed with a mental illness. The DRI-R total score indicates the probationer's perception of how synthetic the relationship is between the probationer and their PO. The total score sums up scores for the caring/fairness subscale, the trust subscale, and the reverse-coded toughness subscale score into a composite measure.

To date, only one study (Kennealy et al., 2012) has examined a sample of male and female parolees who did not have a mental illness. This study found that the greater the dual-role relationship articulated by the DRI-R total score, the less likely parolees are to be rearrested while under community supervision. Unlike Kennealy et al. (2012), who examined official records to determine whether parolees were rearrested or not, this study examines probationers' self-reported technical violations, evasion of terms without getting caught, and/or new arrests. According to Skeem et al. (2007), the DRI-R is an interpersonal procedural justice measure. Previous research on interpersonal procedural justice states that the quality of a decision-maker's treatment affects individuals' perceptions of that decision-maker's fairness; research also shows that individuals' judgments are influenced by interpersonal encounters (Bies & Moag, 1986; Tyler, 1988).

Hypothesis 3.

The researcher trichotomized probationers' total DRI-R scores into three groups: low, medium, and high levels. The probationer group that has the lower DRI-R total score will be more likely to receive negative probationer outcomes because they perceive their PO as more controlling, more authoritarian, less caring/fair, and less trusting; in other words, they do not perceive their PO as synthetic. Probationers with a lower DRI-R total score will be more likely to violate the terms of their probation without being caught, receive a technical violation, and/or new arrest. Hypothesis 3 responds to Research Question 2.

In the first study to use the DRI-R on a sample of 109 general parolees, Kennealy et al. (2012) ran a survival analysis to examine time until rearrest. Kennealy et al. (2012) also conducted the first study to trichotomize the DRI-R score into low, medium, and high levels. Thus, the current study was the second study to trichotomize the DRI-R total score for a sample of general population probationers, but the first to consider technical violation, evasion of a probationer's term of probation without getting caught by their supervising PO, and/or rearrest (rather than solely measuring time to rearrest). By examining a broader range of outcomes beyond time to rearrest, including technical violation and self-reported evasion of terms of probation, the researcher seeks to develop a more comprehensive account of probationers' outcomes.

In order to further understand relationships between probationers and POs, there is a need to categorize different levels of relationship quality and assess how that quality can affect probationer outcomes. If practitioners in the correctional system can learn which levels of quality best affect probationer outcomes, then they can make conscious

efforts to build more synthetic relationships with the probationers on their caseloads. The goal of categorizing the DRI-R total score is to enable POs to distinguish the effects of probationer outcomes at different levels. Also, by grouping the total scores, the interruption of the data is compared to a reference category, rather than interrupting a one-unit increase in the DRI-R total score; this may make it easier for practitioners to understand the nested value of providing a strong interpersonal relationship with the clients on their caseload. To capture the quality of the relationship between a probationer and a PO, the research also trichotomized the DRI-R based on a tertile range (i.e. low, medium, and high). By categorizing/organizing probationer's DRI-R into categorical groups, the researcher can show practitioners which levels are more likely to lead to probationer outcomes.

Hypothesis 4.

As the caring/fairness DRI-R subscale score increases, then the probationer will be less likely to receive a technical violation, violate the terms of their probation without getting caught, and/or new arrest. If the interpersonal relationship between a probationer and PO is high in caring/fairness, this should lead to positive interactions, thereby deterring probationers from negative probationer outcomes such as violating the terms of their probation without being caught, receive a technical violation, and/or new arrest. Hypothesis 4 responds to Research Question 3.

This hypothesis is based on the findings of Kennealy et al. (2012) that in a general population of parolees, a high score on the caring/fairness subscale was negatively associated with rearrest. The researchers also found that both the trust and toughness subscales predicted rearrest, but neither independently predicted rearrest without

controlling for shared variance in the caring/fairness subscale. The current study examined the individual DRI-R subscale scores to assess which subscale scores (i.e. caring/fairness, trust, toughness) are individually predictive of traditional probationer outcomes (e.g. technical violation, revocation, and/or rearrest). The current study built on Kennealy et al.'s (2012) findings by examining the effects of the caring/fairness subscale on multiple probationer outcomes. This study was the first study to examine self-reported lack of mandated rule compliance and assess the degree to which the individual subscale scores are predictive of the outcome measures.

Hypothesis 5.

As the toughness DRI-R subscale score increases, the probationer will be less likely to receive a technical violation, violate the terms of their probation without being caught, and/or new arrest. Increased toughness is expected to correlate to an increased likelihood of negative probationer outcomes, because the probationers perceive their interactions with their PO as authoritarian, leading to negative probationer outcomes. Hypothesis 5 responded to Research Question 3.

The researcher reverse coded the toughness variables prior to creating the total toughness subscale score. Specifically, in the original work on creating the DRI-R measure, Skeem et al. (2007) found that as the toughness scale score increased by one unit, the probationer's odds of committing a violation increased by approximately 30%. Also, the toughness scale predicted time until revocation. Skeem et al. (2007) found that the toughness subscale score of the probationers was predictive of the number of recent violations for the probationers in their sample. In their examination of the time until rearrest, Skeem et al. (2007) and Skeem and Manchak (2008) found that for every one-

unit increase in a probationer's DRI-R toughness score, the odds of revocation increased by over 90%.

Hypothesis 6.

As the trust DRI-R subscale score increases, the probationer will be less likely to violate the terms of their probation without being caught, receive a technical violation, and/or new arrest. As the trust subscale increases there is an expected decreased likelihood of negative probationer outcomes resulting from the probationer's bond with their PO is not hostile. Hypothesis 6 responded to Research Question 3.

According to Skeem et al. (2007), the trust subscale score did not independently predict rearrest when entered into the model without the other two collective subscales, caring/fairness and toughness. Skeem et al. (2007) attribute this limited predictive power to the to the intercorrelation between the two subscale scores trust and caring/fairness. Kennealy et al. (2012) did not find that the trust and toughness subscale scores predicted rearrest when entered into the model individually. There is a need to further examine the predictive utility of the trust subscale measure when examining multiple criminal justice outcomes beyond time until rearrest.

Hypothesis 7.

If the probationer is gender concordant with their PO, then the probationer's DRI-R total score and subscale scores will be higher. This hypothesis is based on social identity theory and the group-value model of procedural justice. It is also founded on the assumption that the PO is considered an authority figure, and that the probationer is trying to increase their status within their gender in-group. Therefore, probationers who

perceive their PO as gender concordant with themselves are also expected to perceive their PO as more caring/fairer, trusting, and authoritative.

Hypothesis 8.

If the probationer is gender concordant with their PO, then the probationer will be less likely to violate the terms of their probation without being caught, receive a technical violation, and/or new arrest than probationers who are not gender concordant with their POs**.** Gender concordance between probationers and POs correlates to a decreased likelihood of negative probationer outcomes. This hypothesis was based on social identity theory, delineating the PO as an authoritative figure and the probationer as trying to increase their self-image by modeling their behavior according to a gender concordant PO. Hypothesis 8 responded to Research Question 5.

Hypothesis 9.

If the probationer is race concordant with their PO, then the probationer's DRI-R total score and subscale scores will be higher. This hypothesis was also based on social identity theory. A probationer who seeks affirmation from a race concordant PO will be more likely to perceive their PO as being "firm but fair."

Hypothesis 10.

If the probationer is race concordant with their PO, then the probationer will be less likely to violate the terms of their probation without being caught, receive a technical violation, and/or new arrest than probationers who are not race concordant with their PO. Race concordance is expected to produce positive outcomes because, based on the group-value model and social identity theory, when a probationer seeks to enhance their status by identifying with an in-group authoritative figure (PO), that probationer will be less

likely to have a technical violation, revocation, and/or new arrest. Hypothesis 10 responded to Research Question 5.

The current study was the first to examine race concordance as a proxy measure of social identity theory in a cross-sectional probationer survey. If a probationer identifies with a race concordant PO, the probationer may be gaining knowledge of their own self-concept through in-group interactions with their supervising PO. Since the PO is considered a position of authority, the probationer may be seeking to identify with the authoritative figure (Baker, 2017). Further research is needed to determine whether racial concordance is similarly influential in the criminal justice system.

The series of hypotheses examined the ways the DRI-R total score, the caring/fairness subscale score, the trust subscale score, and toughness subscale score, and the trichotomized DRI-R total score (e.g. low, medium, high), along with the race and gender concordance between Probationers and their POs, may influence traditional probationer outcomes. In examining these questions, the researcher addressed continual challenges for community corrections. By developing a dataset outside the confines of probation administration research, the study could help criminal justice researchers to further understand barriers faced by probationers based on race, gender, and mental health status, as well as the quality of their relationship with their PO.

Target Population

The researcher designed this study to improve understanding of how probationer-PO relationships affect probationer compliance. According to the Executive Summary from three counties in Texas, there were 1,418 White probationers, 186 African American probationers, 1,353 Hispanic probationers, and 39 probationers that were

categorized as “other” race in 2016 in the three counties (Executive Summary, 2016). Split by gender, there are 2,172 male probationers in direct supervision and 824 female probationers in direct supervision (Executive Summary, 2016).

The researcher surveyed the entire probation population in the three counties. Ideally, all probationers would have completed the survey, but it was realistic to expect a 25-50% response rate. The total number of probationers included those formally and informally placed on probation for misdemeanor and felony offenses (information that was collected in the survey, as it is not provided in the Executive Summary). Farrall (2005) examined the relationship between self-reported and officially-reported recidivism among probationers. Roughly 30% of the participants did not report offending behavior. Their official records support their answer choice in the self-reported surveys. Likewise, roughly one-third of probationers self-reported offenses; their official records confirmed these responses, indicating that the offender was formally caught for their offending behavior. The primary researcher does not have access to the probationers’ official records and also the Chief of Probation for the three counties had requested that the surveys be anonymous, therefore the primary researcher had to rely on self-reported probationer outcomes.

In the tri-county area, the probationer population under direct supervision was divided accordingly: 2% were for on probation for sex offenses, 16% for assault offenses, 20% for burglary/theft offenses, 28% for DWI offenses, and 34% for controlled substance offenses. The vast majority of research focuses on offenders placed on probation for a felony offense (Sims & Jones, 1997). The most prevalent intensive supervision probation (ISP) focuses on compliance, using close monitoring of the

probationers (known as the "tail 'em, nail 'em, and jail 'em" method) and frequent office visits and urinalysis (referred to as the "pee 'em and see 'em" method); in this approach, rehabilitating the offender is not a main priority (Cullen, Eck, & Lowenkamp, 2002).

Data Collection Procedure

The study briefing took place at the tri-counties' probation offices. The survey required written consent, which did not include signatures from participants so that the participants remained anonymous, per the request of the Chief of Probation in the three counties. The written consent only included check boxes that state, "I consent, begin the study" and "I do not consent, I do not wish to participate in this study" (see Appendix A). If the probationer did not consent, they were not included in the sample pool. The sample pool was all adjudicated felony and misdemeanor probationers in the anonymous counties. The data were collected from a non-probability convenience sample of all individuals on probation between March 3, 2018 and January 1, 2019. Thus, the sample included only those adults who are actively on probation, and not incarcerated, in a residential treatment, or absconded. The sample did not include probationers who are placed on pre-sentence probation and in pre-trial diversion programs. The study's purpose was not to track probationers beyond their completion date in order to run a survival analysis assessing time until recidivism. Rather, this study was designed to identify offenders' background characteristics and their perception of their relationship with their PO, in order to predict technical violations and probation revocation for felony and misdemeanor offenders. This research used a mixed-modes approach to survey implementation (e.g. web-based survey and paper and pencil survey) to improve coverage and response rate of the sampling frame and reduce nonresponse bias (Dillman,

Smyth, & Christian, 2014). Probationers filled out a cross-sectional survey either online or by paper and pencil (if they do not have access to the internet). As of July 2018, there were 3,784 probationers who needed to be notified about the survey.

Electronic Web-based Survey Mode

A web survey was the primary chosen method to administer the questionnaire measuring offenders' perceptions of probation officers (See Appendix C). Web surveys tend to decrease the burden on probationers because they do not require hand-written answers or mailed responses (Dillman et al., 2014). A web survey design has the benefits of being cost-efficient, improving timeliness, and reducing coverage error. Other advantages to using a web survey are the speed of response collection and cost-effectiveness (Dillman et al., 2014). When assessing the response quality, research has shown that respondents are more likely to provide socially desirable answers when asked by a person than in self-administered surveys (Tourangeau & Smith, 1996; Turner et al., 1998). A web survey also allowed for increased validation of answer choices, increased flexibility of content presentation, and quicker input of responses into a database for more streamlined analysis (Couper, 2008; Dillman et al., 2014). These advantages improved the quality of results.

Qualtrics was used to create, administer, and collect answers to survey questions. This survey creation process has flexible features such as routing and skip patterns, dynamic text options, rotation and randomization of questions and answers, forced answers, and custom formatting. Administration of the survey is streamlined with a simple interface. Qualtrics allows for unique URL links to the survey to be configured and administered. Responses can then be downloaded in spreadsheet format for analysis.

The use of an online survey gives probationers a voice in their own rehabilitation, which is crucial in increasing the potential for increases in response rate and variation in the data. Additionally, the online survey gave the participant the assurance of anonymity, of which they may be skeptical when returning a paper and pencil survey. There were no conditional questions; the previous questions are not required to be completed to move forward, so there was no skip pattern. The software has the capability to store the data with user ID and password. Therefore, the data can be securely stored on the host survey and then exported via an Excel file.

The online Qualtrics survey provided access via custom URL hyperlinks and Quick Response (QR) codes (See Appendix B). The hyperlinks were provided on business cards and featured a query string and custom QR code that distinguishes the probationers in the three counties. Each business card also displayed the researcher's contact information.

Paper and Pencil Version of Survey

Each paper and pencil survey had a case ID associated with the survey. For example, the top of page one of the first County survey included a case ID: County name and one. The paper and pencil version had the same consent form as the electronic version (see Appendix A). The probationer had the option to not participate in the survey, mail the survey back incomplete, or discard the survey. If the probationer chose to complete a hard copy of the survey, they were given a stamped self-service return envelope, allowing the researcher to have sole access to the survey responses and ensuring the probationer's total anonymity. Also, the researcher placed an X in the top left-hand corner of the envelope to deter the probationers from putting their name and

address in the provided space. Since the surveys were mailed to Texas State University, the administrative assistant of the School of Criminal Justice agreed to hold the returned mailed surveys and keep the returned surveys in her locked office until the researcher retrieved them. Once the researcher coded the surveys, they were kept in a locked filing cabinet until the dissertation was completed, then shredded to maintain respondents' anonymity.

The paper and pencil survey took approximately 15 minutes. The probationers were not compensated, but they may have been encouraged by the opportunity to share their opinions and experiences. There was minimal risk for a confidentiality breach. Allowing probationers to answer sensitive questions in a self-administered survey mode has the ability to reduce measurement error, while retaining sampling frame coverage (Dillman et al., 2014). The researcher did not collect any identifiers of the those who volunteered to answer the survey.

A description of the survey's purpose, along with a set of business cards and paper and pencil surveys, were dropped off at each of the county director's probation offices. The director distributed the brief synopsis to each of their POs. Also, the director looked at each of the PO's caseloads electronically and gave the POs a corresponding number of business cards, representative of their overall caseload. The PO was required to print out a list of all their clients on their caseload. Once a client came in for their weekly or monthly office visit, the PO briefed each probationer about the purpose of the survey and gave them the option to take a business card or a paper and pencil version of the survey (a Spanish language version was also available). Each probation officer read the brief synopsis to the probationers, and then distributed the survey (See Appendix B).

Once the survey was distributed, the PO checked off that probationer from their caseload list to ensure that no probationer was surveyed twice.

If the probationer chose not to participate, then the PO made a note of their right to decline on their caseload list. If the probationer took the business card, they could discard it if they chose not to participate in the survey. The debriefing was conducted by the probationer's current PO, who informed probationers how completion of the survey would benefit them and the probation office. Once all POs had informed probationers about the survey and distributed business cards, the researcher picked up the remaining business cards from each county probation department. After a month, the researcher made a follow-up phone call to each of the three directors to make sure that the surveys were being distributed to the probationers. Using a legitimate authority figure to distribute the surveys increased the likelihood of probationer completing the survey (Cialdini, 1984; Groves, Cialdini, & Couper, 1992). The electronic version of the survey took approximately 15 minutes. Also, if the probationer did not have access to the internet the PO gave them the option to complete a paper and pencil survey.

Measurement

The survey had all 30 items of the DRI-R. As the DRI-R's primary function is to capture procedural justice elements and therapeutic alliance characteristics between the probationer and the probation officer (Skeem et al., 2007), the inclusion of the DRI-R in the logistic regression analysis is key to assessing the dependent variables.

Dependent variables

To further understand probationer compliance, it is important to look at multiple outcome variables (Olson & Lurigio, 2000) including technical violations and formal rearrests (Mayzer, Gray, & Maxwell, 2004). A probationer violating the terms of their probation without being caught, technical violation, and/or new arrest are considered negative outcomes. In this dissertation, surveyed probationers were asked if they had any sanction (i.e. technical violation, and new arrest) during their present probation sentence, and if the probationer evaded the terms of their probation without being caught. This latter variable was a dummy coded variable: 0= the probationer did not evade the terms of their probation without being caught, and 1= the probationer evaded the terms of their probation without being caught one or more times.

Corrections research has determined that asking prisoners whether they had misbehaved since arriving at the pre-trial detention center to be a useful binary measure and reflective of prisoner misconduct (Beijersbergen et al., 2015). Therefore, the researcher used a modified variation of Beijersbergen et al.'s (2015) prisoner misconduct measure adapted for probationers. Even if a probationer had been arrested for a new crime, they were surveyed as they are still under probation supervision and awaiting a court date. There are concerns with examining criminal justice outcomes; if a probationer has been rearrested, they are less likely to receive a survey because they are no longer on probation. Also, some respondents may state that they have been rearrested—referring to a previous probation term. This was less of an issue for the self-reported technical violations and new arrests because these violations are less likely to result in the termination of probation when compared to revocations.

Independent variables

The analysis included personal characteristic variables such as age, sex, race, and highest education achieved—any level of education less than a GED or high school diploma was coded as a (0). Age is the independent variable and a continuous, interval-level measure. Based on previous research surveying probationers, age has been established as having a positive relationship with the successful completion of probation--older age groups are more likely to be successful than younger age groups (Morgan, 1994; Sims & Jones, 1997). Likewise, the higher the probationer's level of education, the more likely they will complete the terms of their probation (Morgan, 1994; Sims & Jones, 1997). Other factors that were considered include prior offenses, marital status, and socioeconomic status. Prior adult criminal offenses were coded as a dichotomous variable and a continuous measure for the offending frequency. Marital status (married = 1) and income (nominal) were also coded, as previous research has demonstrated married probationers are more likely to be compliant (Morgan, 1994; Petersilia, 1985; Sims & Jones, 1997). Furthermore, counsel type was also be considered, as public versus private counsel can be a measure of the probationer's socioeconomic status (SES) (Spohn & Beichner, 2000).

Morgan (1994) used twelve control variables (race, gender, age, marital status, education, employment status, probation length, prior convictions, offense type, hourly wage, prior felony convictions, and prior probation) in her analysis, which revealed associations with probationers' outcomes. For example, Morgan found that females were more likely to be successful in their probation sanctions. Based on her research, the variables that most strongly predicted probationers' success were employment, marital

status, and number of prior convictions. Previous researchers have also found that significant life events (e.g. marriage and employment) reduce the likelihood of recidivism (Laub & Sampson, 1993; Paternoster et al., 1997; Uggen, 2000).

The number of previous sanctions affects likelihood of probation completion; probationers with more prior arrests are less likely to be compliant (Morgan, 1994; Petersilia, 1985; Roundtree et al., 1984; Olson & Stalans, 2001; Sims & Jones, 1997). Furthermore, previous research has included variables differentiating probationers who were charged with misdemeanor or felony offenses; research shows that those who were on probation for a felony offense type were more likely to have their probation revoked or to receive a technical violation (Olson & Lurigio, 2000). The researcher differentiated between these offense types, and they were coded as felony = 1 and misdemeanor = 0. The researcher also included immediate family criminality and age of onset into the analysis as control variables. Previous research has shown that both immediate family previous criminality and residential instability increased the likelihood of a missed payment and receiving a disciplinary hearing (Schulenberg, 2007). Also, Tapia and Harris (2006) found that earlier age of onset of criminal activity increased the odds of revocation among their probationer sample. This dissertation took these variables into consideration, but also added independent variables that are predictive of sanctions among the sample population.

Based on the progressive sanction model provided to the researcher by the Chief Probation officer for all three counties, the PO has large amounts of discretion in sanctioning a probationer. According to the progressive sanctions model, the PO can use the probationer's compliance or lack of compliance with the terms of their probation

against them when deciding how to sanction a probationer (Progressive Sanctions Model, 2017). The most common non-compliance issues are: failure to report, failure to pay fees to the probation department, failure to attend programs, failure to complete community service hours, failure to attend counseling, and failure to pass one or more drug tests (Progressive Sanctions Model, 2017). The survey asked whether the probationers had engaged in non-compliant behavior, which should lead to sanctions imposed by the PO and the criminal courts. Specifically, in relation to the failed drug tests, the PO cannot request revocation until the probationer has failed their drug test five times or more (Progressive Sanctions Model, 2017.). According to Medina (2017), positive drug test results can be punished by increased lengths of probation. With all other common non-compliance issues, the PO has wide latitude in sanctioning the probationer (Progressive Sanctions Model, 2017). After speaking with POs in the three counties, the researcher confirmed the POs can threaten or recommend revocation. However, the probationer remains under PO supervision throughout the revocation hearing, and possibly after (if the presiding judge amends the probation terms but keeps the probationer on probation). Table 1 articulates all the independent variables in the models.

Table 1. Independent Variables and Measures

Independent variables	**Levels of measurement**	**Categorical values**
Age	Continuous interval	
Sex	Categorical dichotomous	Male = 1 Female = 0
Race	Nominal	White = 1 Non-white = 0

Table 1. Continued

Marital Status	Nominal	Single = 0 Married = 1
Parental Status	Categorical dichotomous	Do not have children = 0 Have children = 1
Education	Nominal	Less than a bachelor's degree = 0 Bachelor's degree or higher = 1
Employment Status	Nominal	not employed= 0 Working= 1
Income	Nominal	Less than $20,000 = 0 Income more than or equal to $20,000 = 1
Your probation resulted from	Categorical dichotomous	Misdemeanor = 0 Felony = 1
DRI-R Composite Score	Ratio	
You and your PO are of the Same race	Categorical dichotomous	No = 0 Yes= 1

Analysis

The data for this study were coded into SPSS and converted into a Stata data file for analysis. Bivariate relationships between DRI-R questionnaire scales and violating the terms of a probationer's probation without getting caught, receiving a technical violation, and/or new arrest were examined by Student's *t*-test analyses. Also, chi-square tests were used to examine the bivariate relationship between categorical independent variables of interest and the three categorical dependent variables. This study examined factors that are related to the success and failure of probationers under community supervision.

Prior to performing the primary analyses for this study, independent and control variables were examined in terms of their validity and reliability. This included examining the Cronbach's alpha levels for the individual scales of the DRI-R and the composite DRI-R total score testing internal reliability. According to Bryman (2012), an adequate rule for an acceptable Cronbach's alpha coefficient is .70 or higher. After examining the preliminary analysis of the DRI-R, the researcher examined the frequencies of the probationer's responses to assess the distribution of these responses. The researcher also included a full model, males-only model, and females-only model.

Additionally, the researcher examined the descriptive statistics for each of the variables to examine each of the research questions. Multicollinearity may be an issue with the independent variables within the models, specifically with the DRI-R measures, because the latent constructs and items within those constructs are intercorrelated. The variance inflation factor (VIF) among the independent variables within the model were examined; if the caring/fairness and trust subscale scores had VIF values higher than five, then the researcher excluded one of the subscales and ran individual regression models to

analyze the subscale measures one at a time in individual models. The three-binary nominal dependent variables were evaluated statistically, using multinomial logistic regression to examine revocations, new arrests, and technical violations.

The second component of the analysis used confirmatory factor analysis (CFA), a type of structural equation modeling (SEM). This method was useful for analyzing the relationship between observed measures of the DRI-R and latent variables that are supposed to be a composite of the observed indicators. Although the DRI-R has been validated, CFA may support the use of total DRI-R scores or the use of composite subscales of the DRI-R. It can aid in validating a tool such as the DRI-R, and account for measurement error, meaning that the variables in the regression are free from measurement error.

Confirmatory factor analysis differs from exploratory factor analysis, in that a CFA model can impose constraints on the items to ensure that no single item is cross-loading between the factors (in contrast, cross-loading may occur in exploratory analysis). The model fit statistics provided by STATA gave several measures to assess the model's fit. Usually, the first model fit statistic that is examined is the Maximum Likelihood Ratio Chi-square; if the value corresponds to a p-value of less than .05, the null hypothesis would be rejected. The null hypothesis states that there is no difference between the implied model and a perfect model in the population. However, if the *t*-statistic value lies within the critical regions, then there is a difference between the implied model and a perfect model.

Other model fit statistics were examined. The RMSEA that is close to .06 is a good rule for a decent fit (Thompson, 2004). The researcher confirmed the ninety percent

confidence interval of the RMSEA range of value, which is less than .10, as adequate to conclude an acceptable fit. Next, the researcher examined the Normed Fit Index (NFI), which indicated that NFI values over .95 provided evidence that this is a very good fitting model (Thompson, 2004). The researcher also examined the Standardized RMR; the value, which was lower than .05, provided an acceptable fit (Acock, 2013).

The commonalities are useful in examining the reliabilities of each indicator; their values represent how much of the variation is explained by the factor as well as the measurement error. It is expected that the items included in each of the subscales will correlate to one another and also load on the factor. If items within each subscale do not load on the assumed subscale, they were dropped from the subscale. Specifically, items from the DRI-R were removed from further analysis if they had a factor loading below .300. The researcher used the numeric value of .300 as a cutoff point (Thompson, 2004). The researcher kept factor loadings below the .300 threshold for model fit statistics that met the standards outlined above. The DRI-R was then adjusted and re-run with data from the 100 probationers that remained from the random split sample. The factor loadings were squared to proportion. The main rationale for using CFA rather than using the reliability of composite scores (Cronbach's alpha coefficient) is that, if the scale does not contain any measurement errors, then the Cronbach's alpha coefficient may underestimate the scale reliability (Zimmerman, 1972). Also, if the measurement is correlated to measurement error, then the Cronbach's alpha may under- or overestimate the scale's reliability (Zimmerman, 1972). Therefore, for this study, the purpose of the CFA is to determine whether the hypothesized DRI-R factor structure fits the data well.

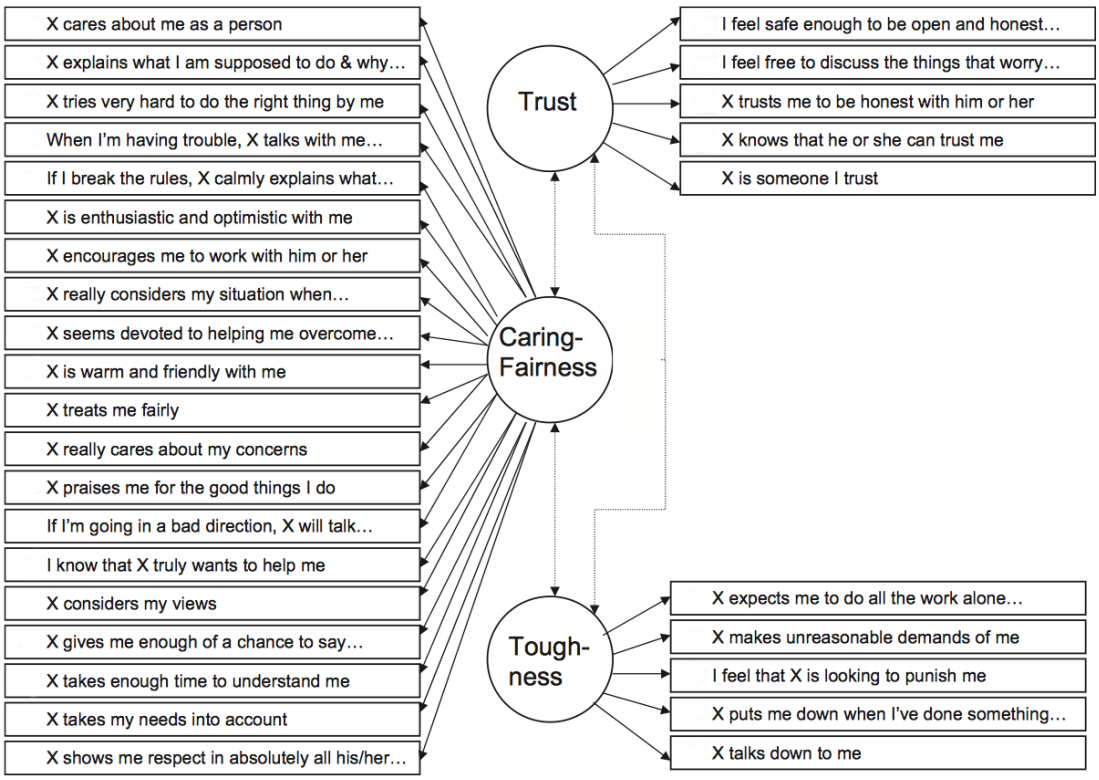

Figure 1. Three-factor DRI-R measurement model (over-identified).

Based on Figure 1 of the DRI-R, there are 30 endogenous (dependent) variables. There are also three exogenous variable (latent) variables (Skeem et al., 2007). The researcher will adopt the same measurement model as indicated in Figure 1 in order to further validate or invalidate the DRI-R measure.

The next phase of the analysis involved a series of logistic regression models. Since the dependent variables are not discrete; the probationer may have violated the terms of their probation without being caught, receive a technical violation, and/or new arrest. Since the data indicated this pattern, individual logistic regression analysis examining each dependent variable were conducted individually, rather than collectively

via the multinomial regression analysis approach (e.g. logistic regression models 1A-5C will be used to test the provided hypotheses).

The logistic regression results were interpreted by examining the odds ratio. The odds ratio was calculated by exp(β). An odds ratio is used to indicate whether the dependent variable outcome is caused by the value of the independent variable. The researcher examined the coefficients for each variable and determined whether the corresponding z-statistic value falls within the critical regions of the normal distribution. For each individual logistic regression model, the model chi-square value (model χ^2) and the pseudo R^2 values are reported. The chi-square value is an analog to the F-test in linear regression. The null hypothesis for the likelihood ratio test is that the restricted and unrestricted models are equal in the population, or rather that at the population level the coefficients are jointly, not significantly, different from zero. The alternative hypothesis of the likelihood ratio test is that the restricted model is different from the unrestricted model at the population level, or rather that at least one of the coefficients in the model is significantly different from zero in the population. In Ordinary Least Squares regression (OLS) the R^2 measures the overall model fit of the researcher's model. The R^2 can be calculated in logistic regression but this value is dependent on the Wald statistic and is not precise. The researcher analyzed the survey findings using STATA, which reports McFadden's (197) *pseudo* R^2. The *pseudo* R^2 utilizes the log-likelihood of the intercepts model as the total sum of squares, and the log-likelihood of the full model as the sum of squared errors. The ratio of the likelihoods tells the researcher the improvement of our model over that of the empty model. Specifically, for two models with the same data, the R^2 would be greater with a model that had a greater likelihood. In analyzing the offender-

officer relationship as reported on the DRI-R, the researcher used logistic regression analysis to examine the effect of the offender's perceptions on their odds of violating the terms of their probation without being caught, technical violation, and/or new arrest while controlling for the probationer's:

- race
- gender
- age
- age of first arrest
- employment status
- conviction offense
- marital status
- income
- family criminality
- residential instability
- educational status
- the number of children living in the probationer's household that are under the age of 18
- and number of prior convictions. This analysis also controlled for the PO's race and gender concordance with the probationer

IV. FINDINGS

Chapter IV begins by examining survey responses along with the response rate. Next all the key independent variables will be examined in term of descriptive statistics, bivariate analysis between variables of interest, and validity and reliability of the DRI-R. Specifically, the CFA was used to assess the actual 30-item DRI-R inventory and to see if the model fit statistics suits the data well. Following this procedure, the survey data were analyzed, and the findings were presented in correspondence to each of the hypotheses.

Survey Responses

There were 3,400 potential probationers included in the sampling frame, of which 600 probationers participated in the online survey and paper and pencil mail survey, translating to a response rate of roughly 18% (i.e. 600 responses/3,400 total probationer population).After filtering through key independent and dependent variables of interest, the sample size was winnowed to 412 probationers for quantitative inferential analysis, removing roughly 30% due to missing data. The researcher examined official population level data from the three counties and compared that to the sample probationers on demographic variables. From the population data for the three counties, all the probationers have less than a Bachelor's degree, whereas from the sample in this study about 90% have less than a bachelor's degree, and 10% have a Bachelor's degree or higher (Executive Summary, 2017). For all the probationers in the population, the probationers' age distribution is similar to the sample probationers age distribution. For example, the percentage for probationers between the ages 17-21 in the population was 7.7%, whereas it was 10.8% from the sample of probationers. Probationers in the population who were 22-25 years old accounted for 18.2%, whereas it was 22.2% from

the sample probationers (Executive Summary, 2017). Probationers in the population who were 26-30 years old accounted for 18% in the population, whereas, in the sample, they accounted for 17% from the sample probationers. Probationers in the population who were 31-40 years old accounted for 21%, whereas it was 23% from the sample probationers. Probationers in the population who were 41-50 years old accounted for 13%, whereas it was 16% from the sample probationers (Executive Summary, 2017). Probationers in the population who were 50 years old or above accounted for 10.1%, whereas it was 10.5% from the sample probationers. For all the probationers in the population based on the race/ethnicity of the probationer, white probationers accounted for 47%; similarly, white probationers in the sample accounted for 47%. For all the probationers in the three anonymous counties based on the gender of the probationers in the population, male probationers accounted for 72%, whereas in the sample, male probationers accounted for roughly 64% (Executive Summary, 2017). When examining the employment status of the probationer at the population level, unemployed probationers accounted for 16%, whereas in the sample, probationers that were not working accounted for 15% (Executive Summary, 2017). Although the researcher could not examine the differences between the population data through statistical analyses because the researcher did not have the raw data for the population, the descriptive statistics of the sample were very similar to the population parameters. Probationers were surveyed from March 1, 2018 to December 18, 2018.

Table 2 presents descriptive statistics of the categorical variables that were used for further analyses. About 18% of the sample's probationers evaded the terms of their probation one or more times without getting caught by their current supervising PO.

Also, about 12% received a technical violation under their current term of supervision. Approximately 8% were rearrested under their current term of supervision. Roughly 50% committed a felony offense that caused them to be on probation. Roughly 64% of the sample were male probationers. Roughly 46% were race concordant with their PO and 48% were gender concordant with their PO. Finally, about 47% of the sample participants were white.

Table 2. Descriptive Statistics of Categorical Variables

Variable	N	Frequency	Percent
Evaded terms of probation one or more times[1]	600	110	18.33
Technical Violation[1]	595	74	12.46
New Arrest[1]	594	48	8.08
Felony[1]	598	296	49.50
Male[1]	599	382	63.77
Residential Instability[1]	592	164	27.70
Bachelor's degree or higher[1]	599	61	10.18
Race Concordance[1]	529	243	45.94
White[1]	599	283	47.25
Gender Concordance[1]	592	284	47.97
Income more than or equal to $20,000[1]	594	233	39.23
One or more children in household under 18[1]	591	308	52.12
Married[1]	599	121	20.20
Working[1]	598	508	84.95
Family criminal history[1]	598	266	44.48
One or more prior convictions[1]	545	285	52.29

Note: [1]1=Yes

Approximately 28% of the probationers moved one or more times while on community supervision for the current term studied. Over 39% of the probationers earned

more than or equal to $20,000 and only 10% received a bachelor's degree or higher. Roughly 52% had one or more minors in their household, 20% of the sample were married, and nearly 85% reported that they were working. Slightly over 44% of the sample probationers reported that an immediate family member had spent time in jail, prison, or on probation. Roughly 53% of the probationers reported that they had one or more prior convictions prior to their current probation term. The sampled offenders were first arrested at an average age of 25 years old (*SD* = 10.93 range 12-75 years), although their average age was 34 years old (*SD* = 11.61 range 17-76 years).

Table 3. Descriptive Statistics and Internal Consistency of Continuous Variables

Variable	N	Mean	S.D.	Min	Max	Cronbach's Alpha
DRI-Total	557	170.42	37.97	35	210	0.98
DRI-Total (trichotomized)	557	1.99	0.82	1	3	--
Caring/Fairness subscale	567	111.56	27.62	22	140	0.97
Toughness subscale	586	31.28	5.89	5	35	0.86
Trust subscale	594	27.50	7.43	5	35	0.90
Age of first arrest	585	24.90	10.93	12	75	--
Age	596	33.47	11.61	17	76	--

Table 3 presents the continuous and ordinal variables, where the average DRI-R total score was 170.47 (*SD*= 38.07 range = 35-210), the average Caring/Fairness subscale was 111.56 (*SD*= 27.62 range 22-140), the average Toughness subscale score was 31.28 (*SD* = 5.89 range = 5-35), and the average Trust subscale score was 27.50 (*SD* = 7.43 range = 5-35). Previous empirical work has validated the DRI-R (Kennealy et al., 2012; Skeem et al., 2007). The DRI-R was reliable in the current sample (Cronbach's $\alpha = .98$). The DRI-R subscale measures demonstrated acceptable levels of internal consistency,

and the alpha coefficients ranged from .86 to .97 (Caring/Fairness $\alpha = .97$, Trust $\alpha = .90$, and Toughness $\alpha = .86$) (Cronbach, 1951; DeVellis, 2003).

Confirmatory Factor Analysis (CFA)

Table 4. CFA of the DRI-R Items, Standardized Factor Loading on the 30-item Three Factor DRI-R

Factor	Item	Loading	*(S.E.)*
Toughness	25. X expects me to do all the work alone.	0.81	*(0.02)*
	24. X makes unreasonable demands of me.	0.70	*(0.03)*
	22. I feel that X is looking to punish me.	0.76	*(0.02)*
	14. X puts me down when I've done something wrong.	0.74	*(0.02)*
	9. X talks down to me.	0.70	*(0.03)*
Trust	8. I feel safe enough to be open and honest with X.	0.87	*(0.01)*
	2. I feel free to discuss the things that worry me with X.	0.78	*(0.02)*
	11.X trusts me to be honest with him/her.	0.80	*(0.02)*
	26. X knows that he or she can trust me.	0.69	*(0.02)*
	27. X is someone I trust.	0.91	*(0.01)*
Caring-Fairness	1. X cares about me as a person.	0.79	*(0.02)*
	3. X explains what I am supposed to do and why it would be good to do it.	0.69	*(0.02)*
	4. X tries very hard to do the right thing by me.	0.84	*(0.01)*
	5. When I'm having trouble doing what I am supposed to do, X talks to me and listens to what I have to say.	0.81	*(0.01)*
	6. If I break the rules, X calmly explains what has to be done and why.	0.61	*(0.03)*
	7. X is enthusiastic and optimistic with me	0.84	*(0.01)*
	10. X encourages me to work with him/her.	0.83	*(0.01)*
	12. X really considers my situation when deciding what I'm supposed to do.	0.80	*(0.02)*
	13. X seems devoted to helping me overcome my problems.	0.85	*(0.01)*
	15. X is warm and friendly with me.	0.81	*(0.02)*
	16. X treats me fairly.	0.82	*(0.01)*
	17. X really cares about my concerns.	0.80	*(0.02)*
	18. X praises me for the good things I do.	0.81	*(0.02)*
	19. If I'm going in a bad direction, X will talk with me before doing anything drastic.	0.76	*(0.02)*
	20. I know that X truly wants to help me.	0.89	*(0.01)*
	21. X considers my views.	0.92	*(0.01)*
	23. X gives me enough of a chance to say what I want to say.	0.84	*(0.01)*
	28. X takes enough time to understand me.	0.91	*(0.01)*
	29. X takes my needs into account.	0.90	*(0.01)*
	30. X shows me respect in absolutely all his/her dealing with me.	0.85	*(0.01)*

	N	LR Chi-square	RMSEA [90% CI]	CFI	TLI	AIC	BIC	SRMR
Model Fit Statistics	557	1568.50***	0.07***[0.68-0.76]	0.93	0.92	48903.664	49305.663	0.04

Since the sample size was at least 600, 230 cases were randomly selected in STATA to specify the model, then the remaining cases were used to confirm the model. The CFA confirmed that the DRI-R was in fact a three-factor model; therefore, the researcher moved forward with CFA, using the three-factor model with the remaining split sample. Table 4 presents the standardized factor loadings of each of the DRI-R 30-items along with the standard errors and the model fit statistics. The model fit statistic typically examined first is the Maximum Likelihood Ratio Chi-square – in this case 1570.99 with a *p*-value of 0.000. Therefore, the null hypothesis that at the population level there is no difference between the implied model and a perfect model is rejected. Therefore, there is a difference between this model and a perfect model. Other model fit statistics were examined. Because the RMSEA is 0.07 (lower than .10) it could qualify as an acceptable fit (Browne & Cudeck, 1993; Byrne, 1994). The Comparative Fit Index (CFI) and Tucker Lewis Index (TLI) are all above .90, which is also considered acceptable. The estimated Model AIC was 48,903.664, which was smaller than the Saturated BIC of 49,305.663. Therefore, the estimated model is preferred. The Standardized RMR was lower than .05 at .04, so it is an acceptable fit. Specifically, there were no items from the DRI-R that were removed, since all factor loading was well above .300. Overall, the basic three-factor model provided an acceptable fit to the sample's data. With respect to reliability, the DRI-R scales and total scores had excellent internal consistency (α= .98, 98, .86, and .90 for DRI-R total score, Caring-Fairness, Toughness, and Trust respectively).

The findings are consistent with Skeem et al.'s (2007) findings that the DRI-R is internally consistent at the total scale and subscale score levels. This validates the DRI-R

as a three-factor model on a sample of 557 general population probationers. Therefore, the first hypothesis is affirmed; the measurement properties of the 30-item three-factor measurement model are applicable to a general population sample. Therefore, the researcher moved forward with all 30 items in creating the additive DRI-R total score and subscale total scores, along with the trichotomized DRI-R score.

Table 5 presents the group differences in DRI-R total score and subscale scores by race concordance. The null hypothesis of the *t*-test is that there is no relationship between race concordance and DRI-R total scores. The researcher failed to reject the null hypothesis, and therefore concluded that there is no relationship between race concordance and DRI-R total score (t= -1.56; p =0.06).

The researcher does not have evidence of the group-value model, which sheds light on the fact that a probationer being able to identify with a criminal justice actor will increase an individual's perception of status, which would subsequently increase an individuals' perception of procedural justice (Lind & Tyler, 1988). Individuals that are unclear of their in-group status may seek in-group members, specifically those that are authority figures, on which to base their perceptions of status and then change their perceptions according to the in-group authority views (Abrams & Hogg, 1990). These findings contrast with those of Springer and colleagues (2009), who found that probationers who perceived their PO as the same race as themselves had more positive perceptions of their PO compared to discordant probationers and POs.

Table 5. Bivariate Relationships Between Race Concordance and DRI-R Total Score and Subscale Scores

Variable	DRI-R Total Score			Caring/Fairness			Tough			Trust		
Race Concordance	*M*	*SD*	*t*	*M*	*SD*	*t*	*M*	*SD*	*t*	*M*	*SD*	*t*
No(n=264)	168.38	37.77	-1.56	--	--	--	--	--	--	--	--	--
Yes(n=228)	173.72	48.21		--	--		--	--		--	--	
No(n=268)	--	--	--	110.06	27.20	-1.66*	--	--	--	--	--	--
Yes(n=232)	--	--		114.14	27.70		--	--		--	--	
No(n=281)	--	--	--	--	--	--	30.91	6.06	-1.10	--	--	--
Yes(n=235)	--	--		--	--		31.50	5.98		--	--	
No(n=283)	--	--	--	--	--	--	--	--	--	27.00	7.55	-1.75*
Yes(n=242)	--	--		--	--		--	--		28.12	7.31	

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

Table 6. Bivariate Relationship Between Gender Concordance and DRI-R Total Score and Subscale Scores

Variable	DRI-R Total Score			Caring/Fairness			Tough			Trust		
Gender Concordance	*M*	*SD*	*t*	*M*	*SD*	*t*	*M*	*SD*	*t*	*M*	*SD*	*t*
No(n=289)	167.52	36.81	-2.15*	--	--	--	--	--	--	--	--	--
Yes(n=262)	174.41	38.54		--	--		--	--		--	--	
No(n=293)	--	--	--	109.93	26.92	-1.74*	--	--	--	--	--	--
Yes(n=268)	--	--		113.96	27.95		--	--		--	--	
No(n=302)	--	--	--	--	--	--	30.59	6.50	-3.00**	--	--	--
Yes(n=277)	--	--		--	--		32.05	5.10		--	--	
No(n=306)	--	--	--	--	--	--	--	--	--	26.87	7.25	-2.33*
Yes(n=281)	--	--		--	--		--	--		28.29	7.49	

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

Table 5 also presents the group differences in the caring/fairness subscale score by race concordance. The null hypothesis of the *t*-test is that there is no relationship between race concordance and the probationers' caring/fairness subscale total score. The researcher rejected the null hypothesis and has evidence that a group difference between racial concordant and discordant groups on probationers' caring/fairness DRI-R subscale scores is statistically significant at the .05 level of statistical significance (t =-1.66; p<.05) (refer to Table 5). The racial concordant group has a mean caring/fairness subscale score of 114.14, which is larger than the racial discordant group with a mean caring/fairness subscale score of 110.06. The racially concordant group was more likely to have a higher caring/fairness subscale score than the racially discordant group. Based on this finding, probationers who were racially concordant with their PO perceived their PO as more caring/fairer than racially discordant probationers. This finding is also supportive of social identity theory and the group value model. Probationers who share the same racial in-group impact the probationers' view of status, thus portraying their PO as more caring/fairer. The findings support having effective core correctional practices: POs should be "firm but fair," seek rule compliance through positive reinforcement, and avoid interpersonal domination (Dowden & Andrews, 2004). This finding is supportive of social identity theory and the group value model.

Table 5 also presents the group differences in the toughness subscale score by race concordance. The toughness subscale is reverse coded; therefore, higher scores on the toughness subscale mean that probationers perceived their PO as less tough and less authoritarian. The null hypothesis of the *t*-test is that there is no relationship between race concordance and the probationers' toughness subscale total score. The researcher failed

to reject the null hypothesis, and therefore concluded that there is no relationship between race concordance and toughness subscale scores (t= -1.10; p = 0.14). Table 5 subsequently presents the group differences in the trust DRI-R subscale score by race and concordance. The null hypothesis of the *t*-test is that there is no relationship between race concordance and trust subscale scores. The researcher rejected the null hypothesis and has evidence that a group difference between racially concordant and discordant groups on probationers' trust subscale scores is statistically significant at the .05 level of statistical significance (t= -1.75; p<.05). This finding lends support to the group value model. Being able to identify with a racially concordant PO may increase the probationer's perception of status, which in turn increases the probationer's perception of trust between themselves and their PO (Lind & Tyler, 1988). Also, this finding is supportive of social identity theory; by being able to identify with a racially concordant PO, the probationer's perception of status is changed, and the probationer adjusts their views according to the PO's perception of them.

Table 6 presents the group differences in DRI-R total score and subscale scores by gender concordance. The null hypothesis of the *t*-test is there is no relationship between gender concordance and DRI-R total scores. The researcher had evidence that gender concordance has a significant effect on probationers' DRI-R total scores at the .05 level of statistical significance (t =-2.15; p<.05); therefore, the researcher rejected the null hypothesis. The gender concordant group has a mean DRI-R total score of 174.41, which is larger than the gender discordant group with a mean of 167.52. The gender concordant group is more likely to have a higher DRI-R total score than the gender discordant group. Table 6 shows the findings of the gender concordance *t*-test. The null hypothesis of the *t*-

test was that there is no relationship between gender concordance and the probationers' caring/fairness subscale score. The researcher rejected the null hypothesis and found evidence that there was a statistically significant group difference between gender concordant and discordant groups on probationers' caring/fairness subscale score (t = -1.74; p< .05). The gender concordant group had a mean caring/fairness subscale score of 113.96, which is larger than the gender discordant group with a mean caring/fairness score of 109.93, indicating there was a statistically significant difference between the two groups. The gender concordant group was more likely to have a higher caring/fairness subscale score than the gender discordant group. This finding could be supportive of the interpersonal influence extracted from probationer and PO relationships that are maximized when POs are caring/fair in their communication with gender concordant probationers (Dowden & Andrews, 2004).

Table 6 also presents the group differences in the toughness subscale score by gender concordance. The null hypothesis of the *t*-test is that there is no relationship between gender concordance and the probationers' toughness subscale score. The researcher rejects the null hypothesis the researcher found evidence that a group difference between gender concordant and gender discordant groups was statistically significant at the .01 level of statistical significance (t = -3.00, p<.01). This finding is supportive of the group-value model and social identity theory because those probationers who have the same gender as their PO perceive their PO as less authoritarian than discordant probationers and POs. Therefore, being able to identify with a PO who is an authority figure does positively change their perception of in-group status, which does decrease their perception of how tough they perceive their PO to be. The gender

concordant *t*-test findings support the group-value model and social identity theory. When a probationer perceives their PO to be the same gender, they perceive their PO as less authoritarian. Therefore, being able to identify with a PO who is an authority figure does positively change a probationer's perception of in-group status.

Table 6 subsequently presents the group differences in the trust subscale score by gender concordance. The null hypothesis of the *t*-test is that there is no relationship between gender concordance and trust subscale scores. The researcher rejected the null hypothesis and found evidence that a group difference between gender concordant and discordant groups on probationers' trust subscale scores was statistically significant at the .05 level ($t = -2.33$; $p<.05$). If a probationer is unclear of their in-group or out-group status, one seeks a similar gender concordant PO to portray their in-group status for them and the probationer adjusts their views accordingly (Abrams & Hogg, 1990). The probationers who were gender concordant with their PO increased perceptions of status within the probationer's in-group, which increased the probationer perception of trusting their PO compared to discordant probationer-PO relationships.

This study faced the possibility that the DRI-R and subscale data were not independent. Therefore, the researcher created a dummy variable for each of the three anonymous counties and included the variable in all of the multivariate models to check for clustering because the probationers in the sample shared POs. Results showed that there was not a statistically significant county variable. Specifically, the coefficient for the county level variable was not significant; therefore, based on the dummy variable there was no need to control for the POs who supervised multiple probationers from which the sample of probationers was drawn. Because there was not clustering within

POs in the counties and a multilevel model was not needed, the researcher moved forward with the original proposed independent variables within the multivariate analyses.

Table 7. Significant Independent Variables in the Multivariate Models and Their Association to Technical Violation as an Outcome Measure

	Pearson's Chi	Cramer's V	Phi coefficient
Gender concordance	0.40	-0.03	0.03
Race concordance	0.34	-0.03	0.03
Race/ethnicity	0.58	0.03	0.03
Marital Status	3.29	-0.07	0.07
Family Criminality	4.80*	0.09	0.09
Residential Instability	11.02**	0.14	0.14
Children in household under 18	2.03	0.06	0.06

Note: *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Based on Table 7 and in reference to examining the independent variables that were positively or negatively statistically significantly associated to technical violations within the multivariate models, only two independent variables were found to be associated to a probationer receiving a technical violation. There was a modest relationship between probationers who had an immediate family member who had previous involvement in the criminal justice system and a probationer receiving a technical violation ($\chi^2_{(1)}$=4.80; p=.03). Thus, probationers who had an immediate family member involved in the criminal justice system were somewhat more likely to receive a technical violation than probationers that did not have a family member involved in the criminal justice system. There is a stronger relationship between probationers that moved one or more times and receiving a technical violation ($\chi^2_{(1)}$=11.02; p≤.001).

Table 8. Significant Independent Variables in the Multivariate Models and Their Association to New Offense as an Outcome Measure

	Pearson's Chi	Cramer's V	Phi coefficient
Gender concordance	7.62**	-0.11	0.11
Race concordance	1.39	0.05	0.05
Race/ethnicity	0.14	0.02	0.02
Marital Status	0.38	0.03	0.03
Family Criminality	1.08	0.04	0.04
Residential Instability	6.16	0.10	0.10
Children in household under 18	0.07	0.01	0.01

Note: *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

Based on results presented in Table 8, there was a strong relationship between probationer-PO gender concordance and being rearrested for a new offense ($\chi^2_{(1)}=7.62$; $p<.01$). Thus, probationers who were gender concordant with their PO were much more likely to be rearrested while they were on their current term of probation than probationers who were gender discordant.

Table 9. Significant Independent Variables in the Multivariate Models and Their Association to Evasion of Probation as an Outcome Measure

	Pearson's Chi	Cramer's V	Phi coefficient
Gender concordance	0.36	-0.02	0.02
Race concordance	0.50	0.03	0.03
Race/ethnicity	1.62	0.05	0.05
Marital Status	0.07	0.01	0.01
Family Criminality	5.53*	0.10	0.10
Residential Instability	5.33*	0.09	0.09
Children in household under 18	0.02	0.01	0.01

Note: *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

In reference to the findings in Table 9, there was a modest relationship between probationers who had one or more family member who had served time in jail or on probation and probationers evading the terms of their probation one or more times ($\chi^2_{(1)}$=5.53; p=.02). Thus, probationers who had an immediate family member involved with the criminal justice system were somewhat more likely to evade the terms of their probation compared to probationer who did not have an immediate family member involved in the criminal justice system. There was also a modest relationship between probationers who had moved one or more times while they were on probation and probationers evading the terms of their probation one or more times ($\chi^2_{(1)}$=5.33; p=.02). Therefore, probationers who moved one or more times were more likely to evade the terms of their probation one or more times, compared to probationers who have not changed primary residence one or more times.

The researcher examined the bivariate relationship between the race concordance and gender concordance independent variables and outcome variables (e.g. technical violation, evasion of the terms of their probation one or more times without getting caught, and rearrest). There was no relationship between race concordance and technical violation ($\chi^2_{(1)}$ =.34; p =.56), gender concordance and technical violation ($\chi^2_{(1)}$ =.37; p =.55), or race concordance and new arrest ($\chi^2_{(1)}$ =1.39; p =.24). In addition, there was no relationship between race concordance and evasion of probation one or more times ($\chi^2_{(1)}$ =.50; p =.48) or gender concordance and evasion of probation one or more times ($\chi^2_{(1)}$ =.36; p =.55).

Since the researcher lost 30% of the overall 600 survey sample pool when examining all key independent variable of interest, the research examined the

demographic variables (e.g. race/ethnicity, gender, age, education, income, and marital status) to see if the probationers' responses were missing at random or not. The reason for losing some of the sample probationers was because not all of the probationers in the sample completed all the questions that were utilized within the multivariate models as independent or dependent variables of interest.

After running each of the models, the researcher created a dummy variable for valid cases compared to missing cases. When examining the bivariate relationship between the created variable that examined missing values and the valid values (0 = missing and 1= valid data) and the demographic variables, the findings supported the assertion that the missing cases were missing completely at random for all models. Also, only the "age" variable held missing statistical values that were statistically significantly different at the mean level from probationers that had valid data for the age variable. The researcher did not impute mean values and, based on Table 3, across all three dependent variables, age was not a statistically significant predictor of any of the outcome measures. Therefore, the researcher will analyze all the variables without imputing mean values for the missing data.

Table 10. Results of Point-Biserial Correlation Between Outcome Variables and Key Continuous DRI-R Total Score and Subscale Scores

	Technical violation	New arrest	Evaded probation
DRI-R	-.16***	-.09	-.13**
Caring/Fairness	-.16***	-.09	-.13**
Toughness	-.16***	-.02	-.06
Trust	-.15**	-.08	-.17***

Note: *p ≤.05; **p≤.01; ***p≤.001

Based on the point-biserial correlations (refer to Table 10), the lower level of DRI-R total score was associated with higher levels of technical violations (r = -.16;

p<.001) and evading the terms of their probation without getting caught (*r* =-.13, *p*<.01), but not with higher levels of new arrest (*r*=-.90; *p* >.05). The lower level of Caring/Fairness was associated with a higher level of probationer technical violations (*r* =.16; *p*<.001) and evading the terms of their probation without getting caught (*r* =- .13; *p*<.01), but they were not associated with higher levels of new arrest (r=.09; *p* >.05). The lower level of Toughness was associated with a higher level of probationer technical violations (*r* =.16; *p*<.001), but they were not associated with higher levels of new arrest (*r*=-.02; *p*>.05) or evasion of the terms of probation without getting caught (*r*=-.06; *p*>.05). The lower level of Trust total score was associated with higher levels of technical violations (*r*= -.15; *p*<.001) and evasion of the terms of probation without getting caught (*r*=-.17; *p*<.001), but not new arrest (*r* = -.08; *p*>.05).

Table 11. Results of Logistic Regression on Probation Outcomes With DRI-R Total Score

	(Model 1A) Technical violation		(Model 1B) New Arrest		(Model 1C) Evaded terms of Probation	
	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio
DRI-Total Score	-0.01** *(0.01)*	0.99**	-0.01 *(0.01)*	0.99	-0.01* *(0.01)*	0.99*
Age of First Arrest	-0.02 *(0.03)*	0.98	-0.05 *(0.03)*	0.95	-0.02 *(0.02)*	0.98
One or more prior convictions[1]	0.04 *(0.40)*	1.04	0.54 *(0.43)*	1.71	0.51 *(0.30)*	1.66
Residential instability[1]	0.82* *(0.34)*	2.27*	0.88* *(0.39)*	2.42*	0.20 *(0.28)*	1.22
Felony[1]	0.09 *(0.34)*	1.10	0.03 *(0.38)*	1.03	0.31 *(0.27)*	1.37
Age	0.01 *(0.02)*	1.01	0.03 *(0.02)*	1.02	-0.01 *(0.02)*	0.99
Male[1]	-0.35 *(0.40)*	0.70	-0.15 *(0.49)*	0.86	-0.04 *(0.33)*	0.96
Bachelor's degree or higher[1]	-1.91 *(1.09)*	0.15	-0.55 *(0.80)*	0.57	-0.31 *(0.50)*	0.73
One or more children in household under 18[1]	0.71* *(0.36)*	2.04*	0.21 *(0.41)*	1.24	0.13 *(0.28)*	1.14
White[1]	0.99** *(0.36)*	2.70**	0.23 *(0.39)*	1.26	0.54 *(0.28)*	1.70
Race Concordance[1]	-0.12 *(0.33)*	0.89	0.71 *(0.38)*	2.04	0.27 *(0.27)*	1.31
Gender Concordance[1]	-0.17 *(0.36)*	0.84	-1.07* *(0.46)*	0.34*	-0.06 *(0.29)*	0.95
Income more than or equal to $20,000[1]	0.03 *(0.37)*	1.03	-0.03 *(0.40)*	0.97	0.23 *(0.30)*	1.26
Family criminality[1]	0.77* *(0.35)*	2.15*	0.29 *(0.39)*	1.34	0.46 *(0.27)*	1.59
Married[1]	-1.52* *(0.66)*	0.22*	-0.38 *(0.58)*	0.68	0.11 *(0.37)*	1.12
Working[1]	-0.46 *(0.43)*	0.63	0.16 *(0.55)*	1.18	-0.19 *(-0.38)*	0.82
Constant	-0.31 *(1.11)*	0.74	-1.64 *(1.32)*	0.19	-0.32 *(0.92)*	0.73
	N = 415		N = 414		N = 415	
	Pseudo R^2 = .17		Pseudo R^2 = 0.11		Pseudo R^2 = 0.07	
	Model χ^2= 51.94***		Model χ^2= 27.57*		Model χ^2 = 27.95*	

Note: *$p \leq .05$ **$p \leq .01$ ***$p \leq .001$; [1]1=Yes

Based on findings in Table 11, in reference to Model 1A, the overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log-

likelihood of the restricted model (when all coefficients are equal to zero against the log-likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis is that either the restricted and unrestricted models were equal in the population, or that at the population level, the coefficients were jointly, insignificantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level or rather that at least one of the coefficients in the model is significantly different from zero in the population. For the estimated model (Model 1A) examining predictors of technical violation, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 51.94 was statistically significant at the .001 level of significance. Therefore, the null hypothesis was rejected. It was concluded that the unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model.

Each of the following coefficients was on average determined, while controlling for the other independent variables in the model. There were 6 out of the 15 independent variables (i.e. DRI-R total score, race, marital status, residential instability, number of children under the age of 18, and family criminality) that statistically significant predictors of technical violations in Model 1A. A one-unit increase in DRI-R total score changed the odds of receiving a technical violation by a factor of .99 (or 1.00% decrease in odds of receiving a technical violation).

The odds of a white probationer receiving a technical violation was 2.70 times the odds of a non-white probationer receiving a technical violation. Therefore, the odds of a white probationer receiving a technical violation were 170% greater than the odds of a non-white probationer receiving a technical violation (*OR*= 2.70; p =0.01).

The odds of married probationers receiving a technical violation were .22 times the odds (or a 78% decrease in odds of receiving a technical violation) compared to non-married probationers receiving a technical violation (*OR* =.22; *p* = 0.02).

The odds of residentially unstable probationer receiving a technical violation were 2.27 times more likely of receiving a technical violation than that of probationers that were not residentially instable. Therefore, probationers who are residentially unstable had the odds of receiving a technical violation that were 127% more likely to receive a technical violation than probationers that were not residentially unstable (*OR* = 2.27; *p* =0.02).

The odds of probationers who had one or more children under the age of 18 of receiving a technical violation were 2.04 times more likely of receiving a technical violation that that of probationers that did not have one or more children under the age of 18 living with them. Probationers who had one or more children under the age of 18 had a 104% increase in the odds of receiving a technical violation compared to probationers who did not have one or more children under the age of 18 living with them (*OR* = 2.04; *p* =0.05).

Having an immediate family member incarcerated has a significant positive effect on receiving a technical violation while on probation. It also gave them 2.15 times the odds of receiving a technical violation. Probationers who had an immediate family member that had served time in jail, prison, or on probation had a 115% increase in the odds of receiving a technical violation compared to probationers who did not have an immediate family member that has served time in jail, prison, or on probation (*OR* = 2.15; *p* =0.03).

Race concordance between a probationer and their PO did not have a statistically significant effect on a probationer receiving a technical violation (*OR* = .89; *p*=0.71). Likewise, gender concordance between a probationer and their PO did not have a significant effect on a probationer receiving a technical violation.

For the estimated model (Model 1B) examining predictors of rearrest, the likelihood ratio chi-squared statistic χ^2 (*df* = 16) = 27.57 (*p* <.05) was statistically significant at the .05 level. Therefore, the null hypothesis was rejected. It was concluded that the unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model. There were only 2 out of the 16 independent variables (i.e. residential instability and gender concordance) that were significant predictors of rearrest in Model 1B. Race concordance did not have significant effect on the logit of rearrest (*OR* = 2.04; *p*<.05).

Residential instability had a significant positive effect on the logit of rearrest. Probationers who moved one or more times since being put on probation were 2.42 times more likely to be rearrested than probationers who remained in the same residence. Probationers who moved one or more times since being placed on probation have a 142% increase in the odds of being rearrested (*OR* = 2.42; *p*<.05).

Gender concordance had a significant negative effect on the logit of rearrest. The odds of a gender concordant probationer and PO had 66% less odds of being rearrested than discordant gender relationship. Probationers who perceived their PO to be the same gender as them were 66% less likely to be rearrested (*OR* = 2.42; *p* <.06). The DRI-R total score did not significantly affect rearrest (*OR* = 0.99; *p*=.10).

For the estimated model (Model 1C) examining predictors of a probationer violating the terms of their probation without being caught, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 27.95 (p <.05) was statistically significant at the .05 level. Therefore, the null hypothesis was rejected. It was concluded that the unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model. One out of the 16 independent variables (i.e. DRI-R total score) was a significant predictor of probationers violating the terms of their probation without being caught (Model 1C).

A one-unit increase in DRI-R total score changed the odds of a probationer violating the terms of their probation without getting caught by a factor of .99 (or a 1% decrease in the odds). As the DRI-R increased by one unit, the odds of violating the terms of their probation without getting caught one or more times decreased by 1% (OR = .99; p=.01). Neither race concordance nor gender concordance between a probationer and their PO had a significant effect on a probationer violating the terms of their probation without getting caught.

The DRI-R predicted self-reported offending with regard to technical violation and evasion of probation but did not predict rearrest. When POs treat their probationers fairly, are caring towards them, and develop their trust, it positively affects probationer outcomes. Contrary to previous research, however, (Kennealy et al., 2012; Skeem et al., 2007) the DRI-R did not predict rearrest in general offenders in this sample. This may be attributed to the way the data were collected. The data only include self-reported rearrests rather than official rearrest data obtained through the three county probation departments.

Because the current study utilized a cross-sectional research design rather than longitudinal design, it may have affected the DRI-R's ability to determine rearrest. Unlike previous studies (i.e. Kennealy et al., 2012; Skeem et al., 2007) that examined the DRI-R, this study did not follow probationers and/or parolees for at least one year. Probationers who have been on probation are less likely to be rearrested and/or to be on probation. Using a longitudinal design instead, researchers can make more meaningful causal inferences from the data. Furthermore, the cross-sectional design creates sample selection bias. The current study collected the DRI-R measures and the recidivism measures simultaneously in the survey, which is a weakness of the cross-sectional design. It utilized a categorical outcome (0= no and 1= yes) whether or not the offender had been rearrested on their current term of probation. Further, research is needed to examine the predictive utility of the DRI-R in predicting self-reported rearrest with a sample of general population probationers.

There were inconsistent findings across models in regard to gender and race concordance between probationers and their supervising PO. Specifically, race concordance had non-significant effect on technical violation but had a positive and statistically significant effect on new arrest. Also, race concordance had a positive effect on probationers evading the terms of their probation without getting caught. Also, contrary to the researcher's hypothesis race concordance between a probationer and PO increased the odds of being rearrested by two and one fourth times compared to race discordant probationer and PO dyads. This contradicts social identity theory. Race concordance substantially increased the odds of a probationer getting rearrested while on probation; therefore, in-group racial preference hindered probationers in reference to the

rearrest outcome. Although not significant, race concordance between a probationer and their supervising PO had a positive effect on probationers evading the terms of their probation without getting caught. Specifically, the odds of a race concordant probationer evading the terms of their probation without getting caught was 1.31 time the odds of a race discordant probationer evading the terms of their probation without getting caught (or a 30% increase in the odds of evading the terms of their probation without getting caught) (*OR* = 1.30; *p*=.32). This finding is interesting, as probationers may feel fewer deterrent effects and more comfortable violating the terms of their probation without getting caught when they are race concordant with their PO than discordant probationer PO relationships. Possibly, offender's race concordance with their PO may increase the offender's perceived status within the race concordant in-group.

When examining the utility of gender concordance at predicting technical violation, new arrest, and probationer's evasion of the terms of their probation without getting caught, gender concordance had a negative effect on predicting only new arrest; it did not predict technical violations or evasion. The odds of a gender concordant probationer getting rearrested was .35 times the odds of gender discordant probationer getting rearrested (or a 65% decrease in the odds of a probationer getting a new arrest while on probation for the probationer's current term). The gender concordance finding may be supportive of the group-value model which is based on the crux of probationers being able to identify with their PO through gender concordance which in turn will increase a probationer's perception of status, which also increases a probationer's perception of procedural justice (Lind & Tyler, 1998) rather the current research is focused on traditional probation outcomes.

Table 12. Results of Logistic Regression for Probation Outcomes With Trichotomized DRI-R Total Score

	(Model 2A) Technical violation		(Model 2B) New Arrest		(Model 2C) Evaded terms of Probation	
	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio
DRI-Trichotomized (reference = High)	--	--	--	--	--	--
Low	0.63 *(0.44)*	1.88	0.39 *(0.47)*	1.47	1.10** *(0.35)*	3.00**
Medium	0.83 *(0.44)*	2.30	-0.15 *(0.50)*	0.86	0.41 *(0.37)*	1.51
Age of First Arrest	-0.03 *(0.03)*	0.97	-0.05 *(0.03)*	0.95	-0.02 *(0.02)*	0.98
One or more prior convictions[1]	-0.02 *(0.36)*	0.98	0.46 *(0.43)*	1.58	0.49 *(0.30)*	1.64
Residential instability[1]	0.83* *(0.33)*	2.30*	0.93* *(0.39)*	2.53*	0.22 (*0.28*)	1.24
Felony[1]	0.07 *(0.34)*	1.08	0.03 *(0.39)*	1.04	0.33 *(0.28)*	1.39
Age	0.01 *(0.02)*	1.01	0.02 *(0.02)*	1.02	-0.01 *(0.02)*	0.99
Male[1]	-0.37 *(0.40)*	0.69	-0.12 *(0.50)*	0.89	-0.07 *(0.33)*	0.94
Bachelor's degree or higher[1]	-1.70 *(1.06)*	0.18	-0.52 *(0.80)*	0.59	-0.25 *(0.50)*	0.78
One or more children in household under 18[1]	0.66 *(0.35)*	2.00	0.08 *(0.40)*	1.16	0.08 *(0.29)*	1.08
White[1]	1.02** *(0.36)*	2.78**	0.18 *(0.40)*	1.20	0.53 *(0.29)*	1.70
Race Concordance[1]	-0.10 *(0.33)*	0.90	0.69 *(0.38)*	2.00	0.33 *(0.27)*	1.39
Gender Concordance[1]	-0.19 *(0.37)*	0.83	-1.06* *(0.47)*	0.35*	-0.01 *(0.30)*	0.99
Income more than or equal to $20,000[1]	0.14 *(0.37)*	1.15	0.01 *(0.40)*	1.01	0.29 *(0.30)*	1.34
Family criminality[1]	0.84* *(0.35)*	2.23*	0.30 *(0.38)*	1.36	0.45 *(0.27)*	1.57
Married[1]	-1.53* *(0.66)*	0.22*	-0.37 *(0.58)*	0.69	0.12 *(0.38)*	1.13
Working[1]	-0.58 *(0.43)*	0.56	0.08 *(0.55)*	1.09	-0.24 *(0.38)*	0.79
Constant	-2.71* *(1.09)*	0.07*	-2.32* *(0.87)*	0.06*	-2.32 *(0.87)*	0.10
	N = 415		N = 414		N = 415	
	Pseudo R^2 = 0.15		Pseudo R^2 = 0.11		Pseudo R^2 = 0.08	
	Model χ^2=46.70***		Model χ^2=26.66		Model χ^2=32.96*	

Note: *$p \leq .05$ **$p \leq .01$ ***$p \leq .001$; [1]1=Yes

Based on finding in Table 12, in reference to Model 2A the overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of

the restricted model (when all coefficients are equal to zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models are equal in the population or rather that at the population level the coefficients are jointly, not significantly, different from zero. The alternative hypothesis of the likelihood ratio test is that the restricted model is different from the unrestricted model at the population level that at least one of the coefficients in the model is significantly different from zero in the population. For the estimated model (Model 2A) that was examining predictors of technical violation, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 46.70 (p <.001) was statistically significant at the .001 level of significance. Therefore, the null hypothesis was rejected. The unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model.

Four control variables (i.e. being white, residential instability, family criminality, and married) were significant predictors of technical violations (Model 2A). Being white had a significant positive effect on receiving a technical violation. The odds of a white probationer receiving a technical violation was 2.78 times the odds of a non-white probationer receiving a technical violation. Odds ratios that are over the 2.00 threshold are not transformed into percent change in odds. White probationers were 178% times more likely than non-white probationers to receive a technical violation (OR = 2.78; $p\leq$.001).

Being married had a significant negative effect on receiving a technical violation. The odds of a married probationer receiving a technical violation was .22 times the odds (or a 78% decrease in the odds of receiving a technical violation) compared to a non-married probationer receiving a technical violation (OR = .22; p=.02).

Residential instability had a significant positive effect on the logit of receiving a technical violation. Probationers who moved more than once during probation were 2.53 more likely to be arrested than a probationer who remained in the same residence. They were also 2.30 times (or have a 130% increase in the odds) of receiving a technical violation (*OR* = 2.23; *p*=.02).

Having an immediate family member who served time in jail, prison, or on probation had a significant positive effect on technical violation. It also gave them 2.32 times the odds of receiving a technical violation. Odds ratios that are over the 2.00 threshold are not transformed into percent change in odds but are considered a multiplicative increase in the odds of the event occurring. Therefore, the probationers who had an immediate family member who had been incarcerated were approximately two and one-third times more likely to receive a technical violation (*OR* = 2.23; *p*=.02).

Race concordance between a probationer and their PO did not have significant effect on a probationer receiving a technical violation (*OR* = .90; *p*=.76). Gender concordance between a probationer and their PO did not have significant effect on a probationer receiving a technical violation (*OR* = .83; *p*=.62). The researcher trichotomized the DRI-R into high, medium, and low. The high DRI-R scores are the reference group. The low DRI-R and medium DRI-R scores did not have a statistically significant effect on probationers' technical violations (*OR* = 1.88; *p*=.15). Also, the medium DRI-R score probationers compared to the high DRI-R score probationers did not have significant effect on a probationer receiving a technical violation (*OR* = 2.30; *p*=.06).

Based on finding in Table 12 in reference to Model 2B the overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of the restricted model (when all coefficients are equal to zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models are equal in the population or rather that at the population level the coefficients are jointly, not significantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level, in that at least one of the coefficients in the model was significantly different from zero in the population. For the estimated model (Model 2B) that examined predictors of new arrest, the likelihood ratio chi-squared statistic χ^2 (df = 17) = 26.66 (p <.05) was not statistically significant at the .05 level of significance. Therefore, the null hypothesis was accepted. The unrestricted model containing all estimated coefficients did not provide a better fit to the data than the restricted model. Therefore, (Model 2B) independent variables did not collectively have explanatory power at predicting rearrest. Therefore, they were not meaningful for the researcher to interpret.

Based on finding in Table 12 in reference to Model 2C the overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of the restricted model (when all coefficients are equal to zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models were equal in the population or rather that at the population level the coefficients were jointly, not significantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was

different from the unrestricted model at the population level that at least one of the coefficients in the model was significantly different from zero in the population. For the estimated model (Model 2C) that examined predictors of a probationer violating the terms of their probation without being caught, the likelihood ratio chi-squared statistic χ^2 (df = 17) = 32.96 (p <.05) was statistically significant at the .01 level of significance. Therefore, the null hypothesis was rejected. The unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model. Only one independent variable (i.e. low DRI-R total score group) was a significant predictor of a probationer violating the terms of their probation without being caught.

The medium DRI-R scores did not have a statistically significant effect on probationers violating the terms of their probation without being caught (*OR*= 1.51; p<.27), but the low DRI-R scores (*OR*= 3.00; p<.01) did. Probationers who had a low quality of relationship with their POs were 3.00 times more likely to violate the terms of their probation without being caught than probationers with a high-quality relationship with their POs (*OR*= 3.00; p<.01). Therefore, probationers who scored in the low DRI-R group were 200% more likely to evade the terms of their probation. The quality of the relationship with POs had a positive effect on a probationer who violated the terms of their probation one or more times without getting caught. It was concluded that the medium DRI-R score probationers compared to the high DRI-R score probationers did not have significant effect on probationers' violating the terms of their probation without being caught.

It was concluded that race concordance between a probationer and their PO did not have significant effect on probationers' violating the terms of their probation without

being caught (*OR*= 1.40; *p*=.23). Gender concordance between a probationer and their PO did not have significant effect on probationers' violating the terms of their probation without being caught.

The current study is the second study to trichotomize the DRI-R total score into (low, medium, and high scores). When the researcher created a categorical variable out of the continuous DRI-R total score, the independent variables in model 2B did not produce any exploratory power at predicting new arrest amount the sample probations. The covariates in that model cannot be used in any meaningful for inferential analysis. Therefore, the researcher cannot state which variables are useful at predicting rearrest. Based on hypothesis 3 (model 2C), the low DRI-R score probationers positively predicted probationers evading the terms of their probation without getting caught. Therefore, there is value in instilling quality interactions between probationers and POs. First, the quality of the dual-role relationship protects against probationers evading the terms of their probation without getting caught. There has not been any research besides Kennealy et al. (2012) that aggregated the DRI-R and examined the predictive utility placing probationers into three groups, based on their DRI-R total score, and examined the individual subscale score to explore whether or not they are predictive of negative probationer outcomes specifically. Kennealy et al. (2012) focused on time till rearrest with a general population probation sample. When examining the low DRI-R probationers, the log odds of a probation that was in the low DRI-R score group of receiving a technical violation was 1.88 times the log odds of a probationer in the high DRI-R score group at receiving a technical violation (or Probationers in the low DRI-R

group were 88% more likely to receive a technical violation than probationers in the high DRI-R group).

Table 13. Results of Logistic Regression on Probation Outcomes With Caring/Fairness DRI-R Subscale as Control

	(Model 3A) Technical violation		(Model 3B) New Arrest		(Model 3C) Evaded terms of Probation	
	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio
Caring/Fairness Total Score	-0.02** *(0.01)*	0.98**	-0.01 *(0.01)*	0.99	-0.01** *(0.01)*	0.99**
Age of First Arrest	-0.02 *(-0.03)*	0.98	-0.05 *(0.03)*	0.95	-0.03 *(0.02)*	0.97
One or more prior convictions[1]	0.03 *(0.36)*	1.03	0.54 *(0.43)*	1.71	0.46 *(0.29)*	1.58
Residential instability[1]	0.78* *(0.33)*	2.18*	0.89* *(0.39)*	2.43*	0.18 *(0.27)*	1.20
Felony[1]	0.06 *(0.34)*	1.07	0.04 *(0.39)*	1.04	0.29 *(0.27)*	1.33
Age	0.00 *(0.02)*	1.00	0.02 *(0.02)*	1.02	-0.01 *(0.02)*	0.99
Male[1]	-0.41 *(0.40)*	0.67	-0.15 *(0.49)*	0.86	-0.06 *(0.32)*	0.94
Bachelor's degree or higher[1]	-1.15 *(0.81)*	0.32	-0.54 *(0.80)*	0.59	0.04 *(0.45)*	1.04
One or more children in household under 18[1]	0.66 *(0.35)*	1.94	0.22 *(0.41)*	1.25	0.06 *(0.28)*	1.07
White[1]	0.99** *(0.35)*	2.68**	0.22 *(0.40)*	1.24	0.47 *(0.28)*	1.60
Race Concordance[1]	-0.15 *(0.33)*	0.86	0.71 *(0.39)*	2.03	0.19 *(0.26)*	1.21
Gender Concordance[1]	-0.13 *(0.37)*	0.88	-1.07* *(0.46)*	0.34*	-0.04 *(0.29)*	0.96
Income more than or equal to $20,000[1]	-0.03 *(0.37)*	0.97	-0.05 *(0.40)*	0.95	0.20 *(0.29)*	1.23
Family criminality[1]	0.70* *(0.34)*	2.01*	0.30 *(0.39)*	1.36	0.40 *(0.27)*	1.49
Married[1]	-1.54* *(0.66)*	0.22*	-0.39 *(0.58)*	0.68	0.10 *(0.37)*	1.10
Working[1]	-0.46 *(0.43)*	0.63	0.15 *(0.55)*	1.16	-0.18 *(0.37)*	0.84
Constant	-0.20 *(1.07)*	0.82	-1.64 *(1.30)*	0.19	-0.12 *(0.89)*	0.89
	N = 422		N = 421		N = 422	
	Pseudo R^2 = 0.16		Pseudo R^2 = 0.12		Pseudo R^2 = 0.07	
	Model χ^2=49.75***		Model χ^2=28.33*		Model χ^2=25.22	

Note: *$p \leq .05$ **$p \leq .01$ ***$p \leq .001$; [1]1=Yes

Based on findings in Table 13 in reference to Model 3A the overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of the restricted model (when all coefficients are equal to zero against the log likelihood of

the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models were equal in the population that at the population level the coefficients were jointly, insignificantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level that at least one of the coefficients in the model was significantly different from zero in the population. For the estimated model (Model 3A) that examined predictors of technical violation, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 49.75 (p <.001) was statistically significant at the .001 level of significance. Therefore, the null hypothesis was rejected. The unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model.

Five independent variables (i.e. race, residential instability, family criminality, married, and caring and fairness subscale) were significant predictors of technical violations in Model 3A. Being a white probationer had a significant positive effect on receiving a technical violation. The odds of a white probationer receiving a technical violation was 2.68 times the odds of a non-white probationer receiving a technical violation. Odds ratios that are over the 2.00 threshold are not transformed into percent change in odds. They are considered a multiplicative increase in the odds of the event occurring. White probationers were 168% more likely to receive a technical violation compared to non-white probationers (OR= 2.68; p <.01).

Being married had a significant negative effect on receiving a technical violation. The odds of a married probationer receiving a technical violation was .22 times the odds (or 78% decrease in odds) of a non-married probationer receiving a technical violation (OR= .22; p =.02).

Residential instability had a significant positive effect on the logit of receiving a technical violation. Probationers who moved more than once during probation were 2.18 times more likely to receive a technical violation than probationers who remained in the same residence. Probationers who were residentially unstable were 118% more likely to receive a technical violation compared to probationers who were residentially stable (*OR*= 2.18; p =.02).

Having an immediate family member who served time in jail, prison, or on probation had a significant positive effect on technical violation. It also gave them 2.01 times the odds of receiving a technical violation. Therefore, the probationers who had an immediate family member who has been incarcerated were approximately 2.01 times more likely to receive a technical violation. Probationers who served time in jail, prison, or on probation had a 101% increase in the odds of receiving a technical violation compared to probationers who did not have an immediate family member involved in the criminal justice system (*OR*= 2.01; p =.04).

The caring and fairness DRI-R subscale total score had a significant negative effect on the logit of receiving a technical violation. A one-unit increase in caring and fairness DRI-R subscale total score changed the odds of receiving a technical violation by a factor of .98 (or a 2% decrease in the odds of receiving a technical violation in odds) (*OR*= .98; $p \leq .001$).

It is concluded that race concordance between a probationer and their PO did not have significant effect on a probationer receiving a technical violation. Gender concordance between a probationer and their PO did not have significant effect on a probationer receiving a technical violation.

For the estimated model (Model 3B) examining predictors of rearrest, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 28.33 (p <.05) was statistically significant at the .05 level of significance. Therefore, the null hypothesis was rejected. It was concluded that the unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model. There were two significant independent variables (i.e. residential instability and gender concordance) out of the 16 independent variables that were significant predictors of rearrest in Model 3B. Race concordance did not have a significant effect on the logit of rearrest.

Residential instability had a significant positive effect on the logit of rearrest. A probationer who moved one or more times since being put on probation was 2.43 times more likely to be rearrested than a probationer who has remained in the same residence. Probationers who moved one or more times since being put on probationer had a 143% increase in the odds of being rearrested compared to probationer who remained in the same residence (*OR*= 2.43; p = .02).

Race concordance between a probationer and their PO did not have a significant effect on a probationer being rearrested (*OR* = 2.03; p=0.06).

Gender concordance had a significant negative effect on the logit of rearrest. Probationers who were gender concordant with their PO were 66% less likely to be rearrested than gender discordant probationers (*OR*= .34; p = .02). The caring and fairness DRI-R subscale total score did not significantly affect rearrest.

The overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of the restricted model (when all coefficients are equal to zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the

null hypothesis was that the restricted and unrestricted models are equal in the population or rather that at the population level the coefficients are jointly, insignificantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level that at least one of the coefficients in the model was significantly different from zero in the population. For the estimated model (Model 3C) that was examining predictors a probationer violating the terms of their probation without being caught, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 25.22 (p <.05) was not statistically significant at the .05 level of significance. Therefore, the null hypothesis was accepted. The unrestricted model containing all estimated coefficients did not provide a better fit to the data than the restricted model. Therefore, the collective exploratory power of the independent variables in Model 3C were not predictive of probationers evading the terms of their probation without getting caught. Therefore, the coefficients and odds ratios were not meaningful for the researcher to interpret.

Based on finding in Table 14 in reference to Model 4A the overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of the restricted model (when all coefficients are equal to zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models were equal in the population or rather that at the population level the coefficients are jointly, insignificantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level that at least one of the coefficients in the model is significantly different from zero in the population. For the

estimated model (Model 4A) that was examining predictors of technical violation, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 54.34 (p <.001) was statistically significant at the .001 level of significance. Therefore, the null hypothesis was rejected. The unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model.

Table 14. Results of Logistic Regression on Probation Outcomes With Toughness DRI-R Subscale as Control

	(Model 4A) Technical violation		(Model 4B) New Arrest		(Model 4C) Evaded terms of Probation	
	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio
Toughness Total Score	-0.08** *(0.02)*	0.92**	-0.00 *(0.03)*	0.99	-0.03 *(0.02)*	0.97
Age of First Arrest	-0.02 *(0.03)*	0.98	-0.04 *(0.03)*	0.96	-0.02 *(0.02)*	0.98
Number of Prior Convictions	0.13 *(0.37)*	1.14	0.37 *(0.42)*	1.62	0.45 *(0.29)*	1.57
Residential instability[1]	0.85* *(0.33)*	2.34*	0.90* *(0.37)*	2.46*	0.24 *(0.27)*	1.27
Felony[1]	0.08 *(0.34)*	1.08	-0.07 *(0.37)*	0.93	0.23 *(0.27)*	1.26
Age	-0.01 *(0.02)*	1.00	0.01 *(0.02)*	1.01	-0.02 *(0.02)*	0.98
Male[1]	-0.32 *(0.40)*	0.73	-0.14 *(0.48)*	0.87	-0.03 *(0.32)*	0.97
Bachelor's degree or higher[1]	-1.94 *(1.09)*	0.14	-0.63 *(0.79)*	0.53	-0.22 *(0.46)*	0.81
One or more children in household under 18[1]	0.69* *(0.35)*	1.99*	0.13 *(0.39)*	1.14	0.09 *(0.27)*	1.09
White[1]	1.05** *(0.36)*	2.87**	0.24 *(0.38)*	1.28	0.53* *(0.27)*	1.71*
Race Concordance[1]	-0.17 *(0.33)*	0.84	0.58 *(0.37)*	1.79	0.21 *(0.26)*	1.24
Gender Concordance[1]	-0.05 *(0.37)*	0.95	-1.12* *(0.45)*	0.33*	-0.04 *(0.29)*	0.96
Income more than or equal to $20,000[1]	-0.03 *(0.37)*	0.97	0.08 *(0.39)*	1.08	0.27 *(0.29)*	1.30
Family criminality[1]	0.75* *(0.34)*	2.12*	0.33 *(0.38)*	1.40	0.43 *(0.27)*	1.54
Married[1]	-1.49* *(0.65)*	0.22*	-0.08 *(0.54)*	0.92	0.28 *(0.35)*	1.32
Working[1]	-0.39 *(0.44)*	0.68	0.03 *(0.55)*	1.03	-0.22 *(0.37)*	0.80
Constant	0.06 *(1.12)*	1.07	-2.27 *(1.40)*	0.10	-0.76 *(0.95)*	0.47
	N = 432		N = 431		N = 432	
	Pseudo R^2 = 0.18		Pseudo R^2 = 0.10		Pseudo R^2 = 0.05	
	Model χ^2=54.34***		Model χ^2=23.87		Model χ^2=20.99	

Note: *$p \leq .05$ **$p \leq .01$ ***$p \leq .001$; [1]1=Yes

There were six significant independent variables (i.e. race, residential instability, family criminality, married, toughness DRI-R subscale score, and children in the

household under the age of 18) of the control variables were significant predictors of technical violations in (Model 4A). Being a white probationer had a significant positive effect on receiving a technical violation. The odds of a white probationer receiving a technical violation was 2.87 times the odds of a non-white probationer receiving a technical violation. Odds ratios that are over the 2.00 threshold are not transformed into percent change in odds. They are considered a multiplicative increase in the odds of the event occurring. White probationers had a 187% increase in the odds of receiving a technical violation compared to non-white probationers (*OR*= 2.87; $p \leq .01$).

The odds of a married probationer receiving a technical violation was .22 times the odds (or 78% decrease in odds) of a non-married probationer receiving a technical violation (*OR*= .22; $p = .02$).

Having an immediate family member incarcerated had a significant positive effect on technical violation. It also gave them 2.12 times the odds of receiving a technical violation. Odds ratios that are over the 2.00 threshold are not transformed into percent change in odds but are considered a multiplicative increase in the odds of the event occurring. Therefore, probationers who had an immediate family member who had been incarcerated or on community supervision had a 112% increase in the odds of receive a technical violation (*OR*= 2.12; $p = .01$).

The toughness DRI-R subscale total score had a significant negative effect on the logit of receiving a technical violation. A one-unit increase in toughness DRI-R subscale total score changed the odds of receiving a technical violation by a factor of .92 (or an 8 % decrease in the odds of receiving a technical violation) (*OR*= .95; $p \leq .001$).

Probationers who had one or more children under the age of 18 violation were 1.99 times more likely to have received a technical violation than probationers that did not have one or more children under the age of 18 living with them (or a 99% increase in the odds of receiving a technical violation) (*OR*= 1.99; $p \leq .05$).

Residential instability had a significant positive effect on the logit of rearrest. Probationers who moved one or more times since being put on probation had a 136% increase in the odds of being rearrested than a probationer who remained in the same residence and not moved one or more times during their current term of probation (*OR*= 2.34; $p \leq .05$).

It was concluded that race concordance between a probationer and their PO did not have significant effect on a probationer receiving a technical violation (*OR*= .83; p = 0.55). Gender concordance between a probationer and their PO did not have significant effect on a probationer receiving a technical violation (*OR*= .95; p = 0.88).

The overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of the restricted model (when all coefficients are equal to zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models are equal in the population or rather that at the population level the coefficients are jointly, insignificantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level that at least one of the coefficients in the model was significantly different from zero in the population. For the estimated model (Model 4B) that was examining predictors of rearrest, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 23.87 (p <.05) was not statistically

significant at the .05 level of significance. Therefore, the null hypothesis was accepted. The unrestricted model containing all estimated coefficients did not provide a better fit to the data than the restricted model. Therefore, (Model 4B) was miss-specified and the results were not meaningful for the researcher to interpret.

Based on finding in Table 14 in reference to Model 4C the overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of the restricted model (when all coefficients are equal to zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models were equal in the population or rather that at the population level the coefficients are jointly, insignificantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level that at least one of the coefficients in the model was significantly different from zero in the population. For the estimated model (Model 4C) that examined predictors a probationer violating the terms of their probation without being caught, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 20.99 (p <.05) was not statistically significant at the .05 level of significance. Therefore, the null hypothesis was accepted. The unrestricted model containing all estimated coefficients did not provide a better fit to the data than the restricted model. Therefore, (Model 4C) the independent variables collectively did not have any exploratory power at predicting how many times probationers evaded the terms of their probation without being caught by their current PO.

Table 15. Results of Logistic Regression on Probation Outcomes With Trust DRI-R Subscale as Control

	(Model 5A) Technical violation		(Model 5B) New Arrest		(Model 5C) Evaded terms of Probation	
	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio	β *(S.E.)*	Odds Ratio
Trust Total Score	-0.06** *(0.02)*	0.94**	-0.04 *(0.02)*	0.96	-0.05* *(0.02)*	0.95*
Age of First Arrest	-0.02 *(0.02)*	0.98	-0.04 *(0.03)*	0.96	-0.01 *(0.02)*	0.99
Number of Prior Convictions	0.07 *(0.35)*	1.07	0.60 *(0.43)*	1.81	0.53 *(0.29)*	1.70
Residential instability[1]	0.76* *(0.32)*	2.14*	0.85* *(0.38)*	2.35*	0.16 *(0.03)*	1.17
Felony[1]	0.09 *(0.33)*	1.09	0.08 *(0.38)*	1.08	0.24 *(0.27)*	1.27
Age	-0.01 *(0.02)*	0.99	0.02 *(0.02)*	1.02	-0.02 *(0.02)*	0.98
Male[1]	-0.34 *(0.39)*	0.72	-0.25 *(0.48)*	0.78	-0.07 *(0.32)*	0.94
Bachelor's degree or higher[1]	-1.10 *(0.80)*	0.33	-0.58 *(0.79)*	0.56	0.10 *(0.43)*	1.10
One or more children in household under 18[1]	0.63 *(0.34)*	1.88	0.21 *(0.39)*	1.23	0.01 *(0.28)*	0.99
White[1]	0.94** *(0.35)*	2.57**	0.05 *(0.39)*	1.06	0.45 *(0.27)*	1.57
Race Concordance[1]	-0.19 *(0.32)*	0.82	0.77* *(0.38)*	2.17*	0.22 *(0.26)*	1.24
Gender Concordance[1]	-0.06 *(0.36)*	0.94	-0.99* *(0.45)*	0.37*	0.03 *(0.29)*	1.03
Income more than or equal to $20,000[1]	-0.07 *(0.37)*	0.94	0.03 *(0.39)*	1.03	0.18 *(0.29)*	1.20
Family criminality[1]	0.66* *(0.33)*	1.94*	0.28 *(0.38)*	1.33	0.38 *(0.27)*	1.46
Married[1]	-1.49* *(0.65)*	0.22*	-0.49 *(0.58)*	0.61	0.20 *(0.36)*	1.22
Working[1]	-0.40 *(0.43)*	0.67	0.24 *(0.55)*	1.27	-0.13 *(0.38)*	0.89
Constant	-0.42 *(1.06)*	0.66	-2.05 *(1.26)*	0.13	0.01 *(0.86)*	1.01
	N = 439		N =438		N = 439	
	Pseudo R^2 = 0.15		Pseudo R^2 = 0.11		Pseudo R^2 = .07	
	Model χ^2= 48.86***		Model χ^2= 27.45*		Model χ^2= 28.40*	

Note: *$p \leq .05$ **$p \leq .01$ ***$p \leq .001$; [1]1=Yes

Based on finding in Table 15 in reference to Model 5A the overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of

the restricted model (when all coefficients are equal to zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models were equal in the population or rather that at the population level the coefficients are jointly, insignificantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level that at least one of the coefficients in the model was significantly different from zero in the population. For the estimated model (Model 5A) that examined predictors of technical violation, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 48.86 (p <.001) was statistically significant at the .001 level of significance. Therefore, the null hypothesis was rejected. The unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model.

There were five significant independent variables (i.e. race, residential instability, family criminality, married, and trust DRI-R subscale score) of the control variables were significant predictors of technical violations in (Model 5A). Being a white probationer had a significant positive effect on receiving a technical violation. The odds of a white probationer receiving a technical violation was 2.57 times the odds of a non-white probationer receiving a technical violation. Odds ratios that are over the 2.00 threshold are not transformed into percent change in odds. White probationers had a 157% increase in the odds of receiving a technical violation compared to non-white probationers (OR = 2.57; p= 0.01).

Being married had a significant negative effect on receiving a technical violation. The odds of a married probationer receiving a technical violation was .22 times the odds

(or 78% change in odds) of a non-married probationer receiving a technical violation (*OR* = .22; *p*= 0.02).

Having an immediate family member who served time in jail, prison, or on probation had a significant positive effect on technical violation; theses probationers had a 94 % increase in the odds of receiving a technical violation (*OR* = 1.94; *p*= .05).

The toughness DRI-R subscale total score had a significant, negative effect on the logit of receiving a technical violation. A one-unit increase in trust DRI-R subscale total score changed the odds of receiving a technical violation by a factor of .95 (or a 5% decrease in the odds of receiving a technical violation) (*OR* = .94; *p*= .01).

Residential instability had a significant positive effect on the logit of rearrest. Probationers who moved one or more times since being put on probation were 2.14 times more likely to be rearrested than a probationer who had remained in the same residence and not moved one or more times during their current term of probation. Also, probationers who moved one or more times since being put on probation had a 114% increase in the odds of being rearrested compared to probationers who are residentially stable (*OR* = 2.14; *p*= .02).

It was concluded that race concordance between a probationer and their PO did not have significant effect on a probationer receiving a technical violation. Gender concordance between a probationer and their PO did not have significant effect on a probationer receiving a technical violation.

For the estimated model (Model 5B) examining predictors of rearrest, the likelihood ratio chi-squared statistic χ^2 (*df* = 16) = 27.45 (*p* <.05) was statistically significant at the .05 level of significance. Therefore, the null hypothesis was rejected. It

was concluded that the unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model. There were 3 significant independent variables (i.e. residential instability, race concordance, and gender concordance) out of the 16 independent variables that were significant predictors of rearrest in Model 5B. Race concordance had a significant positive effect on the logit of rearrest (*OR* = 2.17; *p*= .04). Since the odds ratio of race concordance is over the 2.00 threshold, it is not transformed into percent change in odds, but rather is considered a multiplicative increase in the odds of the event occurring. Therefore, the odds of being rearrested for a probationer who was racially concordant with their PO is approximately two and two fifths times that of probationer who was of a different race their PO. Probationers who were race concordant with their PO have a 117% increase in the odds of being rearrested.

Residential instability had a significant positive effect on the logit of rearrest. A probationer who moved one or more times since being put on probation was 2.35 times more likely to be rearrested than a probationer who has remained in the same residence. Probationers who were residentially stable were 135% more likely to be rearrested than probationers who reminded at the same residence (*OR* = 2.35; *p*= .02).

Gender concordance had a significant negative effect on the logit of rearrest. Probationers who were gender concordant with their PO were 63% less likely to be rearrested than probationers who were gender discordant with their PO (*OR* = .37; *p*= .03). The trust DRI-R subscale total score did not significantly affect rearrest (*OR* = .96; *p*= .09).

The overall model fit was assessed using the likelihood ratio chi-squared statistic, which tested the log likelihood of the restricted model (when all coefficients are equal to

zero against the log likelihood of the unrestricted model). For the likelihood ratio test, the null hypothesis was that the restricted and unrestricted models are equal in the population or rather that at the population level the coefficients are jointly, insignificantly, different from zero. The alternative hypothesis of the likelihood ratio test was that the restricted model was different from the unrestricted model at the population level that at least one of the coefficients in the model was significantly different from zero in the population. For the estimated model (Model 5C) that examined predictors of a probationer violating the terms of their probation without being caught, the likelihood ratio chi-squared statistic χ^2 (df = 16) = 28.40 (p <.05) was statistically significant at the .05 level of significance. Therefore, the null hypothesis was rejected. The unrestricted model containing all estimated coefficients was a better fit to the data than the restricted model.

The trust DRI-R subscale total score did significantly affect a probationer violating the terms of their probation without being caught. A one-unit increase in trust DRI-R subscale total score changed the odds of receiving a technical violation by a factor of .95 (or a 5% decrease in the odds of receiving a technical violation) (OR = .95; $p\leq$.001).

V. DISCUSSION

This study's purpose was to investigate probationers' perceptions of their PO via interpersonal measurements (e.g. DRI-R total score, subscale scores). It also considers how risk factors affect compliance. Legal factors examined include offense severity and prior record, while extralegal factors include race, income, gender, employment, education, immediate family member prior criminality, and the number of children in the probationer's household under the age of 18. Another goal was to see how a probationer's race and gender and a PO's race and gender affected the probationer's DRI-R total score and subscale scores. This study analyzed how race and gender concordance affects negative probationer outcomes (e.g. technical violation, new arrest, and evasion of probation one or more times without getting caught).

Most interpersonal procedural justice research examining probationers' perceptions of their POs has been conducted through in-person survey interviews. While these studies' outcome measures have exclusively examined official rearrest data and secondary technical violation data (Kennealy et al., 2012; Skeem et al., 2007), the current study exclusively collected data from self-reported surveys pertaining to outcome measures (e.g. technical violation, rearrest, and evasion of the terms on their probation without getting caught by their supervising PO). Although there may be differences between self-reported and official data, they have typically been minimal (Maxfield, Weiler, & Widom, 2000).

Internal Consistency of the DRI-R

The first research question concerned how well the thirty-items of the DRI-R measure latent constructs (e.g. Caring/Fairness, Trust, and Toughness). This research

further validated the DRI-R as a measurement tool for examining interpersonal relationships between probationers and their supervising PO. Based on the factor loadings and the model fit statistics, the 30-item three latent factor model provided an acceptable fit to the data. This finding affirms that the DRI-R is generalizable to a general population probationer sample. Therefore, the researcher continued with the original 30 items in Skeem et. al's (2007) DRI-R validation study.

DRI-R Multivariate Findings

There were several multivariate analyses that articulated key findings from this study. The DRI-R total scores predicted technical violations and probationers evading the terms of their probation one or more times, but not new offenses. This could be because new arrests do not necessarily relate to the relationship between a probationer and their PO. For example, the probationer could commit a crime outside the PO's jurisdiction. Also, new arrest is a rarer event than technical violation or evasion of terms of probation. A probationer can get many technical violations before they would receive a revocation request that would lead to reincarceration. Therefore, while the probationer is rearrested, it might have no relation to the PO. Furthermore, the non-significant DRI-R findings with regards to predicting rearrests could be due to sample selection bias. The researcher is only surveying probationers who have been rearrested and out on bail or bond, but not all the potential probationers in the sample had specifically been rearrested. Therefore, those probationers who were on probation and in jail were not surveyed. Finally, the rearrest findings in previous literature utilized the DRI-R as an independent variable and time till rearrest as the dependent variable. This could explain the DRI-R being a significant predictor of time till rearrest (Kennealy et al., 2012; Skeem et al., 2007).

Trichotomized DRI-R

When the researcher trichotomized the DRI-R total scores, the researcher failed to reject the null hypothesis for the low DRI-R total score in reference to the high DRI-R total score. The researcher has no evidence that there is a statistical relationship between low DRI-R scoring probationers and high DRI-R scoring probationers at the $p<.05$ level of statistical significance for predicting technical violations. According to the chi-square model fit statistic $\chi^2=26.66$ is not statistically significant at the .05 level. Therefore, the variables in model 2B collectively did not have any explanatory utility and the researcher was not able to utilize the low DRI-R probationers in reference to the high DRI-R probationers.

Only the low DRI-R predicted probationers evading the terms of their probation without getting caught one or more times. At the $p< .01$, probationers in the low DRI-R group were 3.00 times more likely to evade the terms of their probation one or more times without getting caught. These findings affirm probationers who have a low DRI-R score are more likely to evade the terms of their probation. Consequently, there may be value in trichotomizing the DRI-R total score for practitioners. The findings support the assertion that there is an association between the dual-role relationship quality and self-reported evasion of probation. Incorporating multiple outcome measures in future surveys may show if the different levels (e.g. low, medium, and High DRI-R scores) are hindering probationer success.

Caring/Fairness DRI-R subscale

In reference to the inclusion of the Caring/Fairness subscale, the findings support Hypothesis 4 only when examining technical violations. As the Caring/Fairness increased

the odds of receiving a technical violation decrease by 2%. The researcher has no evidence that there is a statistical relationship between the caring and fairness DRI-R subscale dimension at p <.05 level of statistical significance for predicting rearrest in the model (3B) that examined the key independent variables (e.g. caring/fairness subscale total score, race concordance, and gender concordance). The findings contradict Kennealy et al.'s (2012) findings, since the researchers utilized forward step-wise regression and examined time until rearrest rather than a binary outcome (rearrested or not). These are possible rationales for inconsistency among findings. It was useful to include all previous significant independent variables from prior community corrections research, although the model (3C) that included the caring/fairness subscale total score and the race and gender concordance variables did not have any exploratory utility with all the key independent variables predicting a probationer evading the terms of their probation one or more times without getting caught. The model χ^2=25.42 is not statistically significant at the .05 level of statistical significance.

Toughness DRI-R subscale

As the toughness subscale score increased, the odds of receiving a technical violation decreased by 8%. The multivariate model (4A) that examined the DRI-R toughness subscale total score, and the race and gender concordance variables proved Hypothesis 5 correct; the less tough the PO the less likely a probationer is to receive a technical violation. The toughness subscale tends to capture an authoritarian supervisory style or surveillance supervisory approach. The current findings are contrary to predictions from Klockar's (1972) theory. The surveillance or authoritarian approaches seem more effective at reducing the odds of a probationer receiving a technical violation.

Possibly the *law enforcer* officer and the *time server* officer that focus on threats of incarceration and enforce rules mandated by the probationer's court ordered probation sentence without any exceptions may deter probationers from committing technical violations. Models 4B and 4C which predicted new arrest and evasion of a probationer's terms of their probation without getting caught one or more times collectively did not have any explanatory utility at predicting those outcome measures. This could be due to the self-reported nature of this survey instead of official records used by Skeem et al. (2007). When the researcher included the toughness subscale total score into the models predicting rearrest and evasion of probation without getting caught, it did not provide any explanatory utility.

Trust DRI-R subscale

Hypothesis 6 is confirmed across two models. Although the Trust subscale predicted technical violation and evasion of probation without getting caught one or more times, it did not predict rearrest. As the probationers' DRI-R Trust score increases, the odds of a probationer receiving a technical violation decreased by 5%. Also, as the probationers' DRI-R Trust score increased, the odds of a probationer evading the terms of their probation one or more times decreased by 5%. These findings are consistent with previous research (Skeem et al., 2007) that found that as probationers' trust score increased, the odds of a technical violation decreased. However, the current findings do not support the assertion that the Trust subscale independently predicted rearrest. Further research should use the same outcome measures in another cross-sectional survey to examine the effect of the DRI-R Trust subscale measure. In reference to the model (5B), which included the DRI-R Trust subscale score and the race and gender concordance

variables as the key independent variables of interest, the researcher has no evidence that there is a statistical relationship between the Trust DRI-R subscale dimension for predicting rearrest at $p < .05$ level of statistical significance.

Bivariate Relationships Between Gender Concordance and DRI-R and Subscale Scores

The researcher used a mean level *t*-test to examine bivariate relationships between probationer-PO gender concordance, and how it affects probationers' total DRI-R scores and total subscale scores. Table 6 was used to test Hypothesis 7. At the mean-level, probationers who were gender concordant with their POs had statistically significant higher DRI-R total scores and subscale scores. These findings support social identity theory. Social identity theory states an authority figure (e.g. a PO) can affect a probationer's perception of their in-group status (e.g. race or gender concordance). An in-group authority figure (e.g. POs) not only describes in-group norms, but also tells other in-group members how they should behave (Hogg & Reid, 2006). This can lead to a probationer positively perceiving procedural justice (Lind & Tyler, 1998). Specifically, the more the probationer perceives that they have been treated in a caring and fair manner, the more they will obey rules and accept decisions made by an authority figure (Hogg & Reid; Tyler, 1990).

An understudied research area is what makes a probationer conform to in-group norms. From a social identity theory rationale, it is assumed that a probationer strives to achieve a positive social identity. However, is not clear that striving to achieve such a goal drives group behavior (Abrams & Hogg, 1988). This study focuses on race and gender concordance because people draw on accessible social categorizations.

Probationers can quickly perceive their gender and/or race are the same as their PO's (Mackie, Hamilton, Susskind, & Rosselli, 1996), and these first impressions can affect future interpersonal procedural justice scores (e.g. DRI-R total score, caring/fairness subscale score, trust subscale score, and toughness subscale score). Unlike social identity theory, social categorization theory does not define the interpersonal or intergroup behavior by one continuum (Trepte, 2006). Rather, it suggests that personal and social identity theory represent different levels of self-categorization (Trepte, 2006). There are three components of social comparison. First, an individual internalizes their group membership as part of their self-concept. Second, the situational context must allow for social comparison. Third the out-group must be relevant in terms of similarity and proximity (Hinkle & Brown,1990). For example, if a probationer identifies as a specific gender, and perceives their PO belongs to the same category, then they will have increased interpersonal procedural justice total scores and subscale scores.

Probationers who recognize their PO as gender concordant perceive their PO as more synthetic (refer to Table 6). Furthermore, probationers who were gender concordant perceived their PO as more caring and fairer, more trusting, and less authoritarian across all multivariate models. Although, the researcher is not examining the Working Alliance Inventory (WAI) between a client and a therapist, research has found gender concordance between a client and therapist leads to increased WAI scores (Wintersteen, Mensinger, & Diamond, 2005). The results suggest that social identity theory may be applicable to actors (e.g. the probationer and the PO) in a community correction setting. These findings support the need to further examine gender concordance to see how these relationships affect probationer/offender satisfaction or interpersonal relationships with POs.

Gender Concordance Multivariate Findings

Hypothesis 8 considers how gender concordance between the PO and the probationer affects negative probationer outcomes (e.g. technical violations, new arrest, and evasion of the terms of probation one or more times without getting caught) within multivariate models. Gender concordance negatively affects rearrests, affirming social identity theory. There is no relationship between gender concordance and a probationer receiving a technical violation or evading the terms of their probation one or more times without getting caught. The current study provides the evidence that being gender concordant with a PO may prevent probationers from being rearrested. Probationers who were gender concordant with their PO were 66% less likely to be rearrested in (Model 1B and Model 3B). In model 5B probationers who were gender concordant with their PO were 63% less likely to be rearrested. Gender concordance may give the probationer a positive views of the probationer's personal status within their gender ingroup and may aid in portraying to the probationer that they are respected within that gender ingroup (Baker et al., 2015).

Bivariate Relationships Between Race Concordance and DRI-R and Subscale Scores

Table 5, which examines the bivariate relationship between race concordance and the DRI-R total score and the subscale scores, was used to test hypothesis 9. Race discordant encounters with criminal justice authority figures can place minorities at a disadvantage for perceiving that they can be a member of a respected in-group. Therefore, in theory it can be harder for a minority probationer to identify with a white PO when most criminal justice employees are white (Haney-Lopez, 2006). Race/ethnic concordance also underpins Lind and Tyler's group-value model, which defines three

main components of procedural justice: status, neutrality, and trust. In this study, status is defined as authority. POs have status in relation to probationers. Neutrality then is measured as fairness in the DRI-R total score, as is trust. These findings confirm the group-value model. If a probationer regards their PO sharing the same group-values, they are more likely to perceive the PO as caring/fair, trusting, and non-authoritarian (Baker et al., 2015; Lind & Tyler, 1988; Tyler, 2006; Tyler & Huo, 2002).

The relationship between race concordance and the DRI-R total score and toughness subscale score was statistically insignificant at the mean level, probationers who were race concordant perceived their PO as more caring/fairer and trusting. A probationer's perception of interpersonal procedural justice is affected by their background. This can include demographic variables like race and gender.

According to social identity theory, social categorization theory, and the group-value model, researchers must understand how demographic variables influence interpersonal procedural justice when interpreting results. In this study, probationers who believe their PO is the same race and gender as they are, also perceived their POs as more caring and fairer (see Table 6). The findings reify social identity theory, confirming that individuals who identify with an authority figure are more likely to perceive them as fair, regardless of the outcome (Tyler, 1990; Tyler & Lind, 1992). According to Tyler and Blader (2000) the perceived fairness of group members and procedures is an important predictor of cooperation with-in the group. There is some consistency with prior research on how being the same race or ethnicity of a supervising PO led to positive probationer assessments of POs (Baker et al., 2015; Tyler & Huo, 2002; Weitzer & Touch, 2006).

Fair treatment has been correlated to rule compliance and better perceptions of procedural justice (Lind & Tyler, 1988). Baker and colleagues (2015) found that offenders who were the same race as their prosecutor were more likely to perceive the court system as fair and, in the future, follow the law. For non-white female offenders, however, race concordance with court actors did not significantly affect their perception of procedural justice (Baker et al., 2015).

Nonetheless, for non-white offenders, race concordance with their prosecutor had a greater impact on the offenders' perceptions of procedural justice. In a later study, Baker (2017) found that race concordance with courtroom actors did not affect white male offenders' perceptions of procedural justice. The inconsistencies in these findings could be due to the convenience sample of male and female prisoners. Moreover, these finding do not have any direct application to this research because the researcher is only examining if the probationer perceives their PO as racially concordant; it does not parcel out race **and** gender. Future research will examine how gender and race concordance affect interpersonal procedural justice perceptions. Shared identification between probationers and POs should lead to an increase of interpersonal procedural justice perceptions (Baker et al., 2015).

These findings are supportive of social identity theory and the group-value model, predicting procedural justice within a minority offender population. They also lead to a growing body of literature that demonstrates how procedural justice and interpersonal procedural justice are robust predictors of certain outcomes (Tyler & Blader, 2000). Consequently, the researcher examined interpersonal procedural justice though cooperative non-compliance behaviors and one or two specific outcomes. For example,

the bivariate findings in (Table 5) indicate that race concordant probationers perceive their PO as more caring/fairer and trusting. Theoretically, the findings suggest that in-group preference is indicative of probationers self-identifying with their PO based on race concordance and therefore perceive the relationship with their PO as more caring/fairer and trusting at the mean level than probationers who are race discordant with their PO. By fostering a perceived status within one's in-group, race concordance may increase the probationer's Caring/Fairness and Trusting DRI-R subscale scores.

Race Concordance Multivariate Findings

Hypothesis 10 examines race concordance within multiple multivariate models. In model 5B, race concordance between the probationer and their PO positively affected rearrest. Probationers who were race concordant with their PO were 2.17 times more likely to be rearrested. This contradicts social identity theory. In-group racial concordant probationers and POs led to in-group discrimination, which positively affected rearrest. For example, if a probationer was seen as a marginal member of their PO's racial in-group, they could be seen as a deviant within the PO's racial in-group. Therefore, the probationer would be more likely to commit deviant behavior, such as a new crime (Hogg & Reid, 2006). Also, according to Hogg and Reid (2006), if a PO is seen as a leader of their in-group, they can use marginal members (e.g. in-group probationers) to show other probationers what behaviors are not allowed. There is no relationship between the race concordance variable and the technical violation or evasion of probation variables. Prior literature suggests that sharing one's race or ethnicity with a criminal justice actor may result in more positive views of those authority figures (Baker et al., 2015; Tyler & Huo, 2002; Weitzer & Tuch, 2006). However, this study does not examine

a procedural justice outcome measure as the dependent variable. This could be the rationale for inconsistent findings. The race concordance findings could be attributed to implicit bias or explicit bias against one's race/ethnic in-group (Rudman, Feinberg, & Fairchild, 2002). Based on the variables collected there is no quantifiable way of articulating why probationers who are race/concordant with their PO are 117% more likely to be rearrested in model 5B.

To further explore these results, it would be helpful to match probationers based on their gender identity to see if the DRI-R total scores and subscale scores increase. Results at the mean level of gender concordance led to increased mean level DRI-R total scores (see Table 5). The DRI-R total score increases the odds of receiving a technical violation but decreases the odds of a probationer evading the terms of their probation. Matching by gender should improve the quality of the probationer-PO relationships (although it may not always be possible, and matching was not possible in the three counties surveyed). If matching is not a possible alternatively POs need to pay attention to the interpersonal relationships that they have with probationers on their caseload and try to improve the relationship they have pertaining to one-on-one encounters with probationers that are discordant and concordant with them. This should reduce probationers committing technical violations and evading the terms of their probation. Overall, these findings collectively articulate the importance of POs integrating relationship development into their core correctional practice (Kennealy et al., 2012), and recommending training programs for POs to learn behavioral skills specific to interpersonal encounters with probationers. POs can positively change probationers' behavior when balancing their dual-roles effectively. In turn, probationers are more likely

to disclose information pertaining to the success of their rehabilitative process. Also, the findings lead to a growing body of literature that both procedural justice and interpersonal procedural justice is a robust predictor of a variety of outcomes (Tyler & Blader, 2000). According to Blasko and Taxman (2018) the DRI-R does not capture the traditional form of procedural fairness articulated by (Tyler,2006). They also state that the traditional form of procedural justice, specifically procedural fairness, is not adequately captured by the DRI-R. It is for this reason that the researcher examined interpersonal procedural justice though a variety of cooperative non-compliance behaviors, and not just one or two specific outcomes.

Risk Factors that were Predictors of Negative Probationer Outcomes

This study also contradicts previous research based on probationer race. In the previous literature, non-white probationers were more likely to receive technical violations than white probationers (Olson, Alderden, & Lurigio, 2003; Olson, Lurigio, & Seng, 2000; Schulenberg, 2007). In the current study, the odds of a white probationer receiving a technical violation were well over 2.00 times the odds of a non-white probationer receiving a technical violation. This finding was consistent across all models predicting technical violations; the researcher ran Model 1A with and without the race of the probationer and the race concordance and the findings did not change from negative to positive or statistical significance level. This indicates that the race variable is not influenced by the other race concordance variable. Also, the researcher recategorized the race variable into three categories: White, Hispanic, and other. When the researcher included this variable within the multivariate models, the White probationers were not statistically significantly more likely to receive a technical violation.

Some risk factors can be changed to positively affect probationers mandated rule compliance. If a probationer had one or more children under the age of 18 at home, had an immediate family member that has served time in jail, prison, or on probation, or were unmarried, they were more likely to not comply with the terms of their probation. Residential instability was a substantial risk factor for predicting negative probationer outcomes (except evading terms without being caught) across multivariate models. While probationers may move to avoid victimization or escape a socially dysfunctional community (Dugan, 1999; Morenoff & Sampson,1997; Skogan,1990), moving leads to an increase in the odds of probationers receiving technical violations and also being rearrested while on their current term of probation. Although Gray, Fields, and Maxwell (2001) examined success, failure, and revocation as their outcome measures, they have similar results with probationers who had moved one more times while on probation. The current study also found residential instability to be positively associated with probationers receiving a technical violation and rearrest, but not with probationers evading the terms of their probation without getting caught.

In this study, certain risk factors positively and negatively affected probationer outcomes, either confirming or rejecting previous studies. Social control theory argues that strong ties to family, school, and peers affects delinquency during adolescence, while marriage or partnership, parenthood, and employment inhibit criminal conduct during adulthood. Getting married, becoming a parent, and landing a job are also considered turning points (or a change in the life course). For example, Sampson and Laub (1993) found that marital attachment reduces adulthood criminality (even when the spouse has a criminal history) and contend that weak adult social bonds predict later adult criminality.

This study confirms and refutes aspects of informal social control theory. Researchers have found married probationers comply with the terms of their probation more than non-married probationers (Gray et al., 2001; Morgan, 1994; Petersilia, 1985; Sims & Jones, 1997), which this study confirms. This finding supports the life-course perspective and principles of informal social control theory. The commitment to marriage has the ability to redirect an individual away from criminality (Sampson & Laub, 1993; Laub & Sampson, 1993) as living with a spouse can reduce the amount of time an individual has to spend with delinquent or criminal friends (Warr, 1998). This extends to probation. Across multiple logistic regression models (e.g. Models 1A, 2A, 3A, 4A, and 5A) being married decreases the odds of receiving a technical violation by 78%.

However, being a parent does not necessarily have the same effect. In this sample, having a minor at home increased the odds of a probationer receiving a technical violation by 104%, and 99% (Models 1A, and 4A respectively). This finding affirms Rutter and Rutter's assessment that turning points can be positive or negative because they represent "times of decision or opportunity when life trajectories may be directed on to more adaptive or maladaptive paths" (Rutter & Rutter, 1993 pg. 244). However, this finding goes against Gray et al.'s (2004) and Olson et al.'s (2003) findings that having children positively affected compliance (e.g. probation success, technical violation, rearrest, and revocation). The discrepancy between Gray et al.'s (2004) and Olson et al.'s (2003) findings and this study's findings could be attributed to two factors: first, in 2003 and 2004 there were far fewer women on probation than today, and second, having children at home negatively affects compliance because childcare responsibilities often interfere with being able to make regularly scheduled meetings, pay fines, and fees.

From a social bonding perspective, strong ties to family play a vital role in predicting criminal behavior. Based on Sampson and Laub's (1993) seminal work, having a child would be considered a turning point that could change a probationer's criminal trajectory. However, having an immediate family member in the criminal justice increased a probationer's odds of receiving a technical violation by 115%, 123%, 101%, 112%, and 94% (Models 1A, 2A, 3A, 4A, and 5A respectively). This confirms previous research (Schulenberg, 2007) that found probationers with family members in the system were 35% more likely to miss a fine or fee.

Quantitative analyses of probationer samples have focused on demographic, legal, and extra-legal variables factors (e.g. marital status, residential instability, and family criminality) that influence negative probationer outcomes (Olson & Lurigio, 2000). While this study's findings do not disregard the inherent value of such risk factors, they instead concentrate on interpersonal relationships and negative probationer outcomes.

Researchers should incorporate race and gender concordance variables in further studies to see how these variables differ from one jurisdiction to another. For example, gender concordance may be highly predictive of rearrest in one jurisdiction, but only moderately predictive in another jurisdiction. Furthermore, the findings establish that relationship quality between a probationer and their PO have the ability the affect negative probationer outcomes (MacCoun, 2005; Skeem et al., 2003), but researchers should incorporate risk factors as well to see, which variables are most predictive of theses outcomes.

These findings establish that different independent variables are predictive of negative outcomes in the current sample. This aids in the area of community corrections

examine multiple outcome measures, thereby not limiting researchers' understanding of probationer performance while they are under community supervision (Olson & Lurigio, 2000).

VI. SUMMARY AND CONCLUSION

In 2007, Skeem et al. developed the Dual-Role Relationship Inventory-Revised (DRI-R) to measure the bonds between Probation Officers (PO) and probationers on their caseload. Written for a fifth-grade reading level, the DRI-R groups probationer responses into three factors: Caring/Fairness, Trust, and Toughness. The DRI-R was adapted in this study for a general population sample of probationers. It was used in self-reported surveys in three Texas counties. This study validated the DRI-R.

There were several key findings in this study. First, POs who are perceived as fair, respectful, and caring, help probationers on their caseload refrain from committing technical violations and evading the terms of their probation without being caught. This can be seen in the probationers' DRI-R total scores (Table 13). Second, the quality of the dual-role relationship predicts rule compliance among general population probationers. However, it did not predict rearrest. This could be attributed to external factors. For example, a probationer could be rearrested in another county, outside the jurisdiction of their supervising PO. Therefore, rearrest may not have anything to do with PO's relationship with the probationer or the PO's reinforcement of positive behavior (Bonta et al., 2000; Trotter, 1999). Also, the finding could be attributed to the cross-sectional survey design. The researcher collected the dependent variables at the same time as the independent variables and did not consider the length of the probation sentence. There is also a sample selection bias—probationers who were rearrested and incarcerated were excluded from the survey.

Third, probationers with a lower DRI-R total score are more likely to violate the terms of their probation and evade the terms of their probation one or more times without

getting caught (Models 1A, and 1C). When the researcher trichotomized the DRI-R total score into tertiles, only the DRI-R low score predicted probationers evading the terms of their probation one or more times without getting caught (Model 2C). Fourth, the trichotomized DRI-R total score did not predict technical violations or probationers being rearrested (Models 2A, and 2C).

The researcher also examined the individual DRI-R subscale scores (e.g. Caring/Fairness, Trust, and Toughness) within the multivariate models. The Caring/Fairness and Trust DRI-R total scores negatively predict probationers receiving a technical violation and evading the terms of their probation. Furthermore, the more the probationer perceived their PO as a *law enforcer* the less likely they were to receive a technical violation (in contrast to Skeem et. al's 2007 study). As the probationer's DRI-R Toughness subscale score increases by one unit, their odds of receiving a technical violation decreased by 2%. The Toughness subscale did not predict evasion, and neither the Caring/Fairness, Toughness, and Trust subscales did not predict rearrest.

To better understand factors affecting these relationships, the researcher considered the probationers' race/ethnicity and gender, and their perception of their POs' race/ethnicity and gender (race and gender concordance). Previous research has found racial and ethnic identification with criminal justice actors (e.g. POs) may result in positive perceptions of those authority figures (Tyler & Huo, 2002; Weitzer & Touch, 2006). Race concordance, however, (Table 5) did not statistically significantly affect probationers' DRI-R total scores. Probationers who were race concordant with their PO perceived their PO as more caring, fairer, and more trustworthy. However, the researcher

found that there is no relationship between race concordance and DRI-R total score and the toughness subscale score.

On the other hand, probationers who were gender concordant with their POs were 66% less likely to be rearrested for a new offense (Models 1B, and 3B), and 63% less likely to rearrested for a new offense (Model 5B). Meanwhile, probationers who were race concordant with their PO were 117% more likely to be rearrested for a new offense (Model 5B). Based on all the bivariate relationships between gender concordance, the DRI-R, and the subscale scores, probationers who were gender concordant with their POs perceived their POs as more caring, fairer, less tough, and more (Table 6). Therefore, matching probationers with POs based on gender identity could potentially increase DRI-R total scores, and thus, probationer compliance. (It would be much harder to match probationers based on their race/ethnicity, according to the Directors and Chief probation officer in the three counties.)

Ultimately, more quantitative self-reported community corrections survey data on general population probationer and parolee is needed. In particular, researchers should consider how race and gender concordance between probationers and their supervising PO affects DRI-R total and subscale scores. They should also consider how the DRI-R total score and subscale scores affect technical violations, evasion of the terms of their probation, and rearrest. There is substantial value in understanding how probationers' perception of interpersonal procedural justice and their supervising PO affects their mandated court ordered rule compliance.

Policy Recommendations

Probationers are more likely to follow court ordered rules when they believe POs are making decisions in a caring, fair, and respectful manner (Tyler & Huo, 2002). As a result, it would be useful for community correctional staff to train POs to build bonds with their probationers (Carpenter, Escudero, & Rivett, 2008; Castonguay, 2000; Crits-Christoph et al., 2006). The training should focus on mechanisms affecting behavioral changes that are measured by the DRI-R (Kennealy et al., 2012). Probation departments should implement training approaches that encourage an open, warm, and enthusiastic communication style (Dowden & Andrews, 2004). POs need interpersonal training (Bonta, Rugge, Scott, Bourgon, & Yessine, 2008; Dowden & Andrews, 2004). For example, impartiality is a vital component of community supervision because POs have discretion to make decisions regarding their caseload (Blasko & Taxman, 2018). To improve impartiality, POs could work on active listening skills (Andrews & Kiessling, 1980). Active listening signals interest, creates a bond with probationers, and ensures POs make informed choices. These affect perceptions of POs as caring, fair, and trustworthy. Furthermore, POs could learn positive reinforcement tactics to promote compliance (Dowden & Andrews, 2004).

A potential policy recommendation would be to create emotional intelligence training for Probation Officers. This would determine how POs can gain or enhance interpersonal skills with probationers on their caseload. Generally speaking, emotional intelligence is the ability to recognize and then regulate others' emotions (Goleman, 2001). Reuven Bar-On developed one of the first measures of emotional intelligence, the "Emotion Quotient." The focus of Bar-On's model is to show individuals their ability to

relate to others and to change and solve problems (Bar-On, 1997). Bar-On outlines five components of emotional intelligence: intrapersonal, interpersonal, adaptability, stress management, and general mood. The downside of the Bar-On's Model is that it is 133 items are used to gain a Total EQ-i (Total Emotion Quotient Inventory) (EQ-I) score. The five scales correspond to the five main components of the Bar-On model. The items use a 5-point Likert scale measure 1 (very seldom/not true for me to) to 5 (very often/often true of me). Also, the interpersonal component of the Bar-On only examines empathy, social responsibility, and interpersonal relationship generally it does not focus on the latent constructs that the DRI-R specifically captures the perception of the probationers view of their PO as being caring/fair, trusting, and perceived toughness. Possibly, by making POs aware of intrapersonal ability to be aware of their self, to understand that they individually have strengths and weaknesses, they can express their thoughts and views with probationers in a non-destructive manner. There is then a need for POs to understand on an interpersonal level, being emotionally as well as socially aware of probationer's emotions, needs, and to establish and maintain constructive relationships with probationers may lead to a mutually stratifying relationship between both actors.

There is a need in community corrections to extend emotional intelligence testing and training to see if interpersonal relationships (especially the perception of caring, trust, and fairness) can be improved with emotional intelligence training, thereby improving probationers' view of the interpersonal procedural justice between each probationer and their supervising PO as measured by the DRI-R. If implemented, the emotional intelligence training should emphasize the interpersonal Bar-On component and the empathy and social responsibility subcomponents. This would allow POs to read,

understand, and react to probationers' emotions, as well as their own emotions. This could significantly impact not only the POs' lives, but also the lives of the probationers who they supervise. If POs understand that interactions with probationers on their caseloads are handled in a "firm but fair" manner while avoiding interpersonal domination of probationers on their caseload this will aid in probationer compliance (Dowden & Andrews, 2004). An individual's willingness to comply with an authority figure is based on how fair that authority's decision making is perceived (Tyler & Huo, 2002), which can have a direct effect on a probationer's rule compliance (Skeem et al., 2007). If a PO listens to probationers' needs and consider their input, the probationer may be more likely to follow the law (Kennealy et al., 2012).

Another recommendation is to instill Core Correctional Practices (CCP) in the probation departments to improve interpersonal relationships and DRI-R scores. A meta-analysis of 10 studies revealed that POs who were trained on CCO practices significantly reduced recidivism in their caseloads (Chadwick, Dewolf, & Serin, 2015). In 2011, Robinson, VanBenschoten, Alexander, and Lowenkamp designed a training tool to for one-on-one interactions between POs and probationers, the Study of Staff Training Aimed at Reducing Re-arrest (STARR). The curriculum includes 3-and-a-half-days of classroom training. The STARR training aids POs' active listening, role classification and/or clarification, use of authority, and disapproval and positive reinforcement training. The goal was for POs to apply these skills when interacting with probationers on their caseload. To assess STARR's effectiveness, researchers recorded interactions between probationers and POs. POs who went through the STARR program were approximately twice as likely to use reinforcement and disapproval with probationers. The training also

helped reduce recidivism by 50% over a 12-month follow-up period for moderate risk-probationers. Training POs on cognitive behavioral skills might significantly affect the success rate of offenders supervised within the community correctional system. Probation departments should utilize the RNR model, in conjunction with CCP practices, and interpersonal interactional training to improve probationer outcomes.

Recently, there have been efforts to improve POs' supervision skills through programs like Effective Practices in Community Supervision (EPICS) (Smith, Schweitzer, Labrecque, & Latessa, 2012). EPICS' goal, for example, is to guide POs through core correctional practices, specifically, interpersonal interactions with probationers. During EPICS, POs learn to increase the number of interactions with higher-risk probationers, while maintaining focus on the probationers' criminogenic needs. They practice social learning and cognitive behavioral techniques to supervise probationers. While only one model, EPICS demonstrates how systematic programs effectively model for POs how to develop high-quality relationships with probationers that prioritize cognitive restructuring and problem-solving. There should be more training opportunities like EPICS for POs to better assist probationers with successfully completing their probation, rehabilitating, and reintegrating into communities. Connected to these additional resources is the need for more support outside of probation departments. The counties should also consider more transitional and sober housing options for probationers of all gender identities. Probationers' residential instability was a statistically significant positive predictor of technical violations in all three counties (see Models 1A, 2A, 3A, 4A, and 5A). Also, residential instability was statistically significant positive predictor of new arrests (see Models 1B, 3B, and 5B). Probationers who do not

have a stable residence are more likely to be exposed to a criminogenic environment, making them more susceptible to reoffending (Polcin, 2006).

Limitations

There are several limitations to the study. This sample is a finite representation of probation departments in Texas because only three counties are polled. Therefore, any attempts to generalize the findings should be done cautiously, especially as Texas is the second largest employer of probation and correctional staff in the nation (Gottfredson & Moriarty, 2006). Furthermore, these findings may be affected by each county's idiosyncrasies. Future studies should survey probationers across jurisdictions to achieve a more holistic sample.

Another limitation to this study is excluding probationers who did not respond to the survey within the ninth-month period. The researcher could have surveyed probationers after they had completed their supervision, possibly improving response rates (probationers may have been more inclined to share their perceptions after completing probation). This approach may have improved the variety of responses and the percentage of completed surveys. However, this would have excluded probationers who had their probation revoked or who were rearrested while on probation. By sampling all active probationers, the researcher was able to sample respondents who would (not) complete the terms of their probation. Future research may only survey participants who have completed the terms of probation.

This study's third limitation is that probationers may be reporting technical violations, rearrest, and evasion that were committed before their current probation term and/or while under the supervision of a different PO. Probationers could have also

misunderstood or ignored survey instructions. Furthermore, probationers could either be misreporting or concealing their offense history for fear of retaliation (despite the survey being anonymous). In previous studies (Farrall, 2005), 30% of the probationers stated that they had reoffended, but also that their POs were not aware of the new offenses. There is no way of knowing if the probationer is only reporting encounters with their current PO from their probation sentence in the three counties in Texas. If probationers are indeed referring to offenses committed during a different probation term, then their perceptions of their current POs may not be a useful predictor of negative probationer outcomes. This would be less of an issue for the self-reported evasion of terms of probation reporting because the probationer is choosing to self-disclose their criminal offending behavior while the probationer is being supervised by their current PO. Given the cross-sectional anonymous survey design, it is impossible to follow-up and match the probationers' self-reported data with official data. Research by Elliott (1995) and Elliott, Huizinga, and Menard (1989) states that officially recorded rearrest data and self-reported data produce different estimates, especially when examining offenders' illegal activity and its relation to sociodemographic variables. Nonetheless, 80% of officially recorded arrest data is captured by self-reported arrest survey data (Elliott, Huizinga, & Menard, 1989; Pollock, Menard, Elliott, & Huizinga, 2015). Consequently, their perceptions of their current POs many not be a useful predictor of negative probationer outcomes if their technical violation involved another PO. It should be noted that this would be less of an issue for the self-reported evasion of terms of probation question. Probationers could have misunderstood or ignored survey instructions explaining all questions were for their current probation term.

Another potential limitation of the current research was the use of the rearrest variable as the dependent variable within the multivariate models. Therefore, the results should be interpreted accordingly. In this study, the researcher is only surveying some probationers who have been rearrested and are released on bail/bond. The researcher induced sample selection bias by only receiving survey responses for probationers who are supervised in the community corrections setting that have been rearrested. The researcher could not survey probationers who were in jail and not under community supervision. Also, based on the descriptive statistics in Table 2, the number of rearrests only accounted for 48 events or roughly 8% of the sample. The statistical output for the logistic regression results in Models 1B-5B should be interpreted cautiously. Logistic regression uses maximum likelihood estimation and suffers from small sample bias when there are not enough events for the outcome measure of interest (as in the case of the self-reported rearrest data) (Nemes, Jonasson, Genell, & Steineck, 2009). There is not enough variation in the rearrest dependent variable to reliably predict a probationer being rearrested. By using logistic regression for the small number of rearrest events, the researcher may overestimate or underestimate odds ratios in cases where there is a small number of events (Nemes et al., 2009). Future research could utilize a penalized likelihood estimation, also known as the Firth method, to reduce the small sample bias (King & Zeng, 2001).

The fourth limitation is that the researcher utilized a convenience sample of probationers. There is a vital mistake in assuming that the findings are representative of the overall probation population in Texas or the United States. The findings can only be used to infer from the sample that was surveyed. Also, by utilizing a convenience sample

the researcher is inducing high levels of sampling error. Specifically, there can be an under-representation or over-representation of probationers in the current sample compared to the population of interest. Therefore, the inferences based on this convenience sample can only be made about the sample itself.

The fifth limitation is that the researcher only examined formal compliance (e.g. technical violation and rearrests). There was one self-reported behavioral compliance measure, which examines the probationer reporting whether or not they have evaded the terms of their probation without getting caught by their current PO. The researcher does not have any measures of substantive compliance, which would be information pertaining to active engagement and participation during supervision. As such, it is not as readily amenable to quantification as formal compliance. Specifically, the researcher does not have a continuous measure on how often a probationer missed office visits, fines, or fees. There is also no way of knowing if POs are arbitrarily sanctioning probationers based on non-compliance. According to Ugwudike (2010), if researchers focus on a rigid application of rules without considering POs' discretion it can undermine normative compliance. A researcher must survey POs to examine whether or not they are focusing on individualized responses to non-compliance or if they are using a structured continuum of sanctions.

Further Research

Research on dual role relationship quality and its effects on community corrections outcomes is in its infancy. Further quantitative evidence is needed to understand the interpersonal relationships between a service provider and mandated clients (Gochyyev & Skeem, 2018). More empirical research regarding the effects of race

and gender concordance between the probationer and their PO, and negative probationer outcomes by the DRI-R total score should be conducted. Gender and race concordance may be another independent variable that affects the relationship between the DRI-R and negative probationer outcome measures. To the best of the researcher's knowledge, research has not examined the use of the DRI-R or subscale measures as a mediator or moderator variable. Research could use the original DRI-R measure or the newly validated DRI-SF form (Gochyyev & Skeem, 2018) in the mediator and moderator analyses.

Recently, Gochyyev and Skeem (2018) developed and validated a 9-item DRI-SF based on item response theory methodologies from a sample of 815 juvenile and adult offenders with or without mental illness. Planned future empirical research with the current dataset will utilize the newly developed 9-item short form DRI-R. Researchers will see if the data in a large general population adult probation sample supports the use of the 9-item inventory rather than the original 30-item DRI-R. The validation of the 9-item DRI-SF will be done on a sample of 554 adult probationers rather than a mixed sample of adult parolees with and without mental illness (Skeem, Winter, Kennealy, Eno Louden, & Tatar, 2014), juvenile probationers (Vidal & Woolard , 2015) mentally ill probationers (Skeem, Manchak, & Montoya, 2017; see also Manchak, Skeem, Kennealy, & Eno Louden, 2014), and mentally ill court participants who were in mandated-court treatment (Manchak, Skeem, & Rook, 2014). If the short form fits the data better future research should utilize the DRI-SF in models 1A, 1B, and 1C to see if it better predicts negative probation outcomes.

Future planned research will use a modified version of the current survey in a large urban city in Texas. The researcher will further explore the interpersonal relationships between probationers and POs, as well as race and gender concordance, in a larger sample of potential probationer participants. The current study creates the foundation for this proposed work, which may be used in PO training that promotes developing better relationships with probationers. It may also encourage the recruitment of a more diverse pool of PO candidates.

APPENDIX SECTION

Appendix A

Consent Form

IRB APPROVAL NUMBER:

Kyle Mueller (KM1495@txstate.edu; 830-708-1057), a Texas State University researcher in the School of Criminal Justice, is leading a research study that assess the perceptions and satisfaction of individuals that are sentenced to probation/community supervision in _____, _____, and _____ County. The purpose of this study is to gain a better understanding of the actions of individuals that are sentenced to probation during their respective sentences and how their satisfaction with their terms of their probation either raise or lower recidivism propensity. This study will better allow the probation departments of the tri-county area to better assist the probationers with community integration and non-criminal behaviors.

Your Participation

This survey will be conducted solely online in each of the field probation offices in_____, _____, and _____. The survey should not take more than 15 minutes. There are approximately 100 questions, some of which have several items.

Risk and Benefits of the Study

The anticipated risk to you is minimal; however, we believe there are some benefits to your participation. A s a probationer your role in completing the terms of your probation

are vital and it is important that that the probation department staff helps you to become a productive community citizen and lead a life of a lack of criminality. We hope that by sharing the information in both academic (e.g. research publications and conference presentations) and public (e.g. technical reports will be produced for the Chief of Probation for the tri-county area) setting, that this information will allow others to have a better understanding of the perceptions of a sub-sample of individuals on probation in Texas.

Protections

As mentioned, your participation in this survey is completely voluntary. You may choose not to answer a particular question and may stop participation in this research at any time. Your individual responses will not be shared with anyone other than the researchers and there will be no consequences for any answers that you provide. The principle investigator will take steps to keep the information confidential. These steps include administering the survey online through a secure web service that has all of the protections of the Texas State University Data Management Center and storing the data on a secure computer at Texas State University. The principle investigator will keep this unidentifiable data secure for a period of at least five years.

Questions

This project, _____, was approved by the Texas State IRB on _____. If you have any questions or concerns about the research, research participants' rights, and/or research- related injuries to participants should be directed to the IRB chair, Dr. Denise Gobert (512-245-2314).

☐ I have read and considered the information presented in the consent form and at this time I wish to voluntarily participate in the research study.

☐ I have read and considered the information presented in the consent form and at this time I wish **not** to voluntarily participate in the research study.

Appendix B

This study's purpose is to ask you about your relationship with your community supervision officer (CSOO). The goal is to give you an opportunity to provide feedback on your rehabilitative process. Your responses will be considered for the improvement of service delivery. On these business cards is a website address that will link you to a survey. You can complete the survey on a smartphone, laptop, or tablet device. If you choose to, you can type in the hyperlink or you can download a QR code reader app on a smart phone. All you have to do with the QR code is digitally scan it and it will automatically take you to the survey. All responses will be anonymous and cannot be linked to you in any way. If you do not have access to the internet, a pencil and paper copy of the survey will be provided to you. Once you finish the paper and pencil survey please place the survey in the provided envelope and take it to your local post office or place it in your mailbox. Please be sure to complete the survey before your next office visit.

Below is a "sample" of a QR code

Thank you for your time. We appreciate the feedback.

Consent Form

Welcome to the research study!

**IRB APPROVAL NUMBER: 2018046 **

Kyle Mueller (KM1495@txstate.edu; 830-708-1057), a Texas State University researcher in the School of Criminal Justice, is leading a research study that assess the perceptions and satisfaction of individuals who are sentenced to probation/community supervision in Caldwell, Comal, and Hays County. The purpose of this study is to gain a better understanding of the actions of individuals that are sentenced to probation during their respective sentences and how their satisfaction with their terms of their probation either raise or lower recidivism propensity. This study will better allow the probation departments of the tri-county area to better assist the probationers with community integration and non-criminal behaviors.

Your Participation

This survey will be conducted solely online in each of th e field probation offices in New Braunfels, San Marcos, and Lockhart. The survey should not take more than 15 minutes. There are approximately 100 questions, some of which have several items.

Risk and Benefits of the Study

The anticipated risk to you is minimal; however, we believe there are some benefits to your participation. As a probationer your role in completing the terms of your probation are vital and it is important that that the probation department staff helps you to become a productive community citizen and lead a life of a lack of criminality. We hope that by sharing the information in both academic (e.g. research publications and conference presentations) and public (e.g. technical reports will be produced for the Chief of Probation for the tri-county area of Caldwell, Comal, and Hays County) setting, that this information will allow others to have a better understanding of the perceptions of a subsample of individuals on probation in Texas.

Protections

As mentioned, your participation in this survey is completely voluntary. You may choose not to answer a particular question and may stop participation in this research at any time. Your individual responses will not be shared with anyone other than the researchers and there will be no consequences for any answers that you provide. The principle investigator will take steps to keep the information confidential. These steps include administering the survey online through a secure web service that has all of the protections of the Texas State University Data Management Center and storing the data on a secure computer at Texas State University. The principle investigator will keep this unidentifiable data secure for a period of at least five years.

Questions

If you have any questions or concerns about your participation in this study, you may contact:

Kyle Mueller, Researcher

Dr. Scott Bowman, Faculty

Sponsor Email: KM1495@txstatee.edu Email: wb14@txstate.edu

Phone: 830-708-1057 Phone: 512-245-3584

This project, was approved by the Texas State IRB on February 9, 2018. If you have any questions or concerns about the research, research participants' rights, and/or research- related injuries to participants should be directed to the IRB chair, Dr. Denise Gobert 512-245-8351 – (dgobert@txstate.edu) or Monica Gonzales, IRB Regulatory Manager 512-245-2334- (meg201@txstate.edu).

If you would prefer not to participate, please do not fill out the survey.

If you consent to participate, please complete the survey.

Evaluation Questionnaire

Probation admission date (mm/dd/yyyy): _____

Current age: _____

How old were you when you were first arrested? _____

Gender:

- ☐ Female
- ☐ Male

Race and Ethnicity:

☐ African American

☐ White (non-Hispanic)

☐ Hispanic

☐ Other _____

Marital Status:

☐ Single

☐ Divorced

☐ Married

☐ Widowed

☐ Separated

How many people in your household are under 18 years old? _____

Education Level:

- ☐ Some high school
- ☐ High school diploma or GED
- ☐ Some college
- ☐ Associate's degree
- ☐ Bachelor's degree
- ☐ Graduate degree

Employment Status:

- ☐ Full-time
- ☐ Part-time
- ☐ Unemployed short-term (6 months or less)
- ☐ Unemployed long-term (more than 6 months)

Income level at Intake:

- ☐ Less than $10,000
- ☐ $10,001-$19,999
- ☐ $20,001-$29,999
- ☐ $30,000- $39,999
- ☐ $40,000-$49,999
- ☐ $50,000-$59,000
- ☐ $60,000-$69,999
- ☐ $70,000-$79,999
- ☐ $80,000-$89,999
- ☐ $90,000-$99,999
- ☐ $100,000-$149,999
- ☐ More than $150,000

Counsel retained prior to Community Supervision:

- ☐ Appointed Counsel
- ☐ Retained Counsel
- ☐ Pro se (self-represented)

Probation sentence resulted from:

☐ Plea

☐ Trial

Your probation resulted from:

☐ Misdemeanor offense

☐ Felony offense

How long have you been on probation (current term)?

☐ Less than 6 months

☐ 6-12 months

☐ 1-2 years

☐ 2-3 years

☐ 3- 5 years

☐ 5-6 years

☐ 6-7 years

☐ 8-9 years

☐ 9-10 years

☐ More than 10 years

How **many probation officers** have been assigned to supervise you during your current term of supervision?

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6 +

How frequent are your mandated probation office visits with your current probation officer?

☐ Once a week
☐ Once a month
☐ Every other week
☐ Less than once a month

How far is the probation office from your residence? _____ miles

How long do you typically wait in the lobby before your meeting with your current PO? _____ minutes

Has an immediate family member served time in jail, prison, or on probation?

☐ Yes
☐ No

Are you currently, or have you been previously, treated for a mental illness?

☐ Yes
☐ No

If so, is your PO aware of your mental health history?

☐ Yes
☐ Don't Know
☐ No

How many **times** have you been placed on probation (including this time)?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6 +

Reason for current Probation Term

- ☐ Aggravated Assault
- ☐ Arson
- ☐ Burglary
- ☐ Controlled Substances
- ☐ DWI
- ☐ Larceny Theft (except motor vehicle)
- ☐ Motor Vehicle Theft
- ☐ Murder
- ☐ Robbery
- ☐ Sex Offense
- ☐ Other _____

Your employment is more stable today than when you started your term of supervision:

- ☐ Strongly agree
- ☐ Agree
- ☐ Uncertain
- ☐ Disagree
- ☐ Strongly disagree

Which part of probation has had the most positive impact on you?

- ☐ Judge
- ☐ Counseling
- ☐ Urinalysis/ breath tests
- ☐ Support group activities

☐ Other_____

What is your current probation officer's race?

☐ White/ Caucasian

☐ African American

☐ Hispanic

☐ Other

☐ Don't know

Your current probation officer is the same race as you:

☐ Yes

☐ No

☐ Don't know

What is your current probation officer's gender?

☐ Male

☐ Female

☐ Don't know

Your current probation officer is the same gender as you:

☐ Yes

☐ No

☐ Don't know

Dual Role Relationship Inventory: Revised

On the following pages, there are sentences that describe some of the different ways a person might think or feel about his or her probation office (PO). As you read the sentences, ***imagine*** *the name of your PO in the blank, or "_____." Work fast, your first impressions are the ones we would like to see.*

Below each statement inside there is a seven-point scale:

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

If the statement describes the way you ***always*** *think or feel circle the number 7; if it* ***never*** *applies to you circle the number 1. Use the numbers in between to describe the variations between these extremes.*

If the statement describes the way you always think or feel circle the number 7; if it never applies to you circle the number 1. Use the numbers in between to describe the variations between theses extremes.

Please answer honestly.

Work fast, your first impressions are the ones we would like to see. (PLEASE DON'T FORGET TO RESPOND TO EVERY **ITEM**.

Thank you for your help!

Copyrighted by: Skeem, J., Eno Louden, J., Polasheck, & Cap, J. (2007). Assessing relationship quality in mandated treatment: Blending care with control. Psychological Assessment, 19, 397-410.

1. _____ cares about me as a person.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

2. I feel free to discuss the things that worry me with _____.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

3. _____ explains what I am supposed to do and why it would be good to do it.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

4. _____ tries very hard to do the right thing by me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

5. When I have trouble doing what I am supposed to do, _____ talks to me and listens to what I have to say.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

6. If I break the rules, _____ calmly explains what has to be done and why.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

7. _____ is enthusiastic and optimistic with me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

8. I feel safe enough to be open and honest with_____.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

9. _____ talks down to me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

10. _____ encourages me to work together with him/ her.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

11. _____ trusts me to be honest with him/her.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

12. _____ really considers my situation when deciding what I'm supposed to do.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

13. _____ seems devoted to helping me overcome my problems.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

14. _____ puts me down when I've done something wrong.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

15. _____ is warm and friendly with me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

16. _____ treats me fairly.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

17. _____ really cares about my concerns.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

18. _____ praises me for the good things I do.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

19. If I'm going in a bad direction, _____ will talk with me before doing anything drastic.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

20. I know that _____ truly wants to help me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

21. _____ considers my views.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

22. I feel that _____ is looking to punish me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

23. _____ gives me enough of a chance to say what I want to say.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

24. _____ makes unreasonable demands of me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

25. _____ expects me to do all the work alone and doesn't provide enough help.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

26. _____ knows that he/she can trust me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

27. _____ is someone that I trust.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

28. _____ takes enough time to understand me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

29._____ takes my needs into account.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

30._____ shows me respect in absolutely all his/her dealings with me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

Since being sentenced to your current probation term have you ever **missed making a payment** for Probation Services while under supervision by your current PO?

☐ Yes

☐ No

☐ Not applicable

If so, how many times? _____

What did your current PO do if you **missed a payment** for probation services?(check all that apply)

☐ Not applicable

☐ Nothing

☐ Increased reporting frequency

☐ Increased urine test frequency

☐ Restricted travel permits

☐ Increased field contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Gave you a signed payment plan

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

Have you ever failed to complete your **community service hours** while on probation under supervision by your current PO?

☐ Yes

☐ No

☐ Not applicable

If so, how many hours have you failed to complete?

_____

What did your current PO do if you ever **failed** to complete community service hours while on probation while under supervision by your current PO?(check all that apply)

☐ Not applicable

☐ Nothing

☐ Increased reporting frequency

☐ Increased urine test frequency

☐ Restricted travel permits

☐ Increased field contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Gave you a signed payment plan

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

Have you ever **failed** a drug test while on probation while under supervision by your current PO?

☐ Yes

☐ No

☐ Not applicable

If so, how many times?

_____

What did your current PO do if you ever **failed** a drug test while under supervision for your current probation term? (check all that apply)

☐ Not applicable

☐ Nothing

☐ Increased reporting frequency

☐ Increased urine test frequency

☐ Restricted travel permits

☐ Increased field contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Gave you a signed payment plan

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

Have you ever **failed** to make an office visit with your current PO under supervision for your current probation term?

☐ Yes

☐ No

☐ Not applicable

If so, how many times?

_____

What did your current PO do if you failed to make an office visit under supervision for your current probation term? (check all that apply)

☐ Not applicable

☐ Nothing

☐ Increased reporting frequency

☐ Increased urine test frequency

☐ Restricted travel permits

☐ Increased field contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Gave you a signed payment plan

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

Have you ever **not completed** court mandated counseling while on probation under supervision by your current PO?

☐ Yes

☐ No

☐ Not applicable

If so, how many times?

_____

What did your current PO do if you did not complete court mandated counseling while on probation for your current term?

(check all that apply)

☐ Not applicable

☐ Nothing

☐ Increased reporting frequency

☐ Increased urine test frequency

☐ Restricted travel permits

☐ Increased field contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Gave you a signed payment plan

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

Have you **ever not completed** your community service hours while on probation and under supervision by your current PO?

☐ Yes

☐ No

☐ Not applicable

If so, how many times?

_____

What did your current PO do if you did not complete your community service hours while on probation for your current term?

(check all that apply)

☐ Not applicable

☐ Nothing

☐ Increased reporting frequency

☐ Increased urine test frequency

☐ Restricted travel permits

☐ Increased field contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Gave you a signed payment plan

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

Have **you ever not completed** court mandated inpatient or outpatient programs while on probation and under supervision by your current PO?

☐ Yes

☐ No

☐ Not applicable

If so, how many times?

_____

What did your current PO do if you did not complete court mandated inpatient or outpatient programs while on probation?
(check all that apply)

☐ Nothing

☐ Increased Reporting Frequency

☐ Increased Urine Test Frequency

☐ Restricted Travel Permits

☐ Increased Field Contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

☐ Not applicable

Have you ever **shown up late** to an office visit with your current PO while on probation for your current term?

☐ Yes

☐ No

☐ Not applicable

If so, how many times?

_____

What did your current PO do if you showed up late to an office visit while on probation for your current term?

(check all that apply)

☐ Not applicable

☐ Nothing

☐ Increased reporting frequency

☐ Increased urine test frequency

☐ Restricted travel permits

☐ Increased field contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Gave you a signed payment plan

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

Have you ever failed to change your primary residence without notifying your current PO while under supervision for your current term?

☐ Yes

☐ No

☐ Not applicable

If so, how many times?

_____

What did you current PO do if you failed to change your primary residence without notifying him or her?
(check all that apply)

☐ Not applicable

☐ Nothing

☐ Increased reporting frequency

☐ Increased urine test frequency

☐ Restricted travel permits

☐ Increased field contacts

☐ Changed terms of your probation

☐ Filed for revocation

☐ Filed a technical violation

☐ Gave you a signed payment plan

☐ Extended your probation

☐ Added additional CSR hours

☐ Added additional Inpatient treatment

Since being sentenced to your current probation term have you ever **failed to report (as scheduled) for more than 90 days** from probation services, while under supervision by your current PO?

☐ Yes ☐ Not applicable

☐ No

If so, how many times?

Have you moved **one or more times** while on probation?

☐ Yes

☐ No

Have you had your driver's license suspended while on probation?

☐ Yes

☐ No

☐ I do not have a driver's license

Since being sentenced to your current probation term, has your current PO recommended **that your probation be revoked**?

☐ Yes

☐ No

Since being sentenced to your current probation term, have you received a **sanction for failure to report, failure to make a payment for probation services, and/or had a positive drug test violation** from your current PO?

☐ Yes

☐ No

Since being sentenced to your current probation term, have you been rearrested for a **new offense** while under the supervision of your current PO?

☐ Yes

☐ No

Please indicate approximately how many times you have evaded terms of your probation while under supervision by your current PO without being caught:

- ☐ 0 times
- ☐ 1 time
- ☐ 2 times
- ☐ 3 times
- ☐ 4 times
- ☐ 5 or more times

Before being admitted to probation, what is the total number of your prior convictions?

_____

Were any of the prior convictions drug convictions?

- ☐ Yes
- ☐ No

Were any of the prior convictions felony convictions?

- ☐ Yes
- ☐ No

Before being admitted to probation, what is the total number of your prior arrests?

_____

Were any of the prior arrests drug arrests?

☐ Yes

☐ No

Were any of the prior arrests felony arrests?

☐ Yes

☐ No

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