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## Needs and Pretrial Failure: Additional Risk Factors for Female and Male Pretrial Defendants

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What is This?

# NEEDS AND PRETRIAL FAILURE

## Additional Risk Factors for Female and Male Pretrial Defendants

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Since the 1980s, increasing numbers of individuals entering into the criminal justice system have caused criminal justice professionals and researchers concern about the phenomenon of individuals continually returning to the system. It is possible that identifying and addressing needs in the pretrial stage of the criminal justice system could interrupt this cycle and contribute to pretrial success. Furthermore, attention to gender-responsive needs at this stage of the criminal justice process may prove beneficial for female pretrial defendants. This study contributes to both the pretrial and gender-responsive literature by investigating whether pretrial needs are predictive of pretrial outcomes and if there are gender differences in these needs. Results indicate that many of the examined needs are risk factors for pretrial failure, there are gender differences in the composition of several of these needs, and gender-responsive pretrial needs are important to predicting pretrial outcomes.

**Keywords:** women defendants; pretrial assessment; pretrial needs; gender-responsive; pretrial risk factors; risk factors; needs

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In 2012, approximately 12 million individuals were arrested in the United States (Federal Bureau of Investigation, 2013). Due to the increasing numbers of individuals entering the criminal justice system, criminal justice researchers and professionals have become concerned about the phenomenon of individuals continually returning to the system (Berman, 2005; Ney & Martin, 2005; Open Society Institute, 2008). Pretrial service agencies are afforded a unique opportunity to address this issue at the “gateway” of the criminal justice system. Engaging in effective “pre-entry” practices may divert individuals from the system or discontinue their involvement altogether (Cadigan, 2009; Cadigan & Lowenkamp, 2011). One such practice may involve identifying and addressing the wide array of needs pretrial

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defendants evidence, especially those related to various types of failures while under pretrial supervision.

The standard practice of pretrial agencies focuses on defendants' risk of committing new offenses or failing to appear (FTA) for court appearances (VanNostrand, 2003, 2007). In most agencies, risk is determined by considering static characteristics pertaining to the nature of the current offense and prior criminal behavior (Latessa, Smith, Lemke, Makarios, & Lowenkamp, 2009; Lowenkamp & Bechtel, 2007; VanNostrand, 2003, 2007). It is possible that these practices preclude opportunities to identify needs that are also contributing to pretrial failure. Furthermore, some feminist scholars propose that women pose a minimal risk to community safety (Bloom, 2003; Bloom, Owen, & Covington, 2003; Covington & Bloom, 2003); therefore, it may not be appropriate to use only those factors that are predictive of men's dangerousness (e.g., criminal history) when assessing the risk of women (Brennan & Austin, 1997; Farr, 2000; Hannah-Moffat, 2009). Thus, a sole reliance on items used in current pretrial risk assessments may not identify the unique needs of female pretrial defendants. To address this, some scholars propose that a greater focus be placed on needs-based assessment for women (Farr, 2000).

Very little systematic research has been conducted to discover whether the needs of pretrial defendants are associated with pretrial outcomes. Furthermore, while some studies have surveyed the needs of male and female pretrial defendants, there are few empirical studies investigating these needs within a gender-responsive framework. Using data collected from the Hamilton County (Ohio) Pretrial and Community Transition Services' *Inventory of Need Pretrial Screening Tool*, this study contributes to the dearth of research on pretrial defendants and to the emerging gender-responsive literature by comparing the needs of male and female pretrial defendants and investigating whether these needs are related to pretrial outcomes. The implications of this study are likely to inform the current practice of pretrial risk/needs assessment and to aid the development of more comprehensive and effective preentry practices.

## CURRENT PRETRIAL ASSESSMENT PRACTICES

One of the key steps in the information-gathering process for pretrial agencies is the administration of a risk assessment instrument. Pretrial risk assessment instruments identify the likelihood of defendants' FTA for a scheduled court appearance or posing a danger to the community if released on their own recognizance (Latessa et al., 2009; Lowenkamp & Bechtel, 2007; VanNostrand, 2003, 2007). The items included in pretrial risk assessment instruments typically are static, offense-related factors found to be linked to pretrial outcomes. These often include historical factors (e.g., history of violence, history of criminal convictions) or other individual qualities that cannot be altered (e.g., criminal charge, outstanding warrants for substance abuse). While these items classify defendants according to risk, they speak very little to what can be done to lower a defendant's risk of pretrial failure.

However, as more troubled individuals enter the criminal justice system (Belcher, 1988; Blakely, 1992; Bureau of Justice Statistics [BJS], 1999a, 1999b, 2005, 2006; Chaiklin, 2001; DeLisi, 2000; Haywood, Kravitz, Goldman, & Freeman, 2000; White, Goldkamp, & Campbell, 2006; Zapf, Roesch, & Hart, 1996), some pretrial agencies are beginning to use additional assessments to identify specific needs. In a national survey of pretrial agencies conducted by the National Association of Pretrial Service Agencies (NAPSA), 58% of the

respondents reported that they used other assessments in addition to risk assessments or pre-determined eligibility criteria to tailor supervision plans and to identify the rehabilitative needs of pretrial defendants (NAPSA, 2010). Another survey conducted by the Pretrial Justice Institute (PJI) reported that of the 151 pretrial programs surveyed, many reported using additional assessment tools for distinct populations. For example, 42% of the programs used a separate tool for substance abuse, 27% for mental health, 13% for those charged with domestic violence, and 5% each for women and juveniles charged as adults (PJI, 2009). A more limited number of pretrial agencies are beginning to identify additional pretrial needs to connect defendants to appropriate services in the community (Berman, 2005).

These needs may be particularly salient for women defendants. Emerging research illustrates that women in the criminal justice system have a wide array of serious issues such as histories of abuse, substance abuse, mental illness, and economic problems (Belknap & Holsinger, 2006; Bloom et al., 2003; Brennan, 2007; Farr, 2000; Greene, Haney, & Hurtado, 2000; McClellan, Farabee, & Crouch, 1997; Reisig, Holtfreter, & Morash, 2006) that may contribute to their involvement in the justice system. An emerging body of scholarship has coined the term *gender-responsive needs*<sup>1</sup> to describe the needs listed above. This research suggests that addressing these needs at pretrial may contribute to the success and decreased involvement of women defendants and offenders in the criminal justice system (Berman, 2005). Unfortunately, very little research has been conducted regarding the influence of needs on pretrial outcomes, and the existing research has neglected to take gender into account. As such, pretrial agencies may be missing valuable opportunities to intervene in ways that divert appropriate defendants from further involvement in the justice system.

## THE NEEDS OF PRETRIAL DEFENDANTS

At present, the best (albeit incomplete) picture of pretrial defendants appears to be inferred from studies of jail inmates accompanied by the appropriate precautions and caveats. While the present study endeavors to correct this situation by sampling from a broader array of pretrial defendants, much of the supporting literature discussed here unavoidably relies on studies of jail populations. With this caveat, studies of jail inmates nevertheless reveal a troubling array of needs (BJS, 2004). Histories of abuse, mental health issues, substance abuse problems, and economic difficulties are common problems affecting this population (Belcher, 1988; Blakely, 1992; BJS, 1999a, 1999b, 2005, 2006; Chaiklin, 2001; DeLisi, 2000; Haywood et al., 2000; White et al., 2006; Zapf et al., 1996). When these profiles are disaggregated by gender, many of these needs appear to be more prevalent among female jail inmates than males (BJS, 1999a, 1999b, 2004, 2005, 2006; Gray, Mays, & Stohr, 1995; Peters, Strozier, Murrin, & Kearns, 1997). We turn to this literature below.

### ABUSE AND VICTIMIZATION

Research on jail inmates reveals many have experienced some form of abuse in their lifetimes (BJS, 1999a, 2004, 2006; Green, Miranda, Daroowalla, & Siddique, 2005; Johnson et al., 2006). According to a 2002 survey of jail inmates, approximately 18% of those in local jails had been physically or sexually abused before their current sentence (BJS, 2004). However, the abuse histories are even more telling when samples of jail inmates are disaggregated by gender. Evidence has generally shown that women under correctional supervision are more likely to have experienced prior emotional, physical, and sexual abuse as

children and adults than women in the general population and men in correctional populations (BJS, 1999a, 2004; Bloom et al., 2003; McClellan et al., 1997; Peters et al., 1997). According to the BJS (2004), approximately 55% of female jail inmates reported they were abused at some point in their lives, compared with only 13% of male jail inmates. Female inmates typically experience sexual abuse, both as children and adults, at a higher rate than males. For example, approximately 36% to 37% of the women in jail admitted to experiencing sexual abuse in the past, compared with only 4% to 6% of men (BJS, 1999a, 2004). Women also experienced a disparate amount of physical abuse in their lifetimes compared with men (37% and 11%, respectively; BJS, 1999a). Furthermore, approximately 25% of the female jail inmates experienced abuse as an adult, compared with only 2% of the male jail inmates (BJS, 2004). Other research has also found female jail inmates to have experienced high rates of domestic violence (Green et al., 2005).

#### MENTAL HEALTH

Individuals who suffer from mental illness make up a considerable portion of offenders in the criminal justice system. Some scholars claim this is largely due to the deinstitutionalization movement (Lamb, 2001; Lamb & Weinberger, 2001). A special report produced by the BJS detailing the mental health problems of prison and jail inmates shows that many jail inmates exhibited symptoms of major mental health disorders, specifically major depression (30%), mania (54%), and psychotic disorders (24%) (BJS, 2006).

Women offenders tend to have higher rates of mental health problems and different mental disorders than men (Battle, Zlotnick, Najavits, Gutierrez, & Winsor, 2002; Belknap & Holsinger, 2006; BJS, 2006; Holtfreter & Morash, 2003; McClellan et al., 1997; Owen & Bloom, 1995; Peters et al., 1997). Female jail inmates had higher rates of mental health problems than male jail inmates (75% of females and 63% of males; BJS, 2006), as well as higher lifetime rates of serious depression and use of prescription medication for psychological problems (BJS, 2006; Peters et al., 1997). In another study of more than 1,200 female jail inmates, Teplin, Abram, and McClelland (1994) found that more than 80% of the sample met criteria for one or more lifetime psychiatric disorders and 70% were symptomatic during the 6 months prior to the interview. The most common disorders were posttraumatic stress disorder (PTSD) and major depressive episodes and reported rates were significantly higher than general population rates (Teplin et al., 1994).

#### SUBSTANCE ABUSE

Many individuals who come in contact with the criminal justice system have substance dependence and/or abuse problems (Battle et al., 2002; BJS, 2004, 2005; Kerridge, 2008; Peters et al., 1997; Teplin, 1994). Several studies have examined the prevalence and severity of substance dependence and abuse among incarcerated offenders, including jail inmates. A special report by the BJS discovered that in 2002, 66% of jail inmates were regular illegal drug users and 69% used alcohol regularly. More than half of the convicted inmates reported using illegal drugs in the month before their current offense, and an estimated 33% were under the influence of alcohol at the time of their current offense (BJS, 2004).

Although research has shown that male and female jail inmates have similar prevalence rates of substance dependence and abuse (BJS, 2005), differences became more evident when findings were disaggregated by substance dependence *or* abuse. Evidence suggests

that female jail inmates have higher rates of substance *dependence* (nearly 52%) than male inmates (44%). Men, however, had higher rates of substance abuse (without dependence) than women (24% and 17%, respectively).

#### HOMELESSNESS

In 2002, 14% of jail inmates reported being homeless, living in a shelter, or on the street in the year before their current admission to jail (BJS, 2004). Homeless individuals reported histories of arrest and incarceration more often than the general population (Breakey & Fischer, 1990) and they were more likely to be arrested for nuisance offenses; to have more extensive criminal histories; to have prior arrests for use of weapons, drugs, and alcohol; and to suffer from mental illness (Chaiklin, 2001; DeLisi, 2000; Zapf et al., 1996). For example, in a comparison of 100 homeless jail inmates and 100 domiciled jail inmates, homeless arrestees were 222% more likely to suffer from mental illness than domiciled arrestees (DeLisi, 2000). Once incarcerated, homeless individuals usually cannot make bail, seldom have their needs addressed, and contribute to unnecessary jail overcrowding (Breakey & Fischer, 1990; Chaiklin, 2001).

Research suggests that there are differences between the needs of homeless men and women. For example, in a study of more than 1,500 homeless men and women in Los Angeles, California, Wenzel, Koegel, and Gelberg (2000) discovered that homeless women were more likely to suffer from major mental illnesses (i.e., major depression, schizophrenia, mania) than homeless men. Other studies have supported the finding that homeless women have higher rates of psychiatric problems than their male counterparts (Breakey & Fischer, 1990; Breakey et al., 1989; Crystal, 1984; Maurin, Russell, & Memmott, 1989; Rosnow, Shaw, & Concord, 1986). Studies have also found differences in substance abuse between homeless men and women (Breakey & Fischer, 1990; North & Smith, 1993; Wenzel et al., 2000). Wenzel and colleagues (2000) found that homeless men were more likely than women to have drug dependence, alcohol dependence, or both. Another comparison of homeless men and women discovered that 74% of men reported a history of substance abuse, compared with 31% of the women (North & Smith, 1993).

In a comparison of 600 homeless men and 300 homeless women in St. Louis, Missouri, North and Smith (1993) found women were more likely to have their young children with them while homeless. Furthermore, their employment and financial situations were bleaker than homeless men, as women were more likely to be unemployed and dependent on welfare. Many of the women in the sample had histories of abuse, and these experiences surpassed those of men. Nearly one fourth (23.1%) of the women reported experiencing sexual abuse as a child compared with only 4.4% of the men. In addition, nearly half (43.6%) of the homeless women in the sample disclosed they had been victimized as adults by physically abusive partners (North & Smith, 1993).

#### EMPLOYMENT/FINANCIAL

Unemployment rates, poverty, and the current state of the economy are often reflected in the job and financial status of individuals who enter the criminal justice system. In 2002, approximately 29% of jail inmates reported they were unemployed at the time of their arrest and of those individuals who were working, 59% reported a monthly income of less than US\$1,000 (BJS, 2004).

When these unemployment and financial criteria are disaggregated by gender, female jail inmates have more troubled economic situations than their male counterparts. Compared with men, female inmates were more likely to experience employment problems and to report lower incomes (Peters et al., 1997). For example, according to a survey of jail inmates conducted by the BJS (2004), male inmates (60%) were more likely than female inmates (40%) to be employed in the month before their arrest. Two thirds of the men in jail had income from wages or salary, compared with only a quarter of women (BJS, 2004). In a review of characteristics of women in jail, Haywood and colleagues (2000) stated that 60% to 80% of women detained in jail were unemployed at the time of arrest.

#### **EDUCATIONAL DISADVANTAGE**

Research has found that many delinquents and offenders have low levels of education, which may be linked to their antisocial behavior (Boundy, 1991; Farnworth & Lieber, 1989; Lochner & Moretti, 2004). A special report by the BJS notes that 32% of the jail inmates surveyed in 2002 had some high school but had not graduated and 12% had an educational level of eighth grade or less (BJS, 2004).

Although some research has found that the educational achievements of male and female offenders are similar (BJS, 2003), feminist criminologists have argued that the educational achievements of women offenders are substantially lower than male offenders (Bloom et al., 2003; Owen & Bloom, 1995). Indeed, studies of jail inmates revealed that female jail inmates had low levels of education (Fickensher, Lapidus, Silk-Walker, & Becker, 2001; Gray et al., 1995). In a survey of 539 female jail inmates, Gray and colleagues (1995) found that on average, 37% had no high school diploma or General Educational Development (GED).

The preceding discussion reveals a number of important distinctions between male and female offenders that perhaps should be addressed by pretrial agencies. Women differ from men according to the nature and prevalence of abuse and mental health diagnoses, and the dynamics of their substance use. Proportionately more women than men incur poverty and employment concerns and many evidence limited educational attainments and homelessness. Yet most pretrial assessments and services treat male and female offenders alike, thereby ignoring these distinctions and perhaps adversely impacting the effectiveness of pretrial services for women defendants. For example, if abuse, mental health, and homelessness prove to be related to adverse pretrial outcomes, failure to address such needs could contribute to defendants' failure to appear for subsequent court proceedings or perhaps even to new offenses.

#### **THE CURRENT STUDY**

This study endeavors to examine the influence of needs on pretrial outcomes and whether the nature and importance of specific needs differs by gender. The research was conducted in the Pretrial and Community Transition Services Department in Hamilton County, Ohio, using the *Inventory of Need Pretrial Screening Tool*. The present study seeks to determine whether the needs assessed by this instrument are statistically related to pretrial outcomes and whether findings differ by gender. Three research questions are addressed:

**Research Question 1:** Are needs predictive of pretrial outcomes (failure to appear and new arrests)?

**Research Question 2:** Do male and female defendants differ in terms of which needs are most predictive of pretrial outcomes?

**Research Question 3:** Are there distinctions between men and women in the nature of predictive needs? Within a specific need category, mental health, for example, are the predictive merits dependent upon gender-specific dynamics of mental illness?

## METHOD

### DATA AND PARTICIPANTS

Data for this investigation were derived from the *Inventory of Need Pretrial Screening Tool*. This instrument was created as part of a larger collaboration project between the National Institute of Corrections (NIC) and the University of Cincinnati (UC) in which the Women's Risk/Needs Assessment (WRNA) was developed for convicted women offenders in probation, institutional, and prerelease correctional settings. The WRNA assessed gender-responsive needs such as child abuse, adult victimization, trauma, loss of personal power in relationships, housing safety, anger/hostility, family support, relationship support, parental stress, family conflict, and current symptoms of depression and psychosis (Van Voorhis, Salisbury, Wright, Bauman, & Holsinger, 2008; Van Voorhis, Wright, Salisbury, & Bauman, 2010). Initial discussions during the development of the WRNA included the desire to implement the instrument at all decision-making stages of the criminal justice system, including the pretrial phase (P. Modley, personal communication, October 5, 2009).

To accommodate the large numbers of pretrial defendants, the pretrial version of the WRNA was shorter than the postconviction WRNA<sup>2</sup> but nevertheless interviewed defendants on questions pertaining to residential stability and homeless status, family of origin, children, education, employment and financial status, abuse and trauma, mental health, and substance abuse. This tool was developed with the aid of the pretrial personnel at the Hamilton County, Ohio Pretrial and Community Transition Services Department and staff from the Hamilton County Court Clinic. In contrast to the postconviction WRNA tools, the shortened pretrial version of the WRNA, named the *Inventory of Need Pretrial Screening Tool*, was not subjected to further research until the current study. Just the same, the Hamilton County Pretrial and Community Transition Services ultimately used the *Inventory of Need Pretrial Screening Tool* with both male and female defendants to aid with program referrals.

The sample for this study included pretrial defendants who had been arrested in Hamilton County, Ohio, between January 11, 2010, and February 26, 2010. Recruitment of the participants for this study was contingent upon who was arrested, who was in the jail intake area, or who appeared in the pretrial office. There was no opportunity to perform random sampling due to the unique circumstances (e.g., rapid population turnover, court appointments) Hamilton County Pretrial and Community Transition Services and other pretrial agencies experience; therefore, this study employed a convenience sample.

The sample was comprised of three groups of pretrial defendants: (a) diversion candidates, (b) individuals released on own recognizance bonds, and (c) individuals who were released from jail shortly after their arrest and booking. A total of 313 individuals were approached to participate in the study. Forty-seven individuals opted not to participate,

**TABLE 1: Demographic and Criminal Histories of Pretrial Defendants**

<i>Background Characteristic</i>	<i>Entire Sample (N = 266)</i>	<i>Men (n = 163)</i>	<i>Women (n = 103)</i>
Average age (years)	29.4	30.8	27.1
% White	47.0	49.1	43.7
% married	10.9	12.9	7.8
% children < 18 years	51.9	47.2	59.2
% high school diploma or GED	68.0	68.7	67.0
% employed full-time	42.5	48.5	38.7
% violent offense	29.3	30.1	28.2
% property offense	33.1	28.2	40.8
% prior felony	6.4	7.4	4.9
% low risk	39.5	32.5	50.5
% medium risk	51.5	58.3	40.8

Note. GED = General Educational Development.

resulting in an acceptable 85% response rate. The final sample for this study was 266 pretrial defendants.

Table 1 presents sample descriptives of the pretrial defendants' demographic and criminal histories. The mean age of the sample was approximately 29 years old, and slightly more than half (53.0%) were non-White. Regarding education and employment, more than two thirds (68.0%) of the sample had received a high school diploma or a GED, while 42.5% were employed full-time, were full-time students,<sup>3</sup> or provided full-time child care.

Sample descriptives were also examined by gender. It was found that men were slightly older than women (approximately 31 years old vs. 27 years old, respectively) and more women were non-White than men (56.3% vs. 50.9%, respectively). Women in this sample committed more property crimes than men (40.8% vs. 28.2%, respectively). Approximately half (50.5%) of the women were categorized as "low-risk" by the Ohio Risk Assessment System (ORAS) compared with the men (32.5%).

## MEASURES

### Outcome Measures

This study examined three pretrial outcomes: (a) failure to appear for scheduled court appearances (FTA), (b) arrest for a new offense while in the community (hereafter referred to as "new arrests"), and (c) any pretrial failure (FTA and new arrest, combined). These are standard outcome measures found in other pretrial studies (e.g., [Latessa et al., 2009](#); [Lowenkamp & Bechtel, 2007](#); [Rose & VanNostrand, 2009](#)). Dichotomous outcome measures were developed to capture FTAs (0 = no, 1 = yes), arrests for new offenses (0 = no, 1 = yes), and any failure while on pretrial supervision (0 = no, 1 = yes) at 4 and 6 months following the data collection.<sup>4</sup> These data were obtained from the Hamilton County internal database. Outcome measures are shown in Table 2.

### The Inventory of Need Pretrial Screening Tool Scales

Data analysis created two sets of risk/needs scales. The first set included risk/needs that could theoretically be categorized as "gender-neutral." Specifically, these include measures

**TABLE 2: Pretrial Outcome Measures by Sample Type**

<i>Background Characteristic</i>	<i>Entire Sample (N = 266)</i>	<i>Men (n = 163)</i>	<i>Women (n = 103)</i>
% 4-month FTAs	8.6	9.8	6.8
% 6-month FTAs	9.8	11.7	6.8
% 4-month new arrests	9.4	12.3	4.9
% 6-month new arrests	13.5	18.4	5.8
% 4-month any failures	14.7	18.4	8.7
% 6-month any failures	20.3	27.0	9.7

Note. FTA = Failure to appear.

of criminal history, employment status, educational need, and substance abuse. The second section examined risk/needs determined to be important for women offenders by feminist authors and gender-responsive risk/needs assessment research (Belknap & Holsinger, 2006; Bloom, 2003; Bloom et al., 2003; Brennan, 2007; Covington & Bloom, 2007; Holtfreter & Morash, 2003; Owen & Bloom, 1995; Salisbury & Van Voorhis, 2009; Van Voorhis, Salisbury, Bauman, Holsinger, & Wright, 2007; Van Voorhis, Salisbury, Bauman, & Wright, 2007; Van Voorhis, Salisbury, Wright, & Bauman, 2008; Van Voorhis, Salisbury, Wright, Bauman, & Holsinger, 2008; Van Voorhis et al., 2010) These “gender-responsive” needs include abuse, trauma, mental health, and homelessness. An additional “strength” was also examined: family support.

Because the study endeavored to identify needs (and need dynamics) that were optimally relevant to each gender, the analysis created separate scales for men and women. This involved identifying specific items that were most predictive for each gender followed by a process of data reduction to reduce items to a smaller number of cumulative scales. First, bivariate correlations between all the items/questions in each risk/need domain and the outcomes were examined. Second, for purposes of data reduction, predictive items from the various domains in the screening tool were factor analyzed using principal components extraction with varimax rotation. As a general rule, items that loaded above 0.40 on each factor were included in the scale. If any of the predictive items did not load on a factor, they were omitted. Third, the predictive items that formed a factor were summed together to create cumulative domain scales to be used in the analysis of the total scales relationship to pretrial outcomes. Finally, as part of the factor analysis, these same items were tested for internal consistency (i.e., Cronbach’s  $\alpha$ ).<sup>5</sup> This process was done for the entire sample and for men and women separately.

Most items on the Hamilton County *Inventory of Need Pretrial Screening Tool* were dichotomous (yes/no). They were coded in the same direction, with the higher value numbers indicating more of a “risk,” “need,” or “strength.”

There were several instances in which different items/questions correlated with outcomes differently for men and women and these distinctions were relevant to both study methodology *and* to one of the research questions for the present study. Separate scales were generated when this occurred. However, if the items had similar predictive validity for all groups, a single scale was generated for all three groups.<sup>6</sup>

As noted above, one of the research questions for this study concerned whether gender difference extended to the definition of specific need domains. In other words, did different aspects of substance abuse, family support, mental health, abuse, and so on impact pretrial

outcome differently for men and women? As such, this aspect of scale construction is discussed in the results section rather than the methodology section of this article.

#### **ANALYSIS OF THE RELATIONSHIP BETWEEN RISK/NEEDS SCALES AND PRETRIAL OUTCOMES**

Statistical analyses tested the predictive validity of each scale and of cumulative summaries of scales found to be predictive of outcomes. We first examined patterns produced by a series of bivariate correlations (Pearson's  $r$ ) and the Receiver Operating Characteristic (and related Area Under the Curve [AUC]) between individual scales and outcome variables for the entire sample and then for men and women.

Next, we examined the incremental contribution of the cumulative gender-responsive scales to the gender-neutral scales. In the following analysis, the cumulative summary scales examined for predictive validity included (a) gender-neutral scales, alone; (b) gender-responsive scales, alone; (c) gender-neutral and gender-responsive scales, combined; and (d) combined gender-neutral and gender-responsive scales, controlling for the gender-neutral scale (a test of the incremental validity of the gender-responsive scales).

## **RESULTS**

### **GENDER-SPECIFIC DYNAMICS OF PRETRIAL NEEDS**

#### **Measures of Gender-Neutral Needs**

The risk/needs in this section are referred to as "gender-neutral" variables. That is, research has found them to be predictive of offending behavior for both men and women ([Andrews & Bonta, 2006](#); [Simourd & Andrews, 1994](#)). However, it is possible that these issues work in different ways for men and women and that some risk/needs may be more predictive for women than men, or vice versa. The gender-neutral risk/needs available for analysis included criminal history (7 items), employment status (1 item), educational need (3 items), and substance abuse (12 items).

The criminal history items included (a) any prior felonies, (b) number of prior felonies, (c) number of misdemeanors, (d) number of minor misdemeanors, (e) number of traffic offenses, (f) number of prior incarcerations, and (g) any prior violent offenses. All items were correlated with at least one outcome measure for all three groups (the entire sample, men, and women). Factor analyses, shown in the appendix, found that they all formed a single scale for each group with alphas exceeding .80. Employment was captured as one measure and was predictive for all groups. These measures were used in later analyses for the entire sample, men, and women.

However, construction of the educational need and substance abuse scales was influenced by gender (see Table 3 and the appendix). All three of the educational items were predictive of at least one outcome for the entire sample and for men. Although the items formed a scale for the entire sample and for men, alphas were more limited (.50 and .51, respectively). However, none of the educational items were predictive for women. Therefore, analyses of this scale for its relationship to outcome variables were limited to the entire sample and men; an educational need scale was not created for women.

Construction of the substance abuse scale also varied by the sample examined. For the entire sample, 12 items were tested (see Table 3). For men, this resulted in 7 items included

**TABLE 3: Gender-Specific Distinctions of Items Included in Scales for Entire Sample, Men, and Women**

	All	Men	Women
Gender-neutral scales/items			
Educational Need Scale			
Ever been in special education classes or had an IEP	X <sup>a</sup>		X
Has trouble reading or writing	X		X
Less than a high school diploma	X		X
Substance Abuse Scale			
Drug and/or alcohol abuse before age 14			X
Substance abuse-related offense on record	X		X
Drugs/alcohol involved in current offense	X	X	X
Family/friends have expressed concern about alcohol/drug use	X	X	X
Once start drinking/using drugs, have difficulty stopping	X	X	X
Alcohol/drug use has caused health/emotional problems	X	X	X
Alcohol/drug use has resulted in family/marital fights	X	X	X
Alcohol/drug use has resulted in financial problems	X	X	X
Alcohol/drug use has affected work/school performance			X
Had a positive/diluted drug screen	X	X	X
Take more than prescribed dose of medication	X		
Was homeless due to substance abuse	X		X
Gender-responsive scales/items			
Abuse scale			
Experienced physical abuse as a child	X		X
Experienced sexual abuse as a child			X
Experienced physical abuse as an adult			
Experienced sexual abuse as an adult			X
Mental Health scale			
Ever been hospitalized for a mental health problem	X		X
Ever seen things or heard voices that were not there	X		X
Ever taken prescription medication to feel better emotionally	X		
Ever been diagnosed with a mental illness	X		X
Homelessness due to mental illness	X	X	X
Diagnosed with ADHD			X
Diagnosed with bipolar disorder			X
Diagnosed with PTSD			X
Diagnosed with schizophrenia			X
Diagnosed with personality disorder			X
Family Support Scale			
How often do you see your family	X		
Positive visit when you see family	X		X
Do you get help from family when needed	X	X	

Note. Item contributions to scales are not shown for scales where all items were predictive of at least one pretrial outcome for all groups. This was the case for the criminal history, trauma, and homelessness scales. IEP = Individualized Education Program; ADHD = attention-deficit/hyperactivity disorder; PTSD = posttraumatic stress disorder.

a. For ease of presentation, an "X" indicates that the item was significantly related to at least one of the pretrial outcome measures.

in the scale. This excluded (a) drug and/or alcohol abuse before age 14, (b) a substance abuse offense on record, (c) alcohol/drug use affecting school performance, (d) taking more than the prescribed dose of medication, and (e) homelessness due to alcohol/drug use. Conversely,

the scale for women included 11 of the 12 items, excluding the following item: taking more than the prescribed dose of medication. Alphas for each of the scales surpassed .70.

### Measures of Gender-Responsive Needs

The gender-responsive scales that were developed for this study included abuse, trauma, mental health, and homelessness. An additional strength, family support, was also examined to see if it was a protective factor against pretrial failure.

The trauma and homelessness scales were the same for the entire sample, men, and women. The trauma scale included four items that were a modified and abbreviated version of The Posttraumatic Diagnostic Scale (see Foa, 1995). To maintain the integrity of this scale, all items were included in this measure, regardless of whether they predicted for a sample or not. The four items (the appendix) formed a scale, with alphas greater than .70 for all three groups.

The homelessness scale included the items (a) Do you currently have a place to live? (b) Do you live with others? (c) Have you ever been homeless or lived in a shelter? and (d) a dichotomous measure indicating the number of times an individual was homeless or lived in a shelter ( $0 = 0$  or 1 time,  $1 = 2$  or more times). As can be seen in the appendix, the four items formed scales for all three groups.

The predictive items included in the abuse, mental health, and family support scales varied depending upon the sample examined. For the entire sample, only one abuse item was related to at least one outcome measure: being physically abused as a child (see Table 3). For women, three items were related to at least one pretrial outcome: (a) experienced physical abuse as a child, (b) experienced sexual abuse as a child, and (c) experienced sexual abuse as an adult. These three items were combined to make the abuse scale for women ( $\alpha = .71$ ). Conversely, no abuse items were related to male outcomes; therefore, an abuse scale was not generated for men.

The items contained in the mental health scale also differed by gender. For the entire sample, these included whether the defendants had (a) been hospitalized or placed in a mental health unit, (b) seen things or heard voices that were not really present, (c) taken prescription medication to make them feel better emotionally, (d) been diagnosed with a mental illness, and (e) become homeless as a result of a mental illness. Alpha for the entire sample was .76 (see the appendix). Only three of mental health items (diagnosis of schizophrenia, diagnosis of personality disorder, and homelessness due to mental illness) were predictive and converged to generate a scale for men; alpha was low (.48). Women, however, had seven mental health items related to their pretrial outcomes. In addition to four items from the scale for the entire sample (excluding the prescription medication variable), three other diagnostic variables were predictive for women. These included whether they had been diagnosed with attention-deficit/hyperactivity disorder (ADHD), bipolar disorder, or PTSD ( $\alpha = .76$ ).

The final strength scale, family support, included three items for the entire sample: (a) How often do you see your family? (b) When you see your family, is it a positive visit? and (c) Do you have help from your family if you need it? However, only one item was predictive for men and women, and these items differed. For men, "Do you have help from your family if you need it?" was the item that predicted their outcomes and therefore became their family support scale. "When you see your family, is it a positive visit?" was the item that formed the family support scale for women.

**TABLE 4: Bivariate Correlations (Pearson's *r*, One-Tailed) and AUCs for Risk/Needs Scales, Strengths, and Outcomes, Entire Sample**

Risk Factor	FTA				New Arrests				Any Failure			
	4 Month	AUC	6 Month	AUC	4 Month	AUC	6 Month	AUC	4 Month	AUC	6 Month	AUC
<b>Gender-neutral scales</b>												
Criminal History	.33***	.79	.35***	.79	.20***	.72	.23***	.72	.34***	.75	.36***	.75
Employment/Financial	.12**	.62	.08	.57	.15***	.64	.15***	.62	.16***	.63	.14**	.59
Educational Need	-.04	.46	-.05	.46	.09	.55	.17***	.60	.09	.54	.13**	.56
Substance Abuse <sup>a</sup>	.23***	.70	.27***	.73	.18***	.66	.17***	.64	.27***	.69	.28***	.69
<b>Gender-responsive scales</b>												
Abuse <sup>b</sup>	-.00	.49	-.03	.48	.11**	.58	.12**	.57	.05	.53	.10	.55
Trauma	.14**	.62	.14**	.61	.02	.51	.00	.51	.08	.56	.07	.55
Mental Health <sup>c</sup>	.22***	.66	.20***	.62	.08	.60	.03	.55	.16***	.59	.12**	.57
Homelessness	.34***	.75	.30***	.71	.09	.55	.06	.53	.21***	.62	.12***	.58
<b>Strengths</b>												
Family Support <sup>d</sup>	-.14**		-.16***		-.03		.01		-.08		-.06	

Note. Substance abuse, abuse, mental health, and family support scales were optimized for the entire sample. See below for items included in each scale. AUC = Area Under the Curve; FTA = Failure to appear.

a. Substance abuse-related offense on record; alcohol/drugs involved in current offense; family/friends expressed concern; difficulty stopping; health/emotional problems; family marital fights; financial problems; positive/diluted drug screen; more than prescribed dose of medication; homelessness due to substance abuse.

b. Physical abuse as a child.

c. Hospitalized for mental health problem; seen/heard things not there; taken prescription medication to feel better; diagnosed with mental illness; homelessness due to mental illness.

d. How often to you see family; positive visit; help from family when needed.

\* $p \leq .10$ . \*\* $p \leq .05$ . \*\*\* $p \leq .01$ .

## RELATIONSHIP BETWEEN INDIVIDUAL SCALES AND PRETRIAL OUTCOMES

Bivariate correlations and AUCs for the gender-neutral and gender-responsive scales are illustrated in Tables 3 through 5 for the entire sample, for men, and for women. An overview of the findings shows a somewhat different pattern for each sample. Because of this, we discuss the findings for each sample separately.

### Entire Sample

Pearson's *r* bivariate correlations and AUCs for the gender-neutral risk/needs scales and the 4- and 6-month outcome measures are presented in Table 4. Not surprisingly, most of the gender-neutral scales were significantly correlated with the pretrial outcomes, and this is consistent with extant research. However, the strongest bivariate correlations were seen for criminal history and substance abuse. The employment scale was modestly associated with outcomes. Educational need was modestly associated with 6-month new arrests and any failures.

As illustrated in Table 2, several of the gender-responsive scales were significantly associated with FTAs. These included (a) trauma, (b) mental health, (c) homelessness, and (d) family support. Furthermore, the strength of the correlations between several of these gender-responsive scales (i.e., mental health, homelessness) and FTAs were similar to the correlations for criminal history and substance abuse. Only one gender-responsive variable, physical abuse as a child, was related to new arrests, and two scales (mental health and homelessness) were associated with any failures. The single gender-responsive variable

associated with new arrests could suggest that gender-responsive issues are not adequate predictors of new arrests for the individuals in this study. If the sample was not disaggregated by gender, this might have been a logical conclusion. However, the following analyses illustrate the importance of taking gender into account when predicting pretrial failure.

### **Male Defendants**

As shown in Table 5, criminal history was a strong predictor for FTAs, but the other three gender-neutral scales range from showing a modest relationship (substance abuse) to not being predictive of FTAs (employment/financial and educational need). For new arrests, criminal history was strongly associated with this outcome, while employment, educational need, and substance abuse were modest predictors. Results for the last outcome, any failures, illustrated criminal history and substance abuse to be strongly associated, while educational need was a modest predictor. The employment scale was a weak predictor of any failure, with correlations approaching significance ( $p \leq .10$ ) and AUCs not exceeding .60. This suggests that while the gender-neutral scales are adequately predicting future arrests and failures, taken together they are not all relevant to FTAs.

The gender-responsive scales of trauma, mental health, homelessness, and family support were all moderately to strongly correlated with FTAs. However, AUCs for these scales ranged from strong (.73) to weak (.53). None of the gender-responsive scales were related to new arrests, which is similar to the results to the entire sample. These scales became modest predictors of any failures, as trauma (4 and 6 month), mental health (6 month only), homelessness (4 and 6 month), and family support (4 and 6 month) were related to this outcome. However, the correlations and AUCs of these scales and any failures were modest to weak, with four of the seven correlations approaching significance and none of the AUCs exceeding .60 (see Table 5). Abuse was not related to pretrial outcomes because a scale could not be created for men.

### **Female Defendants**

Examination of the bivariate correlations and AUCs for women revealed both similarities to and differences from the men's results. As with the analyses for males, criminal history and substance abuse were correlated with FTAs for women. However, the strength of these correlations was noticeably higher than the same correlations among men. Furthermore, employment was modestly correlated with FTAs for women, whereas it was not predictive for men. These three scales also had modest to weak correlations with new arrests. Most notable were the correlations between new arrests and criminal history. This scale is often used to predict future offending; here, however, this scale did not predict 4-month new arrests and was only a modest predictor of 6-month arrests. Finally, this analysis revealed that these three scales were modest to strong predictors of any failures.

Examination of the gender-responsive scales for women's outcomes provided results that were in sharp contrast to the previous analysis of men. Recall that for men, the gender-responsive scales were moderate predictors of FTAs, did not predict new arrests, and were modest to weak predictors of any failures. As illustrated in Table 6, the gender-responsive scales were relatively consistent predictors across all outcomes for women. Furthermore, abuse emerged as a predictor of all outcomes for women, whereas this was not predictive for men.

**TABLE 5: Bivariate Correlations (Pearson's *r*, One-Tailed) and AUCs for Risk/Needs Scales, Strengths, and Outcomes, Men Only**

Risk Factor	FTA				New Arrests				Any Failure			
	4 Month	AUC	6 Month	AUC	4 Month	AUC	6 Month	AUC	4 Month	AUC	6 Month	AUC
<b>Gender-neutral scales</b>												
Criminal History	.30***	.76	.33***	.76	.20***	.70	.20***	.68	.32***	.73	.32***	.71
Employment/ Financial	.08	.58	.01	.51	.12*	.60	.15**	.60	.13*	.59	.10*	.56
Educational Need	-.05	.44	-.07	.44	.17**	.60	.27***	.65	.13**	.55	.19***	.57
Substance Abuse <sup>a</sup>	.10*	.60	.16**	.64	.17**	.63	.15**	.61	.21***	.65	.24***	.66
<b>Gender-responsive scales</b>												
Abuse	—	—	—	—	—	—	—	—	—	—	—	—
Trauma	.14**	.62	.16**	.61	.05	.53	.06	.55	.13*	.57	.15**	.58
Mental Health <sup>b</sup>	.14**	.53	.21***	.55	-.05	.49	-.08	.48	.09	.52	.14**	.53
Homelessness	.30***	.73	.25***	.67	.04	.52	.01	.51	.15**	.58	.11*	.55
<b>Strengths</b>												
Family Support <sup>c</sup>	-.20***		-.22***		-.05		-.06		-.11*		-.13*	

Note. Substance abuse, mental health, and family support scales were optimized for men. See below for items included in each scale. AUC = Area Under the Curve; FTA = Failure to appear.

a. Substance abuse-related offense on record; alcohol/drugs involved in current offense; family/friends expressed concern; difficulty stopping; health/emotional problems; family marital fights; financial problems; positive/diluted drug screen; more than prescribed dose of medication; homelessness due to substance abuse.

b. Homelessness due to mental illness; diagnosis of schizophrenia; diagnosis of personality disorder.

c. Help from family when needed.

\* $p \leq .10$ . \*\* $p \leq .05$ . \*\*\* $p \leq .01$ .

#### PREDICTIVE VALIDITY AND INCREMENTAL VALIDITY OF CUMULATIVE SCALES

One of the goals of this research was to develop total pretrial risk scales that utilized gender-neutral and gender-responsive risk/needs factors. Of particular importance to this analysis is the examination of comparative contributions of gender-neutral and gender-responsive factors to the predictive validity observed for each of the three groups. The contribution of these scales to form a total risk/needs assessment scale involved the previous analysis of bivariate correlations with the pretrial outcome measures, an examination of interrelationships between domains, and summing all scales that were significantly correlated with the outcomes for each sample. Finally, an analysis of the final risk/needs scale involved an examination of the predictive merits of gender-neutral compared with gender-responsive models, as well as a combination of both models. These results are discussed below and are illustrated in Tables 6 through 8.

#### Entire Sample

With the previous analyses in mind, cumulative gender-neutral and gender-responsive scales were created for the entire sample. The gender-neutral scale for this group included criminal history, employment, educational need, and substance abuse. The gender-responsive scale was comprised of abuse, trauma, mental health, and homelessness. Family support was also included in this analysis, as it was determined to be a protective factor for the entire sample.

Table 7 shows that the gender-neutral scale was strongly associated with all outcomes for both follow-up periods. Examination of the gender-responsive scale revealed it to have

**TABLE 6: Bivariate Correlations (Pearson's *r*, One-Tailed) and AUCs for Risk/Needs Scales, Strengths, and Outcomes, Women Only**

Risk Factor	FTA				New Arrests				Any Failure			
	4 Month	AUC	6 Month	AUC	4 Month	AUC	6 Month	AUC	4 Month	AUC	6 Month	AUC
<b>Gender-neutral scales</b>												
Criminal History	.39***	.83	.39***	.83	.13	.65	.17**	.69	.31***	.73	.34***	.75
Employment/Financial	.19**	.71	.19**	.71	.20**	.75	.14*	.67	.22**	.72	.18**	.67
Educational Need	—	—	—	—	—	—	—	—	—	—	—	—
Substance Abuse <sup>a</sup>	.48***	.89	.48***	.89	.20**	.64	.15*	.57	.38***	.74	.34***	.69
<b>Gender-responsive scales</b>												
Abuse <sup>b</sup>	.21**	.75	.21**	.75	.17**	.67	.13*	.61	.21**	.72	.18**	.68
Trauma	.17**	.66	.17**	.66	.06	.53	.02	.48	.09	.57	.06	.54
Mental Health <sup>c</sup>	.51***	.75	.51***	.75	.26***	.67	.21**	.61	.44***	.72	.40***	.68
Homelessness	.42***	.79	.42***	.79	.19**	.61	.15*	.57	.33***	.70	.30***	.67
<b>Strengths</b>												
Family Support <sup>d</sup>	-.26**		-.26**		-.12		-.09		-.20**		-.17**	

Note. Substance abuse, abuse, mental health, and family support scales were optimized for women. See below for items included in each scale. AUC = Area Under the Curve; FTA = Failure to appear.

a. Drug/alcohol use before age 14; substance abuse-related offense on record; alcohol/drugs involved in current offense; family/friends expressed concern; difficulty stopping; health/emotional problems; family marital fights; financial problems; effected work/school; positive/diluted drug screen; homelessness due to substance abuse.

b. Sexual abuse as a child; physical abuse as a child; sexual abuse as an adult.

c. Hospitalized for mental health problem; seen/heard things not there; diagnosed with mental illness; homelessness due to mental illness; diagnosed with attention-deficit/hyperactivity disorder; diagnosed with bipolar disorder; diagnosed with posttraumatic stress disorder.

d. Positive visit.

\* $p \leq .10$ . \*\* $p \leq .05$ . \*\*\* $p \leq .01$ .

strong correlations and adequate AUCs for 4- and 6-month FTAs ( $r = .26, p \leq .01$ , AUC = .71;  $r = .23, p \leq .01$ , AUC = .67, respectively). The gender-responsive scale was modestly predictive of 4-month new arrests; however, it was not a significant predictor for 6-month new arrests. This was expected, as only one item related to abuse was correlated with this outcome for this group. Finally, correlations and AUCs for 4- and 6-month any failures also produced modest results.

When the gender-responsive scale (including family support) was added to the gender-neutral scale, this combination improved the correlations of the 4- and 6-month FTA outcomes ( $r = .32, p \leq .01$ ; AUC = .75;  $r = .30, p \leq .01$ ; AUC = .72) compared with the gender-neutral scale alone. However, addition of the gender-responsive scales to the gender-neutral scales attenuated the original gender-neutral prediction of arrests and any failures.

The modest results for the gender-neutral/gender-responsive/strength scales' impact on new arrests and any failures could suggest that like the results from the previous bivariate analysis, addition of this gender-responsive scale is important for predicting FTAs, but it was not as effective in predicting new arrests or any failures for the entire sample. This is evidenced in the test of the incremental validity of the gender-responsive scales. When the gender-responsive scale (including family support) was added to the gender-neutral scale, this combination achieved a moderate partial correlation for 4-month ( $r = .18, p \leq .01$ ) and 6-month ( $r = .16, p \leq .01$ ) FTAs. Partial correlations for new arrests and any failures were not significant.

**TABLE 7: Predictive Validity of Pretrial Risk Models for Entire Sample**

Pretrial Risk Model	FTAs				New Arrests				Any Failure			
	4 Month		6 Month		4 Month		6 Month		4 Month		6 Month	
	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC
GN scales, alone <sup>a</sup>	.27***	.75	.26***	.74	.27***	.76	.30***	.75	.35***	.77	.35***	.75
GR scales, alone <sup>b</sup>	.26***	.71	.23***	.67	.13**	.62	.09	.58	.19***	.63	.17***	.61
GN + GR	.31***	.75	.29***	.72	.24***	.73	.24***	.71	.32***	.73	.31***	.71
Strength (FS)	-.14**		-.16**		-.03		.01		-.08		-.06	
GN + GR - FS	.32***	.75	.30***	.72	.23***	.72	.22***	.69	.32***	.73	.30***	.70
GN + GR - FS Partial correlation		.18***		.16***		.01		-.07		.06		.01

Note. FTA = Failure to Appear; AUC = Area Under the Curve; GN = Gender-Neutral; GR = Gender-Responsive; FS = Family Support.

a. Criminal history, employment/financial, educational need, substance abuse.

b. Abuse (one item), trauma, mental health, homelessness.

\* $p \leq .10$ . \*\* $p \leq .05$ . \*\*\* $p \leq .01$ .

### Male Defendants

For men, the gender-neutral scale used in the following analysis included criminal history, employment, educational need, and substance abuse. The male gender-responsive scale included trauma, mental health, and homelessness. One item was also used to indicate family support for men: Do you have help from your family when you need it?

The results of the combination of these scales are presented in Table 8. These results illustrate how the gender-neutral scale plays an important role in predicting the future criminal behavior of men, as this scale was strongly associated with 4- and 6-month new arrests and any failures. However, correlations for FTAs were modest, and AUCs were slightly lower than for the other outcomes.

Analysis of the gender-responsive scale produced a pattern that was similar to findings for the sample as a whole. Gender-responsive variables were important for capturing FTAs for men. Correlations and AUCs for this scale and FTAs were high for both 4- and 6-month FTAs ( $r = .29, p \leq .01, AUC = .72$ ;  $r = .31, p \leq .01, AUC = .69$ , respectively). However, this scale did not predict new arrests; correlations were not significant for both follow-up periods. Analysis of any failures revealed the gender-responsive scale was a modest predictor of this outcome.

Correlations and AUCs improved considerably for the 4-month ( $r = .28, p \leq .01, AUC = .72$ ) and 6-month ( $r = .27, p \leq .01, AUC = .70$ ) FTAs when the gender-responsive scale (including family support) was combined with the gender-neutral scale. However, like the results from the entire sample, adding the gender-responsive scale attenuated the prediction of new arrests (in comparison with the gender-neutral scale). Unlike the results from the entire sample, however, the gender-neutral/gender-responsive combination maintained comparable results for any failures ( $r = .32, p \leq .01, AUC = .73$ ;  $r = .33, p \leq .01, AUC = .71$ ).

Partial correlations revealed important results. To begin, the gender-responsive scale offered a significant improvement to the predictive validity of the gender-neutral scale for FTAs ( $r = .26, p \leq .01$ ;  $r = .28, p \leq .01$ ). Conversely, controlling for the gender-neutral scale

**TABLE 8: Predictive Validity of Pretrial Risk Models for Male Defendants**

Pretrial Risk Model	FTAs				New Arrests				Any Failure			
	4 Month		6 Month		4 Month		6 Month		4 Month		6 Month	
	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC
GN scales, alone <sup>a</sup>	.19***	.68	.17**	.66	.28***	.74	.32***	.74	.33***	.74	.34***	.72
GR scales, alone <sup>b</sup>	.29***	.72	.31***	.69	.04	.56	.01	.54	.19***	.62	.19***	.60
GN + GR	.26***	.72	.26***	.70	.22***	.72	.24***	.71	.32***	.73	.33***	.72
Strength (FS) <sup>c</sup>	-.20***		-.22***		-.05		-.06		-.11		-.13	
GN + GR - FS	.28***	.72	.27***	.70	.22***	.71	.24***	.70	.32***	.73	.33***	.71
GN + GR - FS												
Partial correlation	.26***		.28***		-.09		-.14**		.06		.05	

Note. FTA = Failure to Appear; AUC = Area Under the Curve; GN = Gender-Neutral; GR = Gender-Responsive; FS = Family Support.

a. Criminal history, employment/financial, educational need, substance abuse.

b. Trauma, mental health, homelessness.

c. One item: Do you have help from your family when you need it?

\* $p \leq .10$ . \*\* $p \leq .05$ . \*\*\* $p \leq .01$ .

produced negative relationships with new arrests, one being a significant inverse relationship for 6-month new arrests ( $r = -.14$ ,  $p \leq .05$ ). Partial correlations for any failures were not significant.

### Female Defendants

The gender-neutral scale for women included criminal history, employment, and substance abuse. The gender-responsive scale was comprised of abuse, trauma, mental health, and homelessness. One item indicating family support (When you see your family, is it generally a positive visit?) was used as a strength in this analysis.

As shown in Table 9, the gender-neutral scale evidenced strong correlations and high AUCs for several of the outcomes. This scale was especially salient in predicting FTAs and any failures. However, this scale was a modest predictor of new arrests ( $r = .18$ ,  $p \leq .05$ , AUC = .68;  $r = .15$ ,  $p \leq .10$ , AUC = .65). The gender-responsive scale, when examined alone, produced similar correlations and AUCs to the gender-neutral scale. The gender-responsive scale was a strong predictor of FTAs and any failures and a modest predictor of new arrests ( $r = .21$ ,  $p \leq .01$ , AUC = .68;  $r = .16$ ,  $p \leq .10$ , AUC = .60, respectively).

When added to the gender-neutral scale, the gender-responsive scale (including family support) made a notable contribution to the prediction of all women's outcomes. In every instance, the correlations for women's outcomes increased and were higher than the gender-neutral scale alone. The correlations also noticeably increased for 4- and 6-month failures. Furthermore, combining these scales also increased the correlations for 4- and 6-month new arrests compared with the gender-neutral scales alone. This is very different from the effect the gender-responsive scale had on this outcome for the entire sample and for men. Recall in both of those analyses, the gender-responsive scale was not a strong predictor of new arrests.

Analysis of incremental validity revealed the gender-responsive scale made significant contributions to the gender-neutral scale for several female pretrial outcomes. The sum of

**TABLE 9: Predictive Validity of Pretrial Risk Models for Female Defendants**

Pretrial Risk Model	FTAs				New Arrests				Any Failure			
	4 Month		6 Month		4 Month		6 Month		4 Month		6 Month	
	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC	Y/N	AUC
GN scales, alone <sup>a</sup>	.41***	.91	.41***	.91	.18**	.68	.15*	.64	.34***	.80	.31***	.76
GR scales, alone <sup>b</sup>	.42***	.85	.42***	.85	.21***	.68	.16*	.60	.35***	.76	.31***	.70
GN + GR	.48***	.90	.48***	.90	.23***	.68	.18**	.61	.40***	.79	.36***	.74
Strength (FS) <sup>c</sup>	-.26***		-.26***		-.12		-.09		-.20**		-.17**	
GN + GR - FS	.48***	.89	.48***	.89	.23***	.67	.18**	.60	.40***	.78	.35***	.73
GN + GR - FS												
Partial correlation	.28***		.28***		.14*		.10		.22***		.19**	

Note. FTA = Failure to appear; AUC = Area Under the Curve; GN = gender-neutral; GR = gender-responsive; FS = Family Support.

a. Criminal history, employment/financial, substance abuse.

b. Abuse, trauma, mental health, homelessness.

c. One item: When you see your family, is it generally a positive visit?

\* $p \leq .10$ . \*\* $p \leq .05$ . \*\*\* $p \leq .01$ .

these two scales achieved a strong partial correlation for FTAs ( $r = .28, p \leq .01$ ) as well as contributions to the gender-neutral scale for 4- and 6-month any failures ( $r = .22, p \leq .01$ ;  $r = .19, p \leq .01$ ). However, there were modest findings for new arrests, as the partial correlation for 4-month new arrests approached significance, whereas it was not significant for 6-month new arrests.

## DISCUSSION

There is little empirical research regarding the needs of pretrial defendants and their subsequent relation to pretrial outcomes. As such, this study begins to fill a void. However, an understanding of its conclusions should first be tempered by an awareness of its limitations. First, readers must be cautioned to the presence of low base rates on the outcome variables, especially on measures of 4- and 6-month arrests. Although low base rates are seen in most studies of pretrial outcomes (Mamalian, 2011; see Siddiqi, 1999; VanNostrand, 2003; [VanNostrand & Keebler, 2009](#)), they likely render findings somewhat unstable across studies and attenuate results. Low base rates are attributable to limited follow-up time frames, which are endemic to pretrial research (Mamalian, 2011). In comparison, prediction research involving convicted offender populations often utilize follow-up periods of 1 year or more (e.g., see [Austin, Coleman, Peyton, & Dedel Johnson, 2003](#); [Brennan, Dieterich, & Ehret, 2009](#); [Brennan, Dieterich, & Oliver, 2004](#); [Coulson, Ilacqua, Nutbrown, & Cudjoe, 1996](#); [Van Voorhis et al., 2010](#)).

The second limitation implicates the size of the sample assessed in the present study and the fact that it was a convenience sample. Researchers interviewed 163 males and 103 females. The limited number of cases reduced the statistical power of correlations and likely reduced the number of statistically significant findings. Locating and securing the cooperation of pretrial defendants is more problematic for pretrial studies than studies of probationers, parolees, and inmates. Pretrial sampling frames shift hourly and are not readily available to researchers. Thus, data collection was contingent upon who was arrested, who was in the

jail intake area, and who appeared at the Hamilton County pretrial office on any given day. Use of a nonprobability sample is common to pretrial studies, yet it does raise concerns for the generalizability of these findings. However, we do not have any reason to believe the sample analyzed in the current study differed in any systematic way from the general population of pretrial defendants in Hamilton County, Ohio.

The third limitation also relates to generalizability and external validity because the research was conducted in one progressive pretrial agency in a medium-sized Midwestern city. This pretrial agency was rich in programs and endeavored to connect pretrial defendants with community programs and services. Thus, intervention with risk/needs factors such as mental health could have attenuated the magnitude of correlations with outcome variables.

The final limitation relates to the fact that the current study was construction validation research. That is, the study endeavored to construct a valid pretrial assessment tool using items relevant for predicting outcomes. However, revalidation is needed to solidify predictive validity; therefore, the current research should be replicated with additional samples (Kline, 2000).

With consideration to these precautions, it is nevertheless possible to view the contributions of this study to prevailing understandings of pretrial defendants. For this we return to its research questions. The first question asks whether needs are related to pretrial outcomes. The importance of this question should not be overlooked. Once a need elevates to the point of being a predictor of an adverse outcome, there is a stronger policy imperative for intervention (Van Voorhis, 2012). The study detected a number of needs related to the pretrial outcomes. For the entire sample, strong correlations between FTAs and substance abuse, mental health, and homelessness were seen. That predictions were primarily relevant to FTAs suggests that the above needs were interfering with defendants' abilities to negotiate pretrial court requirements. The emergence of these findings, and additional correlates with arrests, supports a service mission for pretrial agencies. The practice of "pre-entry" services (Cadigan & Lowenkamp, 2011) would encompass diversion programs (e.g., to mental health agencies or specialty courts), added services to assist those who are unable to understand the nuances of criminal courts, or an early beginning to an intervention that is likely to continue postconviction. The observation of correlations between trauma and abuse with outcomes also advocates for emerging trauma-informed practices (Substance Abuse and Mental Health Services Administration, 2011).

Next, the current study sought to discover whether male and female defendants differed in terms of which needs were most predictive of pretrial outcomes. When scales were optimized separately for each gender, needs, especially gender-responsive needs, tended to be more predictive for women than for men. That is, employment, substance abuse, abuse, mental health, and homelessness were predictive of both FTAs and new arrests. The effects of substance abuse, abuse, mental health, and homelessness were especially noteworthy. In many instances, bivariate correlations for these needs were as strong or stronger than those offered by static criminal history items. When these scales were combined to augment gender-neutral scales, predictors typically contained on traditional pretrial assessments, they significantly contributed to the prediction of all outcomes. However, when controlling for the effects of gender-neutral factors, incremental validity was significant ( $p \leq .05$ ) for the prediction of FTAs and the combined FTA/arrests measure (any failure) but only approached significance ( $p \leq .10$ ) for new arrests.

For men, there were modest correlations between substance abuse and all outcomes. Education and employment were significantly related to new arrests. Gender-responsive variables (e.g., trauma, mental health, homelessness, and family support) were correlated with FTAs; the correlations were especially strong for the homelessness scale. However, none of the gender-responsive factors augmented the prediction of arrests for men.

That mental health was related to FTAs for men and women and all outcomes for women counters prevailing research on convicted offenders, where mental health is not considered a strong correlate or risk factor (Andrews & Bonta, 2006; Blanchette & Brown, 2006). Our findings to the contrary may be attributable to different methodology. For example, we have created measures of specific mental health diagnoses, where others have combined more diagnoses into a composite measure (Salisbury & Van Voorhis, 2009). In addition, the mental health correlate is more predominant among women than men, and most research on the issue has focused on male offenders or samples that are not disaggregated by gender (Van Voorhis et al., 2010).

The final research question asks whether there are distinctions between men and women in the nature of predictive needs. Results here indicate there are ways in which the most predictive needs differed for men and women. That is, in the process of constructing optimal scales for men and women separately, it was discovered that several of these needs were substantively different depending upon the gender examined. Although they were of the same domain (e.g., substance abuse, mental health) the needs/scales differed in relation to which items were relevant to the pretrial failures of each group.

For example, the scales created for educational need, substance abuse, abuse, mental health, and family support were substantively different for men and women. Consistent with the gender-responsive literature, the problematic (i.e., predictive) aspects of women's substance abuse involved more adversity than men's (see Covington, 2008). Women's mental health problems were predictive when they involved previous hospitalizations and diagnoses, homelessness (due to mental illness), psychosis, ADHD, mood disorders, and trauma. Men's mental health issues were only modestly predictive of FTAs (and not arrests) only when homelessness (due to mental illness), schizophrenia, and personality disorders were included in the scale; other dimensions were not predictive. It was not possible to create a predictive abuse scale for men, but it was for women. Conversely, a predictive educational need scale was created for men but not women. Important aspects for family support for women were relational (having a positive visit with family members); a family's provision of help was important to men. These distinctions are consistent with the gender-responsive literature (e.g., Bloom et al., 2003; Salisbury & Van Voorhis, 2009; Van Voorhis et al., 2010).

In sum, the study employed two strategies that offer important observations for pretrial policy. First, the study disaggregated by gender. Second, the study examined new arrests and FTAs separately. Had we not qualified our findings accordingly, we would largely have supported the status quo as shown in Tables 3 and 6 for the total sample for new arrests and any failures. We would have concluded that criminal history and gender-neutral factors are adequate for predicting new arrests and any failures, a finding that supports the current practice in pretrial services. In disaggregating by gender and considering new variables emerging from gender-responsive research, we made more substantial contributions to the prediction of adverse outcomes for women than for men. The gender-responsive needs were relevant to women's success in pretrial. This is consistent with the assertions of a number of scholars, who maintain that it may not be appropriate to use only criminal history in

predicting offense-related outcomes for women (Brennan & Austin, 1997; Farr, 2000; Hannah-Moffat, 2009; Van Voorhis et al., 2010).

However, in examining the impact of both gender-neutral and optimized gender-responsive needs on FTAs, we found them to be important for both men and women. Specifically, substance abuse, trauma (PTSD), mental health, and family support impact a defendant's ability to abide by the conditions of the court. The importance of these findings should not be understated. Such difficulties pose the prospect of troubled individuals continually returning to court. In pretrial settings, this typically occurs through a sequence that begins with an arrest but continues through a series of pretrial failures not related to criminal behavior but rather to unaddressed needs (Berman, 2005; Ney & Martin, 2005). Likely, it also contributes to the growing proportion of mentally ill and troubled offenders within correctional populations (Lamb & Weinberger, 2001) and to the fact that corrections is currently the largest provider of mental health services in the United States (Lamb & Weinberger, 2001; Toch, 2007).

## APPENDIX

### FACTOR LOADINGS AND INTERNAL CONSISTENCIES

	<i>Loadings</i> <i>(Sample)</i>	<i>Loadings</i> <i>(Male)</i>	<i>Loadings</i> <i>(Female)</i>
<b>Gender-neutral scales</b>			
Criminal History Scale			
Any felonies on record	.869	.875	.853
Number of prior felonies	.849	.850	.842
Prior misdemeanors	.827	.797	.876
Prior minor misdemeanors	.714	.694	.744
Prior traffic	.681	.688	.571
Prior incarcerations	.647	.634	.646
Any prior offenses violent	.696	.696	.650
KMO	.811	.800	.757
Eigenvalue	4.036	3.965	3.924
% variance explained	57.664	56.648	56.061
$\alpha$	.869	.865	.851
<i>n</i>	266	163	103
Educational Need Scale			
Ever been in special education classes or had an IEP	.770	.780	—
Has trouble reading or writing	.800	.756	—
Less than a high school diploma	.596	.630	—
KMO	.583	.597	—
Eigenvalue	1.589	1.576	—
% variance explained	52.950	52.546	—
$\alpha$	.502	.513	—
<i>n</i>	266	163	103
Substance Abuse Scale			
Drug and/or alcohol use before age 14	—	—	.503
Substance abuse-related offense on record	.574	—	.602

*(continued)*

**APPENDIX (CONTINUED)**

	<i>Loadings</i>	<i>Loadings</i>	<i>Loadings</i>
	( <i>Sample</i> )	( <i>Male</i> )	( <i>Female</i> )
Would you say that your use of alcohol/drugs was involved in current offense	.633	.607	.613
Family or friends have expressed concern about alcohol/drug use	.735	.747	.768
Difficulty stopping	.659	.667	.661
Alcohol/drug use has caused health/emotional problems	.704	.732	.731
Alcohol/drug use has resulted in family/marital fights	.601	.609	.607
Alcohol/drug use has resulted in financial problems	.773	.728	.853
Alcohol/drug use has effected work/school performance	—	—	.704
Had a positive or diluted drug screen	.552	.589	.447
Take more than prescribed dose of medication	.431	—	—
Was homelessness due to substance abuse	.433	—	.691
KMO	.840	.809	.799
Eigenvalue	3.837	3.155	4.820
% variance explained	38.365	45.067	43.820
$\alpha$	.813	.753	.847
<i>n</i>	266	163	103
Gender-responsive scales			
Abuse Scale			
Experienced physical abuse as child	.570	—	.693
Experienced sexual abuse as child	.839	—	.857
Experienced physical abuse as an adult	.674	—	—
Experienced sexual abuse as adult	.776	—	.826
KMO	.674	—	.628
Eigenvalue	2.084	—	1.897
% variance explained	52.101	—	63.233
$\alpha$	.661	—	.706
<i>n</i>	266	163	103
Trauma Scale			
Had nightmares about it or thought about it when did not want to	.806	.772	.830
Tried hard not to think about it or avoid situations that reminded you	.791	.772	.806
Constantly on guard, watchful, or easily startled	.729	.662	.789
Numb or detached from others, activities, or surroundings	.789	.769	.803
KMO	.673	.575	.751
Eigenvalue	2.426	2.222	2.607
% variance explained	60.649	55.542	65.183
$\alpha$	.783	.730	.822
<i>n</i>	266	163	103
Mental Health Scale			
Ever been hospitalized for a mental health problem	.774	—	.811
Ever seen things or heard voices not there	.588	—	.480

*(continued)*

## APPENDIX (CONTINUED)

	<i>Loadings</i>	<i>Loadings</i>	<i>Loadings</i>
	(Sample)	(Male)	(Female)
Ever taken prescription medication to feel better emotionally	.798	—	—
Ever been diagnosed with a mental illness	.810	—	.755
Was homelessness due to mental illness	.586	.665	.618
Diagnosed with ADHD	—	—	.445
Diagnosed with bipolar disorder	—	—	.787
Diagnosed with PTSD	—	—	.553
Diagnosed with schizophrenia	—	.871	—
Diagnosed with personality disorder	—	.553	—
KMO	.670	.440	.767
Eigenvalue	2.582	1.493	2.963
% variance explained	51.631	49.768	42.327
$\alpha$	.756	.478	.761
<i>n</i>	266	163	103
Homelessness Scale			
Currently had a place to live	.639	.669	.505
Do you live with others	.594	.624	.454
Ever been homeless or lived in a shelter	.883	.889	.903
Number of times homeless or lived in a shelter	.910	.911	.926
KMO	.580	.601	.526
Eigenvalue	2.328	2.458	2.135
% variance explained	59.190	61.444	53.367
$\alpha$	.720	.740	.664
<i>n</i>	266	163	103
Family Support Scale			
How often do you see family	.712	—	—
Positive visit when sees family	.802	—	—
Help from family when needed	.829	—	—
KMO	.641	—	—
Eigenvalue	1.839	—	—
% variance explained	61.287	—	—
$\alpha$	.489	—	—
<i>n</i>	266	163	103

Note. KMO = Kaiser–Meyer–Olkin measure of sampling adequacy; ADHD = attention-deficit/hyperactivity disorder; PTSD = posttraumatic stress disorder.

## NOTES

1. The term *gender-responsive needs* has emerged in much of the work conducted on women offenders by the National Institute of Corrections (NIC) and by recent research conducted by Van Voorhis and colleagues regarding the development of the Women's Risk/Needs Assessment (WRNA). Visit [www.uc.edu/womenoffenders](http://www.uc.edu/womenoffenders) for more information.
2. It should be noted that although items included in the *Inventory of Need Pretrial Screening Tool* were initially developed as part of the NIC/University of Cincinnati (UC) collaboration in which the WRNA was developed, the items/domains are not the same items/domains used by the WRNA developed by Van Voorhis and colleagues.
3. Students were included in the “full-time” category as many students in this sample went to school full-time. That is, they were in high school or attending college full-time.
4. Prevalence data were used for this analysis (whether the incident happened or not). Incidence data were not used (number of times the incident occurred) due to the presence of outliers.
5. Somewhat lower than standard Cronbach's alphas (.70) were occasionally accepted in this research for two reasons.

First, because this research is considered exploratory, it is acceptable to decrease the threshold value of alpha to .60 (Hair, Black, Babin, Anderson, & Tatham, 2006). Second, alpha levels are not only affected by the degree of correlation between the items in the scale, they are also affected by the number of items in the scale (Streiner, 2003). Lower alphas may be a reflection of the small number of items (e.g., three) included in each scale. It might have been possible to improve the alpha values by adding items to the assessment but that would not be desirable in a pretrial tool, given the time limits inherent in the processing of defendants in pretrial settings. Therefore, when scales were generated that evidenced predictive validity but low alpha reliabilities, they were retained and used in the analysis.

6. For a more in-depth discussion of the scale construction and the factor analyses tables for this study, see Gehring (2011).

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