A Gender Responsive Risk Assessment for Women Offenders:

Results for the Missouri Department of Corrections[1]

Probation, Prison, and Pre-release Samples

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As a consequence of the War on Drugs and reductions in funding for community mental health, the number of incarcerated women in the United States has grown rapidly in recent years (Austin, Bruce, Carroll, McCall, & Richards, 2001). Moreover, these increases have surpassed the growth rate for male prison populations (53 percent for women as opposed to 32 percent for men) (Bureau of Justice Statistics, 2005). With these increases, policy makers are questioning current practices of assessing the risk and needs of convicted female offenders (Hardyman & Van Voorhis, 2004; Van Voorhis & Presser, 2001).

Many of these assessments were originally created for men and then applied to female populations without being evaluated for their appropriateness or their validity (Bloom, Owen, & Covington, 2004; Chesney-Lind, 1997; Morash, Bynum, & Koons, 1998; Van Voorhis &

Presser, 2001). This was especially true of prison custody classification systems. In fact, one national survey of state correctional classification directors found that: (1) 36 states had not validated their institutional classification systems on women, (2) many assessments "over-classified" women (meaning they designated women as requiring higher custody levels than warranted by their actual behavior), and (3) current assessments ignored needs specific to women such as relationships, depression, parental issues, self-esteem, self-efficacy, and victimization (Van Voorhis & Presser, 2001). Additionally, community correctional assessments were faulted for their lack of attention to gender-responsive factors (Blanchette, 2004; Blanchette & Brown, 2006; Brennan, 1998; Brennan & Austin, 1997; Farr, 2000; Reisig, Holtfreter, & Morash, 2006), and their validity was debated.

Historically, risk and needs assessments were separate tasks (Van Voorhis, 2004). Risk assessments, predicting an offender's likelihood of re-offending, focused on static measures such as current offense and criminal history; needs assessments guided program referrals and assessed such issues as education, employment, and mental health. Later research found that many of these needs were also important risk factors (Andrews, Bonta, & Hoge, 1990; Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990). Accordingly, today's risk assessments, called dynamic risk/needs assessments, combine risk assessment with needs assessment to present correctional practitioners with a complete picture of an offender's risk for recidivism as well as the needs that contribute to the risk prediction. These dynamic risk/needs instruments, such as the Northpointe COMPAS (Brennan, Dieterich, & Oliver, 2006) and the Level of Service Inventory-Revised (Andrews & Bonta, 1995) are used primarily for community risk assessments, but they have also been shown to predict institutional misconducts (e.g., see Bonta, 1989; Bonta & Motiuk, 1987, 1990, 1992; Kroner & Mills, 2001; Motiuk, Motiuk, & Bonta, 1992; Shields & Simourd, 1991).

Without question, current correctional policies give high priority to the risk that offenders pose to institutional and community safety (Cullen, Fisher, & Applegate, 2000; Feeley & Simon, 1992) and dynamic risk/needs assessments are particularly relevant to these priorities. Emerging practices of targeting risk factors in the course of correctional programming are backed by evidence from a group of meta-analyses of the research on correctional effectiveness (Andrews et al., 1990; Andrews, Bonta, et al., 1990; Gendreau, Little, & Goggin, 1996; Izzo & Ross, 1990; Lipsey, 1992). In summarizing these meta-analyses (Andrews et al., 1990; Andrews, Bonta, et al., 1990) put forward two principles of effective correctional intervention: *the risk principle* and *the needs principle.* The risk principle states that programs that are most successful in reducing recidivism are those which provide high levels of service to medium and high risk offenders (Andrews et al., 1990; Bonta, Wallace-Capretta, & Rooney, 2000; Lipsey, 1992; Lipsey & Wilson, 1998; Lovins, Lowenkamp, Latessa & Smith, 2007). The needs principle maintains that those reductions can only take place if the risk factors targeted in treatment are dynamic needs known to be correlated with recidivism (Andrews et al., 1990; Andrews, Bonta, et al., 1990). Key among such dynamic needs are the "Big Four" (i.e., antisocial attitudes, peers, personality, and criminal history), noted to be the strongest predictors of recidivism and therefore put forward as the most important treatment targets (Andrews & Bonta, 2003; Andrews et al., 1990; Gendreau, 1996). Other relevant dynamic risk factors such as substance abuse, quality of family life, and employment are also included in current dynamic risk/needs assessments.

When this paradigm is applied to women offenders, two concerns are raised. The first, acknowledges that the research that generated current risk/needs assessments and the principles which followed from them consisted primarily of studies of male offenders. Even so, a number of studies have found dynamic risk assessments to be valid for women (see Andrews, Dowden,

& Rettinger, 2001; Blanchette & Brown, 2006; Coulson, Ilacqua, Nutbrown, Giulekas, & Cudjoe, 1996; Holsinger, Lowenkamp, & Latessa, 2003) while others have produced conflicting results (see Blanchette, 2005; Law, Sullivan, & Goggin, in press; Olson, Alderden, & Lurigio, 2003; Reisig et al., 2006). One meta-analysis found dynamic risk factors, contained on the current generation of risk/needs assessments, to be predictive for both men and women (Dowden & Andrews, 1999; Simourd & Andrews, 1994). Of concern, however, is that the foundational studies did not test the factors that are currently put forward in the gender-responsive literature (Blanchette & Brown, 2006; Reisig et al., 2006). Thus, regardless of whether current assessments are valid, it is not clear that they would be the assessments we would have if we had started with women.

Because the current dynamic risk assessments guide correctional policy and practice while ignoring many gender-responsive factors, it follows that the importance of gender-responsive factors may be understated in correctional policy. It is, after all, difficult to advocate for or to treat unidentified problems.

The second concern calls correctional officials to the task of securing a sound and accurate understanding of the risk that women offenders pose to society. Although women can be classified at different levels of risk relative to each other, they still pose less risk to society than men, even if they are classified into the high risk category. Men's aggressive incidents occur at substantially higher rates in prison than women's (see Hardyman & Van Voorhis, 2004). In community settings the incidence of recidivism is also lower for women than for men in the higher risk classifications (Washington Institute for Public Policy, 2003). Simply put, the meaning of high risk is different for women than men.

Gender Responsive Needs

The emerging gender-responsive literature suggests women have unique pathways to crime (Belknap, 2007; Bloom et al., 2003; Daly, 1992, 1994; Owen, 1998; Reisig et al., 2006; Richie, 1996) grounded in the following needs: (1) histories of abuse and trauma, (2) dysfunctional relationships, (3) low self-esteem and self-efficacy, (4) mental illness, (5) poverty and homelessness, (6) drug abuse, and (7) parental issues.

Victimization and Abuse

Studies have shown that female offenders are more likely to suffer physical and sexual abuse as children and adults than both male offenders and women in general (Bureau of Justice Statistics, 1999; McClellan, Farabee, & Crouch, 1997). Estimates of physical abuse range from 32 to as high as 75 percent for female offenders compared to 6 to 13 percent for males (Bureau of Justice Statistics, 1999; Browne, Miller, & Maguin, 1999; Greene, Haney, & Hurtado, 2000; Owen & Bloom, 1995).

The importance of childhood abuse and trauma is core to the gender-responsive literature. It is proposed to be a critical starting point for the development of delinquency (Chesney-Lind & Shelden, 2004), and may also be a distal, or in some populations a direct, source for continued criminal conduct (McClellan et al., 1997; Widom, 1989). Similar to child abuse, adult victimization is asserted throughout the feminist criminological literature to play a critical role in women's offending behavior (Bloom et al., 2003; Covington, 1998; Richie, 1996).

Research linking victimization and crime, however, has produced mixed results. While there is growing support for the connection between child abuse and juvenile delinquency in girls (Hubbard & Pratt, 2002; Siegel & Williams, 2003; Widom, 1989), the link between abuse (both

that experienced as a child and that experienced as an adult) and recidivism in adult female offenders has not been clearly established. Some studies have reported no relationship between abuse and recidivism (Bonta, Pang, & Wallace-Capetta, 1995; Loucks, 1995; Rettinger, 1998). Two studies have suggested abused women were less likely to offend (Blanchette, 1996; Bonta et al., 1995) and one reported that abuse did not improve prediction beyond the LSI-R (Lowenkamp, Holsinger, & Latessa, 2001). However, other studies, including a recent meta-analysis (Law et al., in press), have found evidence in support of the connection between victimization and recidivism (see also, Widom, 1989; Siegel & Williams, 2003). Two additional studies have found abuse linked to subsequent life problems (depression and substance abuse) that then lead to criminal behavior (McClellan et al., 1997; Salisbury, 2007).[2]

Law et al. (in press) suggested further that the relationship may be contingent on the type of outcome measure (e.g., institutional misconducts vs. new offenses). Research results may also be confounded by differing measures of victimization (Browne et al., 1999).

Dysfunctional Relationships

A widely regarded theory of women's identity, Relational Theory, posits that a woman defines herself by her relationships with others (Gilligan, 1982; Kaplan, 1984; Miller, 1976). Thus, healthy relationships are especially important to women. Unfortunately, female offenders have often been so victimized that their ability to have healthy relationships is compromised (Covington, 1998). Additionally, the co-dependent relationships that women often engage in may influence their criminal behavior via the criminal activity of their partners (Koons, Burrow, Morash, & Bynum, 1997; Richie, 1996).

[2] The Salisbury study was based upon a path analysis of the probation sample studied in this report.

This issue has not been widely researched. One study reported that relationships with intimate partners influenced female offenders both positively and negatively (Benda, 2005). That is, satisfying intimate relationships predicted desistance; relationships with antisocial intimates played a role in future criminal behavior. In focus groups with female prisoners, women voiced concern about future involvements with antisocial men (Van Voorhis, Pealer, & Spiropolous, 2001); in two other NIC studies, relationship dysfunction was recently found to be related to serious prison misconducts (Salisbury, Van Voorhis, & Spiropolous, forthcoming; Wright, Van Voorhis, Salisbury & Bauman, 2008) and to new arrests (Wright, Salisbury, & Van Voorhis, 2007).

Mental Health

Female offenders are more likely than male offenders to exhibit depression, anxiety, co-occurring disorders, and self-injurious behavior (Belknap & Holsinger, 2006; Bloom, Owen, & Covington, 2003; Blume, 1997; Holtfreter & Morash, 2003; McClellan et al., 1997; Owen & Bloom, 1995; Peters, Strozier, Murrin, & Kearns, 1997). High proportions of women in correctional settings also suffer from mood disorders, panic disorders, post-traumatic stress, and eating disorders (Bloom et al., 2003; Blume, 1997).

Mental health's importance as a risk factor among women offenders, however, appears to have been understated (Andrews et al., 1990; Blanchette & Brown, 2006), likely for two reasons. First, offenders may suffer from mental illnesses that have not been officially diagnosed. In this sense, mental health problems are frequently under-reported. However, studies using behavioral measures of mental health (such as suicide attempts) find strong links between mental health and recidivism (Benda, 2005; Blanchette & Motiuk, 1995; Brown & Motiuk, 2005). An important

comparative study notes that this does not hold true for men (Benda, 2005). Second, it may be that some forms of mental illnesses are linked to recidivism while others are not. In contrast, the prevailing research often compiles all mental disorders into one category (see Law et al., in press) which may mask the effects of particular illnesses. Such literature does little to address the concerns of the gender-responsive literature which specifically attends to the importance of depression, anxiety, PTSD, trauma, and co-occurring disorders.

Self-Esteem and Self-Efficacy

Considerable research (primarily on male offenders) has examined the relationship between recidivism and self-esteem. These studies report that low self-esteem, often characterized as "personal distress", was not correlated with recidivism (Andrews & Bonta, 2003), and programs attempting to increase self-esteem actually increased recidivism (Andrews, 1983; Andrews et al., 1990; Andrews, Bonta, et al., 1990; Gendreau et al., 1996; Wormith, 1984). In the gender-responsive literature, self-esteem is more closely linked to the idea of "empowerment," meaning not only increased self-esteem, but also an increased belief in women's power over their own lives (Task Force on Federally Sentenced Women, 1990). Correctional treatment staff, researchers, and female offenders, alike, assert this idea of empowerment to be tied to desistance from crime (Carp & Schade, 1992; Case & Fasenfest, 2004; Chandler & Kassebaum, 1994; Koons et al., 1997; Morash et al., 1998; Prendergast, Wellisch, & Falkin, 1995; Schram & Morash, 2002; Task Force on Federally Sentenced Women, 1990). Additionally, feminist scholars have linked low self-esteem to one's having experienced abusive and dysfunctional relationships, and trauma (Covington, 1998). Additional links are made to mental illness and substance abuse (Covington, 1998; Miller, 1988), and one meta-

analysis found a statistical relationship between low self-esteem in female offenders and antisocial behavior (Larivière, 1999).

Similar to self-esteem is the concept of self-efficacy or a person's belief in their ability to accomplish their goals. As in the research on self-esteem, self-efficacy has been likened to "personal distress" and not shown to influence recidivism in male offender populations. While little research exists on the relationship between self-efficacy and recidivism among women offenders, some suggest it is important (Rumgay, 2004) and should be key to gender-responsive treatment (Bloom et al., 2003; Bloom, Owen, & Covington, 2005).

Poverty and Homelessness

Many female offenders lead lives plagued by poverty (Belknap, 2007; Bureau of Justice Statistics, 1999; Chesney-Lind & Rodriguez, 1983; Daly, 1992; Owen, 1998; Richie, 1996), with only 40 percent of women in state prisons reporting full-time employment prior to their arrest and two-thirds reporting their highest hourly wage to be no higher than $6.50 (Bureau of Justice Statistics, 1999). Profiles of women offender populations report employment to be severely affected by: (1) poor educational and vocational skills; (2) drug/alcohol dependence; (3) child care responsibilities, (4) illegal opportunities which offer more financially rewarding returns, and (5) homelessness. As a result when asked about their primary source of income before incarceration only 37 percent reported that it was from legitimate employment, while 22 percent reported public assistance and 16 percent reported selling illegal drugs (Owen & Bloom, 1995).

The most poignant evidence of the role of poverty in the future of women offenders was seen in a study by Holtfreter, Reisig, and Morash (2004). Their recidivism study found that poverty increased the odds of rearrest by a factor of 4.6 and the odds of supervision violation by

12.7 after controlling for minority status, age, education, and the LSI-R risk score. Furthermore, among the women who were initially living below the poverty level, public assistance with economic-related needs (e.g., education, healthcare, housing, and vocational training) reduced the odds of recidivism by 83 percent.

Drug Abuse

Like male offenders, large numbers of female offenders suffer from drug addiction (Bureau of Justice Statistics, 2006). In fact, some studies report that the incidence of illegal drug use is higher among female offenders than male offenders (McClellan et al., 1997). There is a clear connection to recidivism (Law et al., in press; Salisbury, Van Voorhis, & Wright, 2006; Wright, Salisbury, & Van Voorhis, 2006).

Scholars warn that substance abuse also co-occurs with trauma and mental health problems (Bloom et al., 2003; Covington, 1998; Henderson, 1998; Langan & Pelissier, 2001; Messina, Burdon, Prendergast, 2003; Owen & Bloom, 1995; Peters et al., 1997). In support, this trajectory from abuse to mental illness to criminal behavior was recently reported among women but not men (McClellan et al., 1997).

Parental Stress

Over 70 percent of women under correctional supervision are mothers to minor children (Bureau of Justice Statistics, 1999). Financial strain and substance abuse problems likely add an overwhelming quality to their child care responsibilities (Greene et al., 2000). Research has shown a connection between parental stress and crime (Ferraro & Moe, 2003; Ross, Khashu, & Wamsley, 2004; Salisbury et al., 2006), particularly among those female offenders who were

single parents (Bonta et al., 1995). Research is also beginning to show a strong effect for programs that target the mother-child issues of women under correctional supervision (Aos, Miller, & Drake, 2006).

It would seem that women who are faced with the possibility of losing custody of their children would experience the greatest degree of parental stress. Child custody issues pose considerable stress to incarcerated offenders, although contrary to popular beliefs, loss of custody more frequently occurs prior to incarceration rather than during (Ross et al., 2004).

In sum, there is both theoretical and empirical support for conducting research on gender responsive needs and their relevance to risk/needs assessment for women offenders. Moreover, it is hoped that doing so will bring these needs more clearly to the forefront of the work of policy makers and practitioners.

Missouri Project History

Development of gender-responsive tools began in 1999 with a pilot study in the Colorado Department of Corrections and later continued with three larger projects in Maui, Minnesota, and Missouri. Two types of assessments were developed. The first, presently called "the trailer" was designed to supplement existing risk/needs assessments such as the Level of Service Inventory-Revised (Andrews & Bonta, 1995) and the Northpointe Compas (Brennan et al., 2006). The second was an assessment designed to be used on its own, as a "stand-alone" risk/needs assessment. This assessment (and many of the questions that ultimately were contained on the

trailer[3]) was developed by members of Missouri Women's Issues Committee of the Missouri Department of Corrections in collaboration with researchers at the University of Cincinnati.

Legislative changes and fiscal opportunities prompted the study of women offenders' areas of need in Missouri. Grants from both the National Institute of Corrections and the National Institute of Justice were received by the state in order to improve offender programming. In conjunction, the Missouri state legislature in 2001 established a mandate to create a women's offender program to "ensure that female offenders are provided a continuum of supervision strategies and program services reflecting best practices for female probationers, prisoners and parolees in areas including but not limited to classification, diagnostic processes, facilities, medical and mental health care, child custody and visitation" (Missouri Senate Bill 200, 2001). In response to the signed legislation, the Missouri Department of Corrections (DOC) established a Women's Issues Committee to foster the development of women's assessments and programs.

Prior to the study's full implementation, several project development tasks were completed. First, researchers at the University of Cincinnati conducted extensive literature reviews among the psychological and criminal justice fields regarding women's potential need areas. Second, several focus groups with correctional staff and administration were convened in Colorado, Nebraska, Hawaii, Maui, Minnesota, and Missouri. Additionally, focus groups with women inmates were held in Colorado, Nebraska, Hawaii, Minnesota, and Washington State. The main purpose of these focus groups was to ensure the capture of all relevant needs for a new assessment instrument tailored specifically for women. Third, two instruments were constructed,

[3] A number of items from the Missouri stand alone tool that were not included in the original tests of the trailer, were found to be important gender-responsive items. Our research recommended that they be included in future tests of the trailer. The additional scales included: (1) mental health history; (2) symptoms of depression; (3) symptoms of psychosis; (4) family conflict, (5) family support; and (6) housing safety.

an offender interview and a self-report survey. Many individuals contributed to the construction of the interview, including the Women's Issues Committee in Missouri, NIC officials, and researchers at the University of Cincinnati. The self-report survey was designed by staff at the University of Cincinnati and provided scales measuring self-esteem, self-efficacy, relationship dysfunction, child abuse, and victimization as an adult.

The assessments were designed with several features in mind. First, development teams recommended models that would facilitate seamless assessment, i.e., they would be valid and applicable across different correctional settings (probation, institutions, and parole). Second, the items would be behavioral in nature, thereby requiring few subjective judgments on the part of the practitioners or respondents. Third, needs which were not new to risk assessment (e.g., housing or accommodations, mental illness, financial circumstances, family support and others) were to be contextualized in gender responsive terms. Finally, strengths were viewed as important to both gender responsive assessment and to programming, e.g., self efficacy, self-esteem, family support, parental involvement, and educational attainments.

The present study is the first test of the stand alone instrument. These construction validation tests took place in three types of correctional settings, prisons (both general and treatment populations), prison pre-release, and probation. Samples representing these varied populations were selected from: (1) inmates from the Women's Eastern Reception, Diagnostic, and Correctional Center (WERDCC) and Chillicothe Correctional Center (CCC): (2) pre-release inmates at WERDCC who were waiting to be release on parole, and (3) probationers from 17 of Missouri's 54 probation districts. Probation districts were selected jointly by Missouri DOC staff and UC researchers according to a stratified sampling plan. First, districts were selected throughout the state to represent urban and rural areas, and then each district was assigned a

quota of participants proportionate to the district's population size. All samples represented intake cohorts.

Selection criteria for study participants were as follows: First, only women who were newly convicted of a felony were eligible; misdemeanants, 120s (i.e., released offenders from 120 days of shock incarceration), and probation violators (i.e., revoked and reinstated) were not included. Second, participants must have had at least a two year sentence of probation (for probation sample) or a 6 month prison sentence (for institutional samples). Lastly, offenders who were assigned to specialized female offender caseloads were also ineligible.

Probation officers at the participating districts and institutional staff were trained by UC staff on effective interviewing skills and the proper use and implementation of study instruments.[4] These officers were carefully chosen by supervisory correctional staff, giving preference to individuals with experience, good interview skills, and a positive response to the project. Both male and female interviewers were selected.

Data collection began in January 2004. All newly admitted women felony offenders were interviewed by their probation or intake officer using the gender-responsive risk/needs assessment. The interview was required of all women, because the Missouri officials chose to replace an earlier interview with the research interview in order to prevent duplication of effort. Upon completion of the interview, women were asked whether they would agree to participate in the research study. If they met the selection criteria, agreed to participate, and gave their written consent, their risk assessment interview was used as part of the study. In addition to the interview, women who consented also completed a self-report, paper-and-pencil survey supplement which included additional gender-responsive needs. If a woman opted not to

[4] Special thanks to Kristi Holsinger, Ph.D. and Alex Holsinger, Ph.D. at the University of Missouri Kansas City for providing the training to Missouri DOC staff. Additional gratitude goes to Kristi for her significant contributions to the development of the risk/needs assessment instrument.

participate, her assessment interview was not included in the study, though it was still retained by the Missouri DOC for their purposes and records. Importantly, the Women's Needs and Risk Assessment Project was reviewed and approved by the Institutional Review Board (IRB) at the University of Cincinnati

Although this is the final report of the Missouri project, preliminary findings and instruments were presented at several points throughout the project, including a final report-out in December, 2007. The results were also the focus of a plenary address at the International Community Corrections Association meeting in October of 2007 (see Van Voorhis, Salisbury Bauman, Holsinger, & Wright (2007) as well as a summary report to the National Institute of Corrections (Van Voorhis, Salisbury, Wright, & Bauman, 2008). The present report is the full technical report for this project. With the receipt of final follow-up data from a small number of offenders in February, 2008, this report also accounts for the full follow-up periods for all study participants. Results, however, are quite similar to those shown in the earlier reports.

Methodology

Overall, a total of 746[5] women offenders in three separate samples (probation, prison, and pre-release) participated in the Missouri study. Participants from the probation sample included 313 women who were processed through the Missouri State Department of Corrections[6] between January 27, 2004 and October 5, 2005. The institutional sample consisted of 272 women inmates admitted between February 11, 2004 and July 28, 2004. This prison sample was further divided into two smaller samples: 171 women were serving terms under general prison

[5] The original study design called for larger samples, however, intake data collections was terminated in September of 2005 due to declining interest on the part of interviewers. Continuing the study given reduced flow of interviews and surveys would have greatly increased the costs of the study.
[6] The Division of Probation & Parole is under the auspices of the Missouri Department of Corrections.

conditions while 101 were engaged in a 120-day treatment sentence. Lastly, a sample of pre-release women included 161 inmates waiting release to parole between March 5, 2004 and September 13, 2005. Only women who gave their signed consent to participate in the study were included. Response rates were 80 percent, 84 percent, and 86 percent for the probation, prison, and prerelease samples, respectively.

Sample Description

Table 1 presents demographic and criminal history characteristics for the four samples (as well as the merged prison samples as a whole). The average ages of women in all four samples were comparable. Understandably, women on probation were slightly younger on average (31.9 years) and the pre-release sample was slightly older (35.3 years). Over two-thirds of all the samples were White, with the remaining majority being African American.

While over half of the four samples possessed a high school diploma or GED, the probation sample reported the largest percentage (64.5%). Interestingly, these probationers were the most likely to report unemployment (34.1%). Those in the prison treatment sample and the general prison sample were most likely to have been employed prior to their arrest (86.9 and 83.5%, respectively).

In all of the samples, less than a third of the participants were married at the time of the study with the prison treatment sample most likely to be married (32.7%). Much larger percentages of each of the groups had minor children, including 65.5 percent of the probationers, 74.9 percent of the prison general sample, 74.3 of the prison treatment sample and 69.1 percent of the pre-release sample.

Table 1: Social and Demographic Characteristics by Sample

	Probation		Prison, All		Prison, General		Prison, Treatment		Pre-release	
Characteristic	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
	313	100.0	272	100.0	171	100.0	101	100.0	161	100.0
Age	N = 307		N = 267		N = 167		N = 100		N = 158	
17 years old	3	1.0	---	---	---	---	---	---	---	---
18-20 years old	36	11.7	12	4.5	4	2.4	8	8.0	3	1.9
21-30 years old	109	35.5	86	32.2	48	28.7	38	38.0	40	25.3
31-40 years old	90	29.3	110	41.2	78	46.7	32	32.0	75	47.5
41-50 years old	58	18.9	55	20.6	33	19.8	22	22.0	36	22.8
51 years and older	11	3.6	4	1.5	4	2.4	0	0.0	3	1.9
	$\overline{X}$ = 31.9 yrs		$\overline{X}$ = 33.8 yrs		$\overline{X}$ = 34.4 yrs		$\overline{X}$ = 32.8 yrs		$\overline{X}$ = 35.3 yrs	
Race	N = 301		N = 265		N = 165		N = 100		N = 155	
Asian	3	1.0	1	0.4	1	0.6	---	---	---	---
African American	90	29.9	52	19.6	28	17.0	24	24.0	45	29.0
Bi-racial	1	0.3	---	---	---	---	---	---	---	---
Hispanic/Latino	3	1.0	---	---	---	---	---	---	---	---
Indian	---	---	1	0.4	1	0.6	---	---	---	---
Pacific Islander	---	---	---	---	---	---	---	---	1	0.6
White	204	67.8	211	79.6	135	81.8	76	76.0	109	70.3
Most Serious Present Offense	N = 305									
Possession of controlled substance/drug paraphernalia	86	28.2	82	30.1	49	28.7	33	32.7	31	19.3
Manufacture of controlled substance	8	2.6	17	6.3	10	5.8	7	6.9	16	9.9

Table Continues

Table 1: Social and Demographic Characteristics by Sample, continued

	Probation		Prison, All		Prison, General		Prison, Treatment		Pre-release	
Characteristic	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
	313	100.0	272	100.0	171	100.0	101	100.0	161	100.0
Most Serious Present Offense (continued)	N = 305									
Distribute/deliver/trafficking controlled substance	21	6.9	22	8.1	11	6.4	11	10.9	18	11.2
Child abuse/endangerment/ molestation	16	5.2	8	2.9	6	3.5	2	2.0	3	1.9
Assault	7	2.3	9	3.3	3	1.8	6	5.9	6	3.7
Forgery	45	14.8	43	15.8	29	17.0	14	13.9	26	16.1
Fraud (passing bad checks, unlawful use of credit device)	27	8.9	13	4.8	11	6.4	2	2.0	15	9.3
Burglary	9	3.0	4	1.5	3	1.8	1	1.0	3	1.9
Robbery	---	---	6	2.2	4	2.3	2	2.0	3	1.9
Theft	44	14.4	26	9.6	18	10.5	8	7.9	17	10.6
Murder/manslaughter	---	---	5	1.8	4	2.3	1	1.0	2	1.2
DUI/DWI	9	3.0	10	3.7	5	2.9	5	5.0	4	2.5
Tampering with a MV	7	2.3	9	3.3	6	3.5	3	3.0	2	1.2
Leaving scene of a MV accident	1	0.3	4	1.5	4	2.3	---	---	2	1.2
Other	25	8.2	14	5.1	8	4.7	6	5.9	13	8.1
Present Offense Violent										
Yes	23	7.3	28	10.3	17	9.9	11	10.9	14	8.7

Table Continues

Table 1: Social and Demographic Characteristics by Sample, continued

	Probation		Prison, All		Prison, General		Prison, Treatment		Pre-release	
Characteristic	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
	313	100.0	272	100.0	171	100.0	101	100.0	161	100.0
Present Offense Violent Excluding Self Defense										
Yes	20	6.4	27	9.9	16	9.4	11	10.9	12	7.5
Prior Felonies	N = 305		N = 261		N = 164		N = 97		N = 159	
None	246	80.7	116	44.4	72	43.9	44	45.4	73	45.9
1-2	55	18.0	11	42.5	67	40.9	44	45.4	56	35.2
3-5	4	1.3	30	11.5	22	13.4	8	8.2	20	12.6
6 or more	---	---	4	1.5	3	1.8	1	1.0	10	6.3
	$\overline{X}$ = 1.3 fels		$\overline{X}$ = 2.0 fels		$\overline{X}$ = 2.1 fels		$\overline{X}$ = 1.7 fels		$\overline{X}$ = 2.7 fels	
Prior Offenses Involving Assault or Violence	N = 305									
Yes	10	3.3	15	5.5	12	7.0	3	3.0	9	5.6
Ever Served Other Prison Terms									N = 160	
Yes	12	3.8	69	25.4	51	29.8	18	17.8	57	35.6
	$\overline{X}$ = 1.1 terms		$\overline{X}$ = 1.4 terms		$\overline{X}$ = 1.4 terms		$\overline{X}$ = 1.6 terms		$\overline{X}$ = 1.6 terms	

Table Continues

Table 1: Social and Demographic Characteristics by Sample, continued

	Probation		Prison, All		Prison, General		Prison, Treatment		Pre-release	
Characteristic	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
	313	100.0	272	100.0	171	100.0	101	100.0	161	100.0
Been On Supervised Probation or Parole Prior to Present Offense	N = 309		N=269		N=169		N=100		N=150	
Yes	79	25.6	157	58.4	104	60.8	53	53.0	102	68.0
Currently Married										
Yes	74	23.6	74	27.2	41	24.0	33	32.7	44	27.3
Client Have Children Under 18									N = 152	
Yes	205	65.5	203	74.6	128	74.9	75	74.3	105	69.1
Employment	N = 302		N = 269		N = 170		N = 99			
Employed (full or part time, child care, student, or disabled)	199	65.9	228	84.8	142	83.5	86	86.9	122	75.8
Not employed	103	34.1	41	15.2	28	16.5	13	13.1	39	24.2
H.S. Grad or GED	N = 307								N = 159	
Yes	198	64.5	155	57.0	101	59.1	54	53.5	89	56.0

Regardless of sample, drug-related offenses were the most common current offense followed by forgery/fraud and theft. Violent offenses (assault, murder/manslaughter, robbery, and child abuse) involved 7.3 percent of the probation population, 10.3 percent of the inmates, and 8.7 percent of women in pre-release. Criminal histories for the probation sample were far less extensive than those seen in the other samples. While 80.7 percent of the probation sample had no prior felony convictions, percentages for the other samples ranged from 43.9 percent to 45.9 percent. Moreover, only 25.6 percent of the probationers had served a prior probation term in comparison to 60.8 percent of the general prison sample, 53.0 percent of the treatment sample and 68.0 percent of the prerelease sample. Similarly, very few of these probationers had ever served a prior prison term (3.8%); however, 29.8 percent of the general prison sample, 17.8 percent of the prison treatment sample, and 35.6 percent of the pre-release sample served an average of about 1.5 prior prison terms. The proportion of probationers with prior prison records is atypically low in comparison to the other NIC samples.

A comparison of the incarcerated women in general population and those in the treatment population showed few differences. Women in the treatment population were somewhat younger (mean=32.8) than those in the general population (mean=34.4), and, as planned, were somewhat more likely to have been convicted of a drug-related offense but the difference between the groups on conviction for a drug offense was not statistically significant. Women in the general population were significantly ($p \leq .05$) more likely to have served a prior prison term than those in the treatment population, but did not significantly differ from the treatment group on any of the other demographic or offense-related attributes.

Times served by incarcerated women were somewhat short. For example, at 12 months following their completion of intake assessments, 71.7 percent of all incarcerated women in the

sample had been released. This included 61.0 percent of the women in general population and 92.7 percent of the women in the treatment population. Surprisingly, 10.4 percent of the women in the treatment population remained beyond the 4 months originally envisioned for their stay.

Scale Construction

A good deal of the work of this research addressed scale construction and other measurement issues. Two instruments were developed. First, a risk/needs interview was created by the Missouri Women's Issues Committee and UC researchers to capture both traditional needs common to most gender-neutral risk needs assessment instruments as well as gender-responsive needs being cited in the emerging literature. Questions were formulated by practitioners and administrators, including substance abuse counselors and psychologists. Even though the gender-neutral items tapped domains seen in many current dynamic risk/needs assessments, the authors spent considerable time discussing how items might be most relevant to women.

The second instrument used in the project was a self-report, paper-and-pencil survey completed by each participant. The survey was meant to supplement the risk/needs assessment interview both to tap additional gender-responsive needs and to test different methods of assessment to determine the optimal mode of capturing key domains. Specifically, measures of parenting, abuse, and relationships were available on both instruments.

For purposes of data reduction, items comprising the various domains were factor analyzed using principal components extraction and varimax rotation. Once the scales were defined, a final confirmatory analysis (principal component extraction) was conducted to examine the final factor structures. As a general rule, items which loaded above 0.50 on each

factor were retained and subsequently summed to create a domain risk/need scale. Exceptions to the 0.50 cutoff were made for some items which either loaded well on identical factors for the other project samples (e.g., Colorado, Maui and Minnesota) or in rarer cases were too well-established among current risk instruments to be excluded (e.g., was the present offense violent?). All scales evidenced eigen values of 1.00 or higher. Notably, the factor structures of the risk/need scales were comparable across other project samples. Results for these analyses are shown in Appendix A. The final scales were also subjected to tests for construct validity or the extent to which they correlated with similar measures of the same underlying construct. These results are shown in Appendix B.

The following section describes each risk/need scale that was included in the two instruments. The section begins with traditional, then moves to gender-responsive scales from the interview risk/needs assessment instrument. Lastly, additional gender-responsive scales from the self-report survey are presented. Descriptives for each scale are shown by sample in Table 2.

Risk/Needs Assessment Interview: Traditional Scales

Criminal History. Measures of criminal history have traditionally been among the best predictors of future antisocial conduct. In fact, Andrews and Bonta (2003) included offense history as the single static risk factor in their grouping of "Big Four" recidivism predictors. The scale for this study included six items tapping prior offenses, sanction, violations occurring during prior sentences, and attributes of the current offense. Collateral data review was requested of interviewers rating these items and included consultation of pre-sentence and police reports, and rap sheets. Alphas for the scale were modest: (1) prison sample = .63; (2) probation = .62; and (3) prerelease = .60. However, they increased somewhat if the item indicating whether the

Table 2: Scale Descriptives for Traditional and Gender-Responsive Needs, Missouri Probation (N=313), Prison (N=271), and Pre-release (N=161) Samples.

	Probation				Prison				Pre-release			
Risk Factor/Strength	**Mean**	**(s.d.)**	**Range**	**Alpha**	**Mean**	**(s.d.)**	**Range**	**Alpha**	**Mean**	**(s.d.)**	**Range**	**Alpha**
Criminal History	.68	(1.12)	0-6	.62	2.18	(1.81)	0-9	.63	3.49	(2.73)	0-13	.60
Antisocial Attitudes	1.94	(1.86)	0-7	.77	1.49	(2.03)	0-7	.87	1.45	(1.63)	0-7	.71
Family Conflict	.91	(.84)	0-3	.90[a]	.49	(.84)	0-3	.83[a]	0.16	(.40)	0-2	.85[a]
Antisocial Friends	1.10	(1.40)	0-5	.79	2.18	(1.61)	0-5	.70	2.52	(1.70)	0-5	.74
Financial and Employment	3.72	(2.25)	0-8	.65	3.34	(1.88)	0-8	.61	3.52	(1.79)	0-8	.52
Educational Needs	.73	(1.04)	0-4	.66	.99	(1.17)	0-4	.66	0.92	(1.17)	0-4	.71
Substance Abuse—History	3.51	(3.28)	0-10	.92	9.02	(4.63)	0-15	.86	8.06	(4.91)	0-15	.88
Substance Abuse—Dynamic	.62	(.95)	0-6	.62	2.67	(1.51)	0-5	.66	.78	(.91)	0-5	.40
Mental Illness—History	1.84	(1.85)	0-6	.81	2.43	(1.91)	0-6	.80	2.53	(1.91)	0-6	.79
Current Depression & Anxiety	1.98	(2.06)	0-6	.83	2.00	(1.99)	0-6	.82	1.67	(1.70)	0-6	.73
Current Psychosis	.18	(.47)	0-2	na[b]	.08	(.32)	0-2	na[b]	0.09	(.33)	0-2	na[b]
Anger Control	1.30	(1.64)	0-7	.74	1.54	(1.55)	0-7	.62	0.83	(1.04)	0-4	.56

Table Continues

Table 2: Scale Descriptives for Traditional and Gender-Responsive Needs, Missouri Probation (N=313), Prison (N=271), and Pre-release (N=161) Samples, continued.

	Probation				Prison				Pre-release			
Risk Factor/Strength	**Mean**	**(s.d.)**	**Range**	**Alpha**	**Mean**	**(s.d.)**	**Range**	**Alpha**	**Mean**	**(s.d.)**	**Range**	**Alpha**
Housing Safety	.25	(.63)	0-4	.52	.40	(.76)	0-3	.61	1.12	(1.05)	0-4	.54
Child Abuse (Interview)	.64	(.82)	0-2	na[b]	.79	(.86)	0-2	na[b]	0.54	(.50)	0-2	na[b]
Child Abuse (Survey)	6.34	(8.65)	0-38	.95	6.90	(8.88)	0-37	.95	5.55	(7.09)	0-33	.94
Adult Victimization (Interview)	.68	(.74)	0-2	na[b]	.92	(.76)	0-2	na[b]	1.00	(.75)	0-2	na[b]
Adult Physical Abuse (Survey)	7.43	(8.71)	0-30	.96	10.63	(9.12)	0-30	.96	11.57	(8.03)	0-30	.95
Adult Harassment Abuse (Survey)	5.30	(5.73)	0-22	.92	7.36	(6.36)	0-22	.93	7.19	(5.85)	0-22	.92
Adult Emotional Abuse (Survey)	15.45	(10.42)	0-32	.97	18.69	(10.21)	0-32	.97	19.05	(9.11)	0-32	.97
Parental Stress (Survey)	13.55	(5.11)	0-30	.83	14.62	(5.58)	0-29	.82	14.72	(4.91)	0-27	.79
Relationship Dysfunction (Survey)	4.43	(3.73)	4-14	.81	5.04	(3.81)	4-14	.77	5.09	(3.67)	4-14	.73

Table Continues

Table 2: Scale Descriptives for Traditional and Gender-Responsive Needs, Missouri Probation (N=313), Prison (N=271), and Pre-release (N=161) Samples, continued.

	Probation				Prison				Pre-release			
Risk Factor/Strength	**Mean**	**(s.d.)**	**Range**	**Alpha**	**Mean**	**(s.d.)**	**Range**	**Alpha**	**Mean**	**(s.d.)**	**Range**	**Alpha**
Self-Efficacy (Survey)	43.87	(5.85)	20-51	.89	41.34	(6.66)	18-51	.91	42.15	(6.06)	23-51	.90
Self-Esteem (Survey)	24.93	(4.42)	11-30	.90	23.66	(4.54)	11-30	.90	24.74	(4.33)	11-30	.89
Educational Strengths	1.47	(1.19)	0-4	.64	1.28	(1.18)	0-4	.62	1.48	(1.22)	0-4	.62
Relationship Support	3.37	(3.49)	0-10	.85	4.78	(3.77)	0-11	.85	3.34	(3.80)	0-10	.86
Family Support	2.83	(1.31)	0-4	.73	3.30	(1.41)	0-5	.73	3.56	(1.62)	0-5	.80

[a] Items formed a Guttman Scale; Coefficient represents coefficient of reproducibility.
[b] Scale is a two item scale, not appropriate for alpha calculation.

current offense was violent was dropped from the scale (e.g., probation = .70; prison=.67; and prerelease = .67).

Antisocial Attitudes. Similar to criminal history, antisocial attitudes is considered to be one of the major risk factors for recidivism (Andrews & Bonta, 2003; Andrews et al., 1990: Gendreau et al., 1996, 1998). This risk factor is heavily influenced by such antisocial cognitive patterns as the "techniques of neutralization" (Sykes & Matza, 1957) and processes of "moral disengagement" (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996).

The scale required interviewers to ask each offender for an account of her offense and to listen for antisocial perspectives such as denial of blame, minimization of harm, and making excuses. Once the description was received, the interviewer coded seven dichotomous yes/no items reflecting whether antisocial attitudes were evident. Alphas for the scales were .77 for probation;.87 for prison; and .71 for pre-release.

Family Conflict. This scale and another measuring family support tapped normative and attachment dimensions of each offender's family of origin. Three items converged (from six) and were included in the final family conflict scale. The items reflected conflict, communication and antisocial patterns among these families. The alpha reliabilities were very low. However they did show an underlying ordering in their contribution to outcome, thus forming a Guttman scale with the following coefficients of reproducibility: .83 for prisons; .85 for prerelease; and .90 for probation. Construct validity was seen in strong negative relationships between family conflict and family support for all of the samples, see Appendix B

Antisocial Friends. From a social learning perspective, the concept of antisocial peers largely reflects the notion that offenders learn (and maintain) antisocial behavior among individuals who model such behavior. Meta analysis research found antisocial friends to be

another one of the "Big Four" risk factors for recidivism and it is considered a primary treatment target among effective correctional programs (Andrews & Bonta, 2003; Andrews et al., 1990; Gendreau et al., 1996: Gendreau, Goggin, & Smith, 1999).

The scale included six items regarding the antisocial nature of respondents' peers. Questions tapped whether women had any friends who had been in trouble with the law, if they committed offenses with friends, and whether friends had ever been to prison or on probation/parole. Five yes/no items converged to create the scale. Alphas ranged from .70 to .79, and construct validity was supported in all of the samples.

Employment and Financial Needs. Economic strain is common to many dynamic, risk/need assessment instruments, and it certainly has been discussed in both the feminist and gender-neutral theoretical literatures. The distinction appears to be that feminist scholars highlight women's extreme poverty and economic marginalization (Bloom et al., 2004; Holtfreter et. al., 2004), oftentimes in more frequent numbers than men (Bureau or Justice Statistics, 1999).

Even so, employment and financial wherewithal were not easy to conceptualize and measure among women offenders, because items could be confounded by the presence of another (primary) wage earner, public assistance, or single parenting. A factor was created that captured employment, skill in keeping a job, and the maintenance of economic necessities standard to everyday life, (e.g., an automobile, home, checking account, savings account, enough money to pay bills). Still alpha reliabilities were somewhat low (.61 for inmates; .52 for prerelease and .65 for probation samples). Construct validity tests ranged from -.28, $p \leq .001$ to .32, $p \leq .001$.

Educational Needs. Nine yes/no questions were asked of the participants, four of which combined into a single factor. Items included whether the offender had achieved a high-school education, had trouble reading or writing, ever attended special education classes, or had ever been diagnosed as having a learning disability. Alphas ranged from .66 to .71 across the samples. Correlation with educational assets (construct validity) ranged from -.52, $p \leq .001$ to -.59, $p \leq .001$.

History of Substance Abuse. Substance abuse is viewed as a measure of an individual's history of antisocial conduct, similar to criminal history (Andrews & Bonta, 2003). It also can reflect a pattern of risk-seeking behavior, or a stable antisocial personality characteristic. The gender-responsive paradigm, on the other hand, interprets a woman's substance abuse history as a possible coping mechanism for handling mental illness, perhaps as a result of suffering from abusive experiences (Bloom et al., 2003; Covington, 1998).

Sixteen dichotomous items tapping static substance abuse history (i.e., both alcohol and drug use) were asked of the offenders. Many of these were behaviorally specific in nature, such as whether substance abuse had ever made it difficult to perform at work or school, or ever resulted in financial problems or marital/family fights. Ten items comprised the final scale for probationers. The scale for inmates and pre-release participants was greatly improved by the edition of an item indicating whether or not the offender had used opiates, ecstasy or hallucinogens, which was given a weight of 5. Alphas were high: .86 for prisons; .88 for pre-release and .92 for probation. Construct validity tests showed that this scale was strongly related to current drug usage (the dynamic substance abuse scale) as well as to interview items that were not included in the scale (see Appendix B). The large scale range required that the item be collapsed into four categories for the prerelease samples prior to its inclusion with other risk

factors into the full risk/need score. The scale was not included in the risk scale for prisoners and it's reduced range for probationers obviated the need to collapse it.

Dynamic Substance Abuse. This scale attempted to capture one's current status with respect to substance abuse. The differentiation of current substance abuse, from a historical measure was the result of factor analysis. The scale afforded a means of viewing substance abuse in a dynamic sense, showing ongoing abstinence or relapse, which can change at reassessment points. The scale consisted of five items designed to be completed primarily through record data. However, some items required some degree of honesty from the offender (e.g, current use; substance abuse in the home, and associating with other users) as well as assurances that the interviewer was indeed checking collateral data and noting discrepancies to offenders. Alphas (prisons=.66; pre-release =.40; and probation=.62) hopefully will be improved upon with more in depth training of interviewers. The especially low alpha coefficient for pre-release participants may also reflect the fact that they likely had few instances of abuse while incarcerated as well as higher stakes in avoiding any negative information about themselves. Construct validity test results were similar to those reported above for the History of Substance Abuse scale.

Anger. The concept of anger/hostility in relation to crime was established with early frustration-aggression theory (Berkowitz, 1962; Dollard, Doob, Miller, Mowrer, & Sears, 1939) and continues primarily with current formulations of strain theory (Agnew, 1992). Though not factored into current dynamic risk/needs assessments, anger is a notable treatment target in some of the better-know cognitive-behavioral, correctional intervention curricula (e.g., *Aggression Replacement Training* (Goldstein, Glick, & Gibbs, 1998).

Several of the scale items were behaviorally based, asking questions such as, "Within the past three years, have you ever hit/hurt anyone, including family members, when you were upset

(exclude self-defense)?" Seven items comprised the final scale with: alphas of (1) .62 for the prison samples; (2) .56 for the pre-release sample, and (3) .74 for the probation sample. Construct validity correlations with a self-report item "I do not always control my temper" were insignificant for the pre-release sample, .20, $p \leq .001$ for probationers, and .24, $p \leq .001$ for inmates.

Gender-Responsive Risk Scales

Scales described in this section reflect concerns put forward in the gender-responsive literature. Some of the scales noted below also appear on gender-neutral risk/needs assessments. However, we tested modifications believed to better fit women's needs. Most of the scales, however, are new to community and institutional risk assessment and to correctional treatment.

History of Mental Illness. When mental health is noted in correctional risk assessment, and most often it is not, scales attempt to screen for little else than whether or not there is a recorded history of medication, diagnoses, or hospitalization. Within the risk prediction research, it is also subsumed under a composite "personal distress" scale which merges several distinct mental health issues (e.g., low self-esteem, anxiety, depression, neuroticism, apathy) (Andrews et al., 1990; Gendreau et al., 1996; Law et al., in press; Simourd & Andrews, 1994). Gender-responsive research interprets this need as a possible sequela of trauma and abuse, as well as a facilitator of self-medicating behavior (Bloom et al., 2003; Covington, 2003).

Mental health questions were designed by mental health providers of the Missouri Department of Corrections, who requested that their mental health screening questions be incorporated into the women's assessment. Factor analysis identified three scales, one describing mental health history, another depression/anxiety, and a third, a two item scale

identifying symptoms of psychosis. The scales are intended to be screens that alert staff to the need for further assessment, if such mental health assessments have not already been conducted.

Items retained in the mental health history scale reflected whether offenders had ever attempted suicide, been involved in counseling/therapy, taken medication, seen things or heard voices, been hospitalized, or been diagnosed with mental illness. Alphas ranged from .79 to .81. Construct validity tests found strong correlations with symptoms of depression and psychosis (see Appendix B). The scale was collapsed into three categories for use on the prison risk scale in order to prevent its having an inappropriately high influence on the total risk scale. As subsequent analysis will reveal, it was not included on the risk scales for probation and pre-release samples.

Current Depression/Anxiety. This scale asked behaviorally-specific items to capture common symptoms associated with depression and anxiety. The final scale included six items (i.e., currently experiencing mood swings, loss of appetite, trouble sleeping, fearing the future, trouble concentrating, and difficulty functioning). This scale as well exhibited adequate alphas, .82 for inmates; .73 for pre-release participants and .83 for probationers. It was collapsed into three categories for inclusion on the prison risk scale.

Current Psychosis. Two items asked participants about whether they frequently imagined that others were out to harm them or heard voices or saw images that were not really present. Alphas are not appropriate for two-item scales; the items however, were strongly correlated. The construct validity tests were strong across all of the mental health scales (see Appendix B).

Relationship Conflict. The relationship conflict scale aimed to assess current conflict with women's significant others. Five items comprised the scale and reflected whether women's

relationships were conflictual most of the time and if problems ever resulted in physical violence. Additional questions asked specifically whether their significant other was involved in the current offense, had legal, substance abuse, or domestic violence problems, or had too much power over them. Low alphas reflected general difficulties securing information about women's intimate others (alpha = .66 prisons, .69 pre-release and .69 probation).[7] These difficulties are described in greater detail, below. Additionally, the scale was strongly associated with relationship support in all of the samples (correlations ranged from .48, $p \leq .001$, to .50, $p \leq .001$, suggesting that women with "supportive" relationships were also in conflictual relationships with antisocial partners. The finding underscores concern for the difficulties women offenders report forming healthy intimate relationships. As a result, we opted in this and our later studies to focus solely on the self-report, relationship dysfunction scale reported on next.

Relationship Dysfunction. For purposes of comparison, another relationship item was obtained through a self-report scale. This scale sought to identify women who were experiencing relationship difficulties resulting in a loss of personal power. A number of sources from the substance abuse literature use the term "co-dependency" to describe such difficulties (see Beattie, 1987; Bepko & Krestan, 1985; Woititz, 1983).

The 15-item, Likert-type questionnaire contained items which were influenced by, but not identical to, scales developed by Fischer, Spann, and Crawford (1991; Spann-Fischer Codependency Scale), Roehling and Gaumond (1996; Codependent Questionnaire), and Crowley and Dill (1992; Silencing the Self Scale). Factor analysis revealed that the factor accounting for the largest proportion of explained variance included six items pertaining to: (1) loss of a sense of self in relationships, (2) a tendency to get into painful, unsatisfying and unsupportive

[7] Interviewers, as well, noted confusion over who represented an intimate partner, and left items incomplete if they did not feel that the offender's interpretation of a significant other was warranted.

relationships, and (3) a greater tendency to incur legal problems when in an intimate relationship than when not in one. Alphas were as follows: .77 for inmates; .73 for offenders at pre-release; and .81 for probationers. The construct validity of this scale was strongly supported by negative correlations, ranging from -.38, $p \leq .001$, to -.42, $p \leq .001$, with a single items tapping relationship satisfaction.

Unsafe Housing. Unlike traditional measures of accommodation which are limited to issues of homelessness, number of residential moves and antisocial influences, this scale also measured safety and violence in the home. Factor analysis of seven questions pertaining to women's current housing situation revealed a safety factor comprised of between three to four items, depending on the sample. These items reflected whether women felt safe in their homes and neighborhoods, if home environments were free of violence and substance abuse, and housing stability. While an important variable from a predictive standpoint, alphas were limited (.61 for prisoners; .54 for prerelease women; and .51 for probationers). In another sense, however, the scale fits a pattern whereby scales with four or less items showed lower alphas. In fact, test-development researchers note that as the number of items in a scale decrease, alpha levels also generally decrease (Brown, 1998), a statistical artifact that certainly complicates efforts to create efficient assessments. Construct validity tests, however, supported the validity of this scale.

Parental Stress. With between 65 and 75 percent of women in each sample responsible for children under the age of 18, maternal issues clearly appeared relevant to these participants. Modifications were made to a 20-item, Likert-type scale developed by Avison and Turner (1986). Factor analysis revealed a single factor containing 12 items that identified women who were overwhelmed by their parental responsibilities. It included items pertaining to child

management skills and the extent of support offered by family members, including the child's father. Alphas were .82 for inmates, .79 for prerelease women and .83 probationers. Construct validity was less than ideal, with correlations ranging from .09, $p \leq .10$, to .40, $p \leq .001$. The scale was incorporated into the probation risk scale and was collapsed into 3 categories in the course of doing so.

It is important to stress that this scale was not considered to be indicative of bad parenting. The scale says nothing about parental affection, overly harsh disciplinary practices, or abuse; as such, it is not intended to inform child custody decisions in any way.

Child Abuse. Two measures were developed over the course of this research. One was a two item scale, where interviewers asked respondents whether they had ever experienced physical or sexual abuse as a child. It was a cumulative scale in that responses to both child physical and sexual abuse were summed. With only two items, no factor analyses or alpha reliabilities were created. However, construct validity coefficients were strong (r=.50, $p<.01$; r=.43, $p<.01$; r=.57, $p<.01$, for prison, pre-release, and probation samples, respectively).

The second scale was obtained through the self-report survey and asked women whether they had ever been subjected to specific abusive acts as a child—acts such as slapping, humiliation, threats, and many others. Items contained in both the child abuse and adult victimization scales (below) were informed by Belknap, Fisher, and Cullen (1999), Campbell, Campbell, King, Parker, and Ryan (1994), Coleman (1997), Holsinger, Belknap, and Sutherland (1999), Murphy and Hoover (1999), Rodenberg and Fantuzzo (1993), and Shepard and Campbell (1992). The survey scale was designed to reduce instances of underreporting, a common occurrence in the measurement of abuse/victimization. Underreporting occurs with official data, because few offenses come to the attention of the criminal justice system, and with self-report

data when victims are too uncomfortable talking about abuse or so familiar with maltreatment that they do not recognize their experiences as abusive (Browne et al., 1999).

The child abuse scale originally contained 38 behaviorally-specific items pertaining to abuse and victimization during childhood. Respondents were asked to mark one of three response choices for each of the items which included: (1) never, (2) less than five times, and (3) more than five times. Factor analysis of the items indicated a single factor which included 19 items. Alpha was .95, .94 and .95 for institutional, prerelease, and probation samples, respectively. The scale was only used for the prison risk scale; it was collapsed into two points for inclusion on the scale.

Adult Victimization. Interview questions on adult victimization comprised only two questions which were summed to create a cumulative scale. Women were asked whether they had ever experienced physical or sexual abuse as an adult. The scale was assumed to be more limited than the behavioral survey scales below. However, construct validity tests were adequate, ranging from a low of .49, $p<.01$ to a high of .68, $p<.01$.

The self-report survey allowed for a more through measure of adult abuse. As with the child abuse scale, this method was assumed to benefit from behavioral definitions of abuse and afforded privacy during the assessment process (Browne et al., 1999). The survey included a total of 52 items. Factor analyses produced three distinct factors, reflecting physical, emotional, and harassment forms of adult abuse. The adult physical abuse scale resulted in 15 items (alpha = .96 for prison .95 for prerelease; and .96 for probation). Adult emotional abuse consisted of 16 items reflecting jealousy, insults, and controlling behaviors. Alphas were .97 for each of the samples. Finally, adult harassment included 11 items (e.g., harassed you over the phone, harassed you in person, and followed you). Alphas were between .92 and .93 for the three

samples. The final risk scale utilizes only the scales depicting physical abuse (which includes sexual abuse).

Women's Strengths

Therapeutic, feminist, and correctional literatures and proponents of the notion of positive psychology (Seligman, 2002) find many advocating strong attention to the notion of client strengths (see also, Sorbello, Eccleston, Ward, & Jones, 2002; Van Wormer, 2001). In this regard, building from and fostering strengths is viewed as key to both well-being and behavioral change. In designing measures of such assets, we endeavored to tap domains put forward in the literature and in focus groups consulted prior to the study. The literature encouraged the conceptualization of strengths not merely as the absence of a risk factor but rather as the presence of a unique asset likely to play an important role in one's desistance from future offending (Morash et al., 1998; Prendergast et al., 1995; Schram & Morash, 2002). We do not exhaust the full array of such strengths (see, Ward & Brown, 2004) however, measures of self-efficacy, self-esteem, educational assets, family support, and relationship support were set forward as test variables. In the calculation of a final risk score, strengths were subtracted from the sum of risk factors.

Family Support. This scale included items reflecting good relationships with a woman's family of origin (with little conflict), much communication with family members who supported self-improvement and offered assistance in meeting the conditions of supervision (e.g., childcare, transportation, financial support, etc.). Alphas were .73 for inmates (5 items), .80 for pre-released women (4 items), and .73 for probationers (4 items). Construct validity tests produced

strong correlations with analogous measures. The scales were collapsed into three levels prior to incorporating it into the cumulative risk scale.

Relationship Support. The family support variable was distinct from support from an intimate partner. Eight interview items for the prison and pre-release samples and seven for the probation sample converged, with alphas ranging from .85 to .87. Questions tapped such issues as whether the intimate was a marital partner or lived with the participant when she was not incarcerated. The scale also depicted the duration of the relationship as well as and levels of satisfaction, conflict and support. Notwithstanding the high alphas, interviewers may have affected the validity of the scale by injecting their own (rather than the participant's) interpretation for whether or not the relationship was a "true relationship." As noted above, the fact that relationship support was highly correlated with relationship conflict (ranging from .48 to .50 across the samples) indicated that satisfying and supportive relationships for these women were far from being free of conflict, criminal influences, even abuse. These findings underscored the complexity of the women's intimate relationships, but not necessarily in ways that are inconsistent with the literature on women offenders (Belknap, 2007; Bloom et al, 2004; Covington, 1998).

Self-Esteem. The Rosenberg Self-Esteem Scale (Rosenberg, 1979) was used to measure this construct and consisted of ten items using a 3-point Likert-type answer format. This instrument has been widely used in the psychological literature and has shown strong psychometric properties (see Dahlberg, Toal, & Behrens, 1998; Rosenberg, 1979). Factor analysis revealed a single factor which retained all ten items, with alphas ranging from .89 to .90.

Self-Efficacy. The Sherer Self-Efficacy Scale (Sherer et al., 1982) is a 17-item scale using a 3-point Likert-type answer format. Similar to the self-esteem scale, the self-efficacy scale

retained all 17 items when subjected to factor analysis. The alpha reliabilities were high, ranging from .89 to .91. The scale was collapsed into two levels prior to its subtraction from the sum of all risk factors. The self-esteem and self-efficacy scales were strongly correlated (see Appendix B), above .60 in all of the samples. While such findings supported the construct validity of each scale they also questioning the utility of including both in the final strengths scale. The use of this measure in probation and pre-release tools required collapsing the item into 2 points.

Educational Assets. This scale was designed to measure educational accomplishments that factored heavily into personal success, and as such could be considered assets. While high school diplomas or the equivalent comprised one item on the scale, high scores were achieved by those with job-related licenses and certificates, involvement in post-secondary education, and the attainment of at least a college associate's degree. Alpha reliabilities were marginal, ranging from .62 to .64. The scale showed strong inverse correlations with educational needs, again questioning the need to focus on both in a risk scale (see Appendix B), but those findings along with correlations ranging from -.21, $p \leq .001$, to -.28, $p \leq .001$ with employment difficulties and from .32, $p \leq .001$, to .36, $p \leq .001$ with financial skills were indicative of the scale's construct validity.

Offense-Related Outcome Measures

Various measures of recidivism were solicited from the Research and Evaluation Unit of the Missouri DOC. These included data on technical violations, re-arrests, reconvictions, prison admissions, and prison misconducts (for the two institutional samples). After a review and analysis of each form of recidivism, it was determined that the present report would focus on

returns to prison and technical violations for pre-release and probation samples and prison misconducts for the prison samples.

Probationers. For the compilation of prison admission data, probationers were tracked for a total of two years beyond their initial participation in the study. These data were available for 304 (97.1 percent) of the participants. After 6-months, 13 women (4.3%) had been sent to prison. After one year, this number increased to 25 women (8.3%). Finally, after two years 52 women were incarcerated (17.1%). Fourteen of the 52 two-year prison admissions were for new offenses (26.9%).

Women were tracked for technical violations for up to 12-months after they completed the self-report survey. Fifteen women could not be tracked due to inaccurate DOC identifiers (N = 298). After 6-months, 40.3 percent of women had at least one technical violation (mean = 1.6), while 56.4 percent had at least one after 12-months (mean = 1.9).

Prison Inmates. Taking the prison sample as a whole, 129 out of 272 women had at least one serious misconduct after 6-months (47.4%); this increased to 141 women by the 12-month point (51.8%). Because the majority of inmates had been released by the 12 month time frame (71.7 percent), a 24 month follow-up period was not pursued. Notwithstanding the omission of the most minor infractions (e.g., violation of institutional rules and out of bounds), however, the misconducts committed by these women were minor. The findings must be viewed accordingly. For example, at the 12 month point, the most serious citations included: (1) 1 for minor assault; (2) 1 for possession of an intoxicating substance; (3) 1 for threatening behavior, and (4) 2 for sexual misconduct. Together these 5 women represented only 1.6 percent of the inmate population.

Pre-Release Inmates. Similar to the probation sample, women from the pre-release sample were tracked upon their release for technical violations and re-incarcerations. Technical violations were recorded for up to one year and reincarcerations were recorded for up to two years. Out of 150 pre-release women, 43.8 percent of women were returned to prison within two years of release. Only 13 percent, however, were re-admitted for new offenses. Technical violation data for 12 women were unavailable for various reasons (e.g., inaccurate DOC identifiers or missing from the data exchange between UC researchers and DOC staff). Out of 150 pre-release women, 61 (40.7%) incurred at least one technical violation after 6-months in the community (mean = 1.9). The number increased to 83 women (55.3%) after one year (mean = 2.5).

Analysis

The contribution of these items to a total risk assessment scale (risk score), involved analysis of bivariate correlations with the outcome measures, summing all factors that were significantly correlated with outcome, and analysis of the final risk scale for its validity as a prediction tool. Predictive validity was determined by measures of association appropriate to the data at hand, typically Pearson's r for total scale values, and Tau_c for assessments of collapsed risk levels. Additionally, the final scales were subjected to analyses of the Receiver Operating Characteristic (ROC) and the accompanying AUC (Area Under the Curve) statistic (see Swets, Dawes & Monahan, 2000; Quinsey, Harris, Rice & Cormier, 1998). Thus, two statistical values were determined; one (Pearson's r) served as a measure of the strength of the relationship between the risk scales and outcome measures (effect sizes); the other expressed a ratio of the "prediction hits" or true positives to false positives that was unaffected by base rates and selection ratios. Use of the AUC statistic is becoming common to prediction research and is

especially important to samples with low base rates. AUCs above .70 are considered acceptable for prediction research, values of .50 are considered to be no better than chance.

Prior to entering the predictors into a final scale, risk factors with wide ranges were collapsed. This was done with the following considerations in mind: (1) retaining a measure of association that was similar to the one for the correlation of the full scale with outcome; (2) fairness; we avoided situations where a single risk factor (e.g., mental health, or abuse) could have a disproportionate influence on the full scale; (3) proportionality with other risk factors; scales ranged from a low of 2 points to a high of 13 (criminal history); and (4) analysis of Receiver Operating Characteristics (ROC). More formal procedures for scale weighting and establishment of cut-points (e.g., Brennan, 2007) await the accumulation of larger samples.

Time was also devoted to detection of redundant variables in the selection of scales for the final, cumulative risk scale. This involved examination of correlation matrices, logistic and OLS regressions, and consideration for higher order factors.

In all of the sites, a combination of traditional risk factors and gender-responsive risk factors were significantly correlated with outcome measures at the bivariate level. The patterns of significant correlations varied somewhat across samples, so findings are discussed for each sample in turn.

Results for Probation Sample

Identification of Risk Factors

Table 3 shows bivariate correlations (Pearson r) (one-tailed) of the risk factors with correctional outcomes pertaining to technical violations and returns to prison. At the bivariate level, the highest correlates underscored the importance financial and employment issues, education (particularly educational assets), friends, housing safety, depression, substance abuse,

and parental stress. Strengths were also important, as shown by the results for educational assets, self-efficacy, and to a lesser extent, family support.

Contrary to the gender-responsive theories, abuse scales were not significantly related to returns to prison. We found this to be true in all but one of the NIC probation sites. In other respects these findings are consistent with gender-responsive perspectives, giving support to concerns regarding depression, parental stress, poverty, safety, substance abuse, family support, and self-efficacy.

It is noteworthy that criminal history, usually one of the mainstays of correctional risk assessments was significantly related to only one of the outcome variables (r= .10; $p \leq .05$). In comparable studies, criminal history typically was not the most meaningful predictor of correctional outcomes for women. Just the same, the correlations in other studies tended to be considerably higher than those noted for Missouri probationers (see Van Voorhis et. al., 2008).[8]

Findings for the Cumulative Risk Scales

Table 3 identifies a number of risk factors for consideration in a final risk scale. Before doing so, however, an analysis of interrelationships between the risk factors was conducted. First, a correlation matrix, Appendix C, found strong interrelationships between: (1) self-esteem and self efficacy, (2) educational strengths and educational needs; (3) depression and psychosis; (4) parental stress, self-efficacy, and self-esteem; and (5) depression/anxiety and self-esteem. Omitting self-esteem from the cumulative scale reduced some areas of potential redundancy.

[8] Missouri officials may wish to check the accuracy of prior history variables. In the case of the probation sample, prior incarcerations and prior felonies failed to correlate with the incarceration outcome variables. This is extremely unusual. We noted similar concerns when we attempted to collect follow-up variables for the samples. The scale may also have been marred by an atypically low proportion of females with prior prison histories. Whether by error, or not, only 3 percent of the probationers indicated prior prison terms. Additionally, we may have been remiss in not including "age at first offense" in the criminal history scale. Future versions of this instrument will do so.

Table 3: Bivariate Correlations (Pearson's *r*, one-tailed) Between Assessment and Survey Scales and Outcome Data, Probation Sample

	Technical Violations				Prison Admissions		
	6-month		12-month		6-month	12-month	24-month
Risk/Need Scales	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**Y/N**	**Y/N**
Assessment Interview							
Criminal History	.07	.02	.00	-.01	.10**	.05	.03
Antisocial Attitudes	.01	-.03	.04	-.06	.05	.04	.00
Family Conflict	.14**	.15**	.13**	.13**	.13**	.17***	.10**
Antisocial Friends	.20***	.15***	.17***	.17***	.02	.15***	.16***
Employment & Financial Difficulties	.30***	.20***	.31***	.28***	.15**	.19***	.23***
Educational Weaknesses	.07	.08*	.15***	.11**	.08*	.10**	.19***
Anger	.14***	.12**	.17***	.17***	.12**	.14***	.15***
Educational Strengths	-.18***	-.16***	-.22***	-.17***	-.05	-.09**	-.19***
Family Support	-.09*	-.07	-.05	-.01	-.12**	-.09*	-.08*
Parental Involvement	-.08	.00	.01	.04	-.02	-.04	-.07
Unsafe Housing	.08*	.03	.06	.06	.23***	.19***	.23***
History of Child Abuse	-.04	.03	-.05	-.02	.09*	.09*	.07
History of Adult Abuse	.06	.04	-.06	.00	.07	.05	.05
History of Mental Illness	-.02	.01	-.05	-.02	.05	.06	.06

Table Continues

Table 3: Bivariate Correlations (Pearson's *r*, one-tailed) Between Assessment and Survey Scales and Outcome Data, Probation Sample, continued

	Technical Violations				Prison Admissions		
	6-month		12-month		6-month	12-month	24-month
Risk/Need Scales	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**Y/N**	**Y/N**
Assessment Interview (continued)							
Current Depression & Anxiety	.20***	.16***	.15***	.18***	.13**	.20***	.18***
Current Psychosis or Suicidal	.12**	.10**	.11**	.06	.09*	.12**	.16***
Substance Abuse History	.11**	.08*	.10*	.09*	.04	.11**	.18***
Substance Abuse Dynamic	.18***	.17***	.17***	.19***	.09**	.17***	.21***
Self-Report Survey							
Relationship Dysfunction	.07	.05	.04	.07	.03	.02	.02
Self-Esteem	-.09*	-.06	-.06	-.09*	-.06	-.10**	-.08*
Self-Efficacy	-.13**	-.09*	-.21***	-.17***	.00	-.05	-.12**
Parental Stress	.06*	.04	.11**	.12**	.02	.03	.17***
Child Abuse	-.07	-.07	-.07	-.07	.01	-.02	.01
Adult Physical Abuse	-.01	.01	-.07	-.01	.01	-.02	-.01
Adult Emotional Abuse	-.03	-.04	-.08*	-.02	-.03	-.03	.00
Adult Harassment	-.04	-.04	-.06	-.05	-.02	.00	.02

"Y/N" indicates prevalence data; "N" indicates frequency (i.e., incidence) data. *p<.10, **p<.05, ***p<.01

Additionally, educational needs was not as potent a predictor as educational assets, so educational needs was also omitted. Interrelationships between parental stress and self-efficacy were reduced with the addition of non-parents into the variable, coded as zero. The high relationship between depression and psychosis was also worthy of note, but both were retained for further analysis, because they are potent predictors in other studies.

Multivariate analysis of all predictors noted in Table 3 found that self-esteem, and educational needs, could be removed from the total predictive model with little to no reduction in the model statistics. As shown in Table 4, a multivariate model containing all of the predictors shown in Table 3 was found to yield a significant model [X^2 (16)= 44.59, p=.001; Nagelkirke R^2 =.23]. Omission of self-esteem, and educational needs did not substantially reduce the model statistics [X^2 (14)= 43.21, p=.001; Nagelkirke R^2 =.22.]

Although the overall models were strong, Table 4 founds few of the individual predictors to be significant. This a common feature to prediction research and occurs with most of the extant dynamic risk/needs assessments (see Marczyk, Heilbrun, Lander, & DeMatteo, 2003). The lack of significance found for many of the risk factors in Table 4, is attributable to interrelationships among the risk factors that occur even when the previously noted variables were removed. One solution to this matter involved the creation of higher order factors which organized individual risk factors according to areas of commonality. This was executed through factor analysis, using a maximum likelihood extraction method and Oblimin rotation with Kaiser Normalization. Results were not optimal, but Table 5 shows a four factor structure showing the following combinations relevant to: (1) mental health, (2) family; (3) parental stress and anger as they relate to self efficacy and educational and economic resources; and (4) a factor relating substance abuse to antisocial associates.

Table 4: Logistic Regression: Incarcerations at Two Years on Probation Risk Factors.

Risk Factors	All Risk Factors			Reduced Model			Model for the Instrument		
	B	p	Exp(b)	B	p	Exp(b)	B	p	Exp(b)
Criminal history	.01	.95	1.01	.01	.95	1.009	.02	.90	1.02
Antisocial friends	.03	.79	1.03	.03	.84	1.03	.04	.72	1.05
Family conflict	-.02	.94	.98	-.03	.89	.97	-.10	.66	.91
Employment/financial	.14	.10	1.15	.15	.09	1.16	.14	.11	1.15
Anger	.02	.89	1.02	.01	.90	1.01	.00	.98	1.03
Housing safety	.52	.04	1.68	.49	.04	1.63	.47	.05	1.61
Depression/anxiety (symp.)	.09	.38	1.10	.06	.53	1.07	.03	.76	1.03
Psychosis (symp.)	.26	.51	1.30	.26	.49	1.30	.36	.35	1.43
Sub. abuse (history)	.07	.27	1.07	.06	.31	1.06	.06	.27	1.07
Current substance abuse	.21	.24	1.23	.23	.19	1.26	.22	.22	1.24
Parental stress	.04	.08	1.04	.04	.08	1.04	.52	.12	1.67
Educational challenges	.07	.73	1.07	--	--	--	--	--	--
Self efficacy	.01	.81	1.01	.03	.33	1.03	.36	.42	1.44
Self esteem	.06	.27	1.06	--	--	--	--	--	--
Family support	.08	.56	.68	-.08	.57	.92	-.52	.18	.60
Educational strengths	-.39	.06	.92	-.44	.01	.65	-.44	.01	.65
Constant	-4.71	.01	.01	-4.02	.03	.02	-2.42	.01	.09
	X^2 (16) = 44.56, $p \leq .001$ Nagelkerke R^2 =.23			X^2 (14) = 43.21, $p \leq .001$ Nagelkerke R^2 =.22			X^2 (14) = 43.45, $p \leq .001$ Nagelkerke R^2 =.22		

Table 5: Factor Analysis of Probation Risk Scales.

Risk Scales	Mental Health/Safety	Family	Parental Resp. Resources	Associates Sub. Abuse
Criminal History				.676
Antisocial Friends				
Employment/Financial			-.410	
Housing Safety	.373			
Depression Symptoms	.725		(-.391)	
Psychotic Symptoms	.711			
Anger	(.393)		-.408	.499
Substance Abuse History				
Current Substance Abuse				.482
Family Conflict		-.400		(.343)
Parental Stress			-.495	
Educational Assets			.374	
Family Support		.750		
Self-Efficacy			.582	

Extraction Method: Maximum Likelihood, Rotation: Oblimin with Kaiser Normalization
() Variable was not included in the factor because it achieved a stronger loading on another factors.

When the higher order factors were entered into a multivariate model, shown in Table 6, all but the substance abuse factor was significantly related to incarceration at the one-year point. However, findings did not hold when the effects of the factors on incarcerations at two-years was the dependent variable.[9] Analysis similar to these could perhaps be used to further reduce the number of variables, however, it would be more preferable to do so with some of the larger samples that are currently being studied.

Table 6: Regressions of Higher Order Factors on Incarcerations at 12 and 24 Months, Binary Logistic Regression, Probation Sample.

	Prison Admissions (Y/N) 12 Months			**Prison Admissions (Y/N) 24 Months**		
Higher Order Factors	**b**	**p**	**Exp(b)**	**b**	**p**	**Exp(b)**
(Criminal History)						
Associates/Substance Abuse	.04	.45	1.04	.06	.13	1.06
Mental Health/Safety	.16	.06	1.17	.10	.12	1.11
Family	.36	.09	1.44	.06	.72	1.06
Parental/Resources	.12	.08	1.12	.16	.00	1.17
Constant	-3.78	.00	.02	-2.86	.00	.06
	X^2 =22.75 (4), $p \leq .001$ Nagelkerke R^2=.17			X^2 =31.74 (4), $p \leq .001$ Nagelkerke R^2=.17		

Even so, it would be inappropriate to use results, such as those shown in Table 4 to reduce the predictors to a substantial degree. The reduced model in Table 4 would appear to suggest, given common understandings of multivariate research that only housing safety and educational assets need to be considered in a final prediction model. Doing so, however, ignores

[9] The multivariate analysis was not viable when criminal history was included in the model. However, as noted above, we are quite uncomfortable with the criminal history variable.

Table 7: Percent Technical Violations and Returns to Prison by Number of Assessed Risk Factors, Probation Sample.

	Technical Violations		Incarceration		
Number of Assessed Factors	**6 months**	**12 months**	**6 months**	**12 months**	**24 months**
0-2	24.6	41.7	0.8	3.4	7.6
3-4	43.8	60.3	2.7	5.3	12.0
5-6	45.9	60.7	3.2	4.8	22.6
7-8	57.5	75.0	15.4	28.2	41.0
9-11	100.0	100.0	20.0	30.0	40.0

the fact that two issues are influencing prediction. The strength of each predictor is certainly a consideration, but so is the *number* of predictors assessed for each offender. If we characterize offenders according to the number of assessed predictors present, as shown in Table 7, more than the 2 predictors appear to be at work. Recidivism clearly increased with the number of predictors present.

With the previous analysis in mind, a risk scale was created from eleven risk factors (e.g., criminal history, antisocial friends, unsafe housing, depression/anxiety symptoms, psychotic symptoms, history of substance abuse, current substance abuse, employment/financial, anger/hostility, family conflict and parental stress) and three strengths (e.g., family support, educational assets, and self-efficacy). Variables with longer-ranges were collapsed at points recommended by analysis of ROCs.[10] Bivariate correlations between this scale, with and without the strengths are shown in Table 8. The probation risk/needs instrument was the strongest of all developed over the course of this project. Correlations for the total instrument

[10] More elaborate weighting procedures will require larger samples.

(risk factors – strengths) (Pearson's r) were strong, ranging from r=.17, $p\leq$ .001 at 6 months to r=.32, $p\leq$ .001 for returns to prison at two years. Area under the curve (AUC) for returns to prison at two years was also quite strong (.74), 95% confidence interval (CI) $\pm$ 07.

The risk scale ranges from -4.00 to 40.00. Our analysis collapsed this scale into three risk levels corresponding to the following points: (1) low risk = -4.00 to 12; (2) medium risk = 13 to 24; (3) high risk = 25 and above. Recodes for the collapsed scales were informed through analysis of ROC curves. The distribution of probationers across each level is: (1) low risk = 56.2 percent; (2) medium risk = 33.5 percent; and (3) high risk = 10.2 percent. As noted in Table 8, the collapsed scores did not represent substantial departures in predictive validity from the original model. Of course the cut-points denoting these levels may need to be changed for purposes of resource allocation. Increases in technical violations and incarcerations across the levels are shown in Figure 1.

Figure 1. Correctional Outcomes (Percent Technical Violations at 12 mo. and Incarcerations at 24 mo.) by Risk

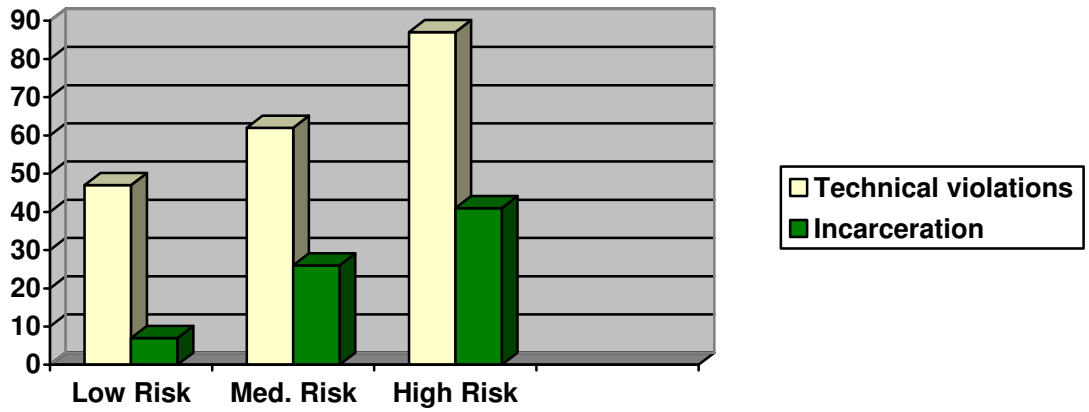


Table 8: Predictive Validity of Probation Risk Models.

	Technical Violations						Incarcerations					
	6 months			12 months			6 months		12 months		24 months	
	Y/N	AUC	N	Y/N	AUC	N	Y/N	AUC	Y/N	AUC	Y/N	AUC
Risk factors, alone	.28***	.66	.21***	.26***	.65	.25***	.17***	.75	.25***	.76	.30***	.72
Strengths, alone	-.22***		-.17***	-.25***		-.18***	-.10**		-.13***		-.22***	
Risk + Strengths	.30***	.67	.23***	.29***	.66	.27***	.18***	.76	.27***	.77	.32***	.74
Three Levels	.29***	.65	.21***	.25***	.62	.26***	.19***	.74	.27***	.75	.32***	.71

**p>.05, ***p>.01

The instruments developed for the probation sample include an interview (Appendix D), a survey (Appendix E), and a scoring form (Appendix F). They receive further discussion in one of the concluding sections of this report which discusses implementation considerations.

Results for the Prison Samples

Identification of Risk Factors

Bivariate correlations (Pearson's *r*) between risk/need scales and institutional misconducts for the total prison sample (all inmates) and for the general and treatment populations are presented in Table 9. Beginning with the traditional, more gender-neutral scales, it was clear that criminal history, antisocial attitudes, family conflict, and anger were all quite predictive of institutional misconducts.[11] When reviewing the correlations for the separate prison samples, criminal history was predictive of misconducts in both the general and treatment prison samples, however this was not the case with antisocial attitudes, and family conflict—these scales were only relevant to women under a treatment prison sentence. Anger was more predictive of the misconducts of women under general prison sentences than those with treatment sentences (i.e., shorter-term sentences).

Results for substance abuse scales were somewhat disappointing. The static scale was predictive of institutional misconducts among women in the general population, but not in the treatment population. Current substance abuse was not correlated with prison misconducts in either sample. The results may be attributable to good management of substance-related prison

[11] The misconduct outcome variables, excluded misconducts for minor violations of institutional rules and being out of bounds. The inclusion of minor misconducts would have introduced considerable "noise" into the outcome variables and would have attenuated research findings (Van Voorhis, 1994a). This decision was made in all of the NIC prison classification studies conducted by the lead author and is common to other classification research.

Table 9: Bivariate Correlations (Pearson's *r*, one-tailed) Between Assessment and Survey Scales and Prison Misconduct, Prison Samples.

	All Inmates				General Sample				Treatment Sample			
	6 months		12 months		6 months		12 months		6 months		12 months	
Assessments and Subscales	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**N**
Interview Scales		N = 272										
Criminal History	.16***	.12**	.17***	.21***	.11*	.09	.12*	.21***	.21***	.12	.19**	.14*
Criminal Attitudes	.18***	.16***	.15***	.14**	.08	.12*	.03	.11*	.31***	.18**	.29***	.12
Family Conflict	.09*	.19***	.10*	.17***	-.01	.05	.01	.08	.25***	.45***	.24***	.37***
Antisocial Friends	-.01	-.02	-.02	-.02	.03	.06	.04	.06	-.07	-.16*	-.09	-.14*
Employment/Financial	.07	.10**	.05	.08*	.03	.10*	.01	.09	.15*	.13*	.13*	.11
Educational Challenges	.04	.04	.02	.03	.05	.08	.01	.03	.03	-.03	.05	.05
Anger	.09*	.12**	.06	.13**	.16**	.20***	.13**	.21***	-.02	-.01	-.03	.01
Educational Strengths	.00	-.02	.01	.04	-.01	.00	.02	.08	-.03	-.09	-.05	-.09
Family Support	-.14***	-.20***	-.11**	-.20***	-.13**	-.12**	-.08	-.15**	-.12	-.32***	-.11	-.27***
Parental Involvement	-.04	.02	-.01	.01	-.16**	-.03	-.11	-.05	.19**	.10	.19**	.13
Unsafe Housing	.03	-.01	.02	-.02	.04	-.04	.05	-.04	.06	.05	.04	.04
History of Child Abuse (Int.)	.13**	.22***	.11**	.24***	.10*	.22***	.05	.25***	.14*	.19**	.17**	.19**
History of Adult Abuse (Int.)	.07	.10**	.07	.11**	.06	.11*	.02	.12*	.00	-.01	.04	-.02
History of Mental Illness	.11**	.12**	.13**	.19***	.18***	.16**	.20***	.25***	-.03	.03	-.01	.05
Current Depression/Anxiety	.14**	.20***	.13**	.23***	.19***	.25***	.19***	.27***	.10	.15*	.08	.20**
Current Psychosis	.19***	.26***	.17***	.31***	.19***	.27***	.16**	.30***	.20**	.26***	.19**	.37***
Substance Abuse History	.06	.05	.09*	.07	.13**	.10*	.18***	.14**	-.05	-.05	-.04	-.04
Current Substance Abuse	-.05	-.07	-.06	-.07	-.01	-.04	-.01	-.05	-.04	-.07	-.05	-.03

Table Continues

Table 9: Bivariate Correlations (Pearson's *r*, one-tailed) Between Assessment and Survey Scales and Prison Misconduct, Prison Samples, Continued.

	All Inmates				General Sample				Treatment Sample			
	6 months		12 months		6 months		12 months		6 months		12 months	
Assessments and Subscales	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**N**
Self-Report Survey Scales		N = 272										
Self-Esteem	-.05	.00	-.05	-.05	-.03	-.02	-.04	-.08	-.04	.07	-.03	.05
Self-Efficacy	-.03	.00	-.06	-.05	-.02	-.04	-.07	-.12*	-.03	.09	-.04	.07
Parental Stress	.11**	.12**	.12**	.13**	-.13*	.16**	.13*	.17**	.05	.01	.05	.00
Parental Stress (0)	.05	.05	-.01	.04	.02	.04	-.06	.02	.06	.06	.04	.03
Relationship Dysfunction	.10**	.03	.09*	.06	.09	.05	.07	.08	.10	-.02	.08	-.04
Childhood Abuse	.18***	.22***	.16***	.20***	.17***	.22***	.12*	.19***	.19**	.21**	.23**	.23**
Adult Emotional Abuse	.08	.07	.06	.07	.09	.08	.06	.09	-.01	.00	-.01	-.06
Adult Physical Abuse	.03	.04	.04	.04	.02	.05	.01	.04	-.02	-.03	.01	-.03
Adult Harassment	.07	.08*	.03	.06	.07	.13**	.00	.10*	.02	-.05	.01	-.09

adjustment difficulties. In fact, there were very few citations for use of controlled substances. Just the same, these findings for the static scale run counter to findings for other prison studies. Scales measuring socioeconomic status were more critical in predicting community (probation and parole) outcomes than institutional ones. In all likelihood, this is the result of prison environmental influences; socioeconomic considerations clearly are not as problematic in prison as in day-to-day community life. Similarly, housing safety was not relevant to the prediction of prison misconduct.

Examination of the gender-responsive scales found strong correlations between three mental health scales (history, current symptoms of depression, and current symptoms of psychosis) and misconducts. Results were more pronounced for the general population sample than for the treatment sample, and mental health history was not predictive of any of the outcomes for the treatment sample. On a related note, correlations between child abuse and prison misconducts were strong, regardless of measure or sample. Similar findings are noted in all of the NIC women's prison studies conducted to date.

The interview originally incorporated measures of relationship conflict and relationship support. These were not included in subsequent analyses, because, as noted earlier, a positive correlation between the two found women who viewed their relationships to be supportive also scored high on the relationship conflict scale. While complicating the task of incorporating relationship measures into women's correctional assessments, the finding nevertheless may accurately describe these relationships. Our solution to the matter found the relationship dysfunction scale of the survey to be a meaningful measure in most samples. As noted in Table 9, however, the measure was not related to prison misconducts in Missouri, except in the case of

the relationship between relationship dysfunction and whether or not a misconduct had occurred at 6 months following prison intake (r =.10, $p \leq .05$).

Other types of relationship measures, however, are important to note. First, family support was shown to be correlated across most of the misconduct measures, suggesting its importance to women's resilience. Overall, this result generally appeared to be consistent across both samples. Consistent findings for family conflict are noted in the general sample and the treatment sample; women from more conflictual and disengaged families were more likely to be involved in prison misconducts.

Parental factors were important to a degree, but not as strongly as one might expect on the basis of the probation findings. For the 75 percent of women inmates who were mothers of dependent children, parental involvement was negatively related to prison misconducts among women under general sentences (less involved parents incurred more misconducts). However, the opposite occurred for women in the treatment sample. The parental stress scale formed from survey items proved more promising, especially among women in the general population. When non-parents were coded as zero on the scale, however, it was not predictive and therefore could not be further considered in the development of the risk scale.[12]

Additional gender-responsive measures pertaining to self-esteem, self-efficacy, and adult forms of victimization were not predictive of prison misconducts in either of the Missouri samples.

Findings for the Cumulative Risk Scales

Assembly of the key predictors into a useful risk assessment tool required, first examination of the array of potential risk factors for areas of redundancy. This was conducted

[12] Parental stress is nevertheless measured and included within a section of the assessment reserved for other needs.

through bivariate and multivariate analyses. First, a correlation matrix of all of the scales (Appendix G) found expected strong correlations between family conflict and family support, educational challenges and educational assets, and self-esteem and self-efficacy. Only the two family variables were important, in this regard, because the others were not predictive of outcome. Multivariate analysis (Table 10) further underscored the need to exclude family conflict and retain family support in the strengths section of the assessment.

Table 10 shows further that the models were predictive of the misconducts committed by female offenders over a 12 month time frame---$R^2 = .23$, $p \leq .001$ for prediction of the number of misconducts, and Negerlkerke $R^2 = .15$, $p \leq .001$ for the prediction of whether or not there was a misconduct during the 12 month time frame. In the reduced models shown on Table 10, scales pertaining to mental health history, depression, psychosis, substance abuse, child abuse, and family support, were collapsed into the number of categories used in the final cumulative scales, and results were consistent with those shown in the models for the uncollapsed scales (shown under All Risk Factors). Recodes for the collapsed scales were informed through analysis of ROC curves.

Again, however, multicollinearity between the risk factors appeared to be influencing outcomes for several of the needs considered to be worthy of intervention. On the bases of the multivariate models, shown in Table 10, we would appear to have only four needs predictive of prison adjustment----criminal history, depression, psychosis, and child abuse. As noted in Table 11, however, consideration of the *number* of risk factors determined to be problematic for each

Table 10: Logistic Regression of Misconducts at 12 Months on Prison Risk Factors.

Risk Factors	All Risk Factors					Reduced Model For Instrument				
	(Y/N)			(N)		(Y/N)			(N)	
	B	p	Exp(b)	B	p	B	p	Exp(b)	B	p
Criminal History	.20	.01	1.22	.22	.00	.21	.01	1.22	.21	.01
Antisocial Attitudes	.11	.12	1.11	.06	.39	.10	.14	1.10	.05	.48
Family Conflict	-.03	.90	.97	-.01	.99	--	--		--	--
Anger	-.05	.63	.96	-.01	.88	-.05	.57	.96	-.01	.93
Mental Health History	.01	.95	1.00	-.02	.87	.08	.70	1.08	.01	.99
Current Depression/Anxiety	.09	.21	1.10	.15	.01	.27	.16	1.30	.17	.00
Current Psychosis	1.33	.04	3.79	.28	.00	1.26	.04	3.56	.27	.00
Substance Abuse History	.01	.76	1.01	-.04	.85	.00	.98	1.00	-.04	.94
Child Abuse	.03	.06	1.03	.14	.02	.40	.04	1.49	.17	.00
Family Support	-.05	.71	.96	-.09	.24	-.20	.31	1.82	-.09	.01
Constant	-.87	.17	.44			-.54	.27	.59		
	X^2 (10) = 29.39, $p \leq .001$ Nagelkerke R^2 =.14			MR=.46 R^2 =.21, p≤.001		X^2 (9) = 32.64, p≤.000 Nagelkerke R^2 =.15			MR=.48 R^2 =.23, p≤.001	

offender showed the importance of accommodating more than a four-variable prediction model.[13]

Table 11: Percent Misconducts at 6 and 12 Months by Number of Assessed Risk Factors, Prison Samples.

	Misconducts 6 Months		Misconducts 12 Months	
Number of Assessed Needs	**N**	**Percent**	**N**	**Percent**
0-2	141	35.5	141	39.7
3-4	96	55.2	96	60.4
5-6	31	74.2	31	77.4
7	3	100.0	3	100.0

It is also important to note that the multicollinearity suggested in Table 10 was the likely result of the underlying factor structures between the variables in the model. When we examine the factor structure of these variables (Table 12), we find that the predictors form three key factors; (1) criminal history (alone); (2) mental health (anger, psychosis, depression, mental health, substance abuse); (3) family (mostly) (attitudes, child abuse, and family support). Shown in Table 13, the three broader factors do in fact make distinct and significant contributions to the prediction of prison adjustment and reduced the mandate to pay overly strict adherence to certain types of multivariate analyses in the course of constructing these assessments.

The final recommended risk scale adds all of the variables contained in the factors analyzed above (criminal history, attitudes, anger, mental health history, depression, psychosis, substance abuse history, child abuse) and subtracts family support. Variables with longer-ranges

[13] An inmate was determined to have a risk factor present on a specific needs scale when her score surpassed a point on the scale which corresponded to positive predictions on ROC scales. In other words when the score reached a point which began to show greater likelihood of outcome behaviors than lower scores.

Table 12: Factor Analysis of Institutional Risk Scales

Risk Scales	Mental Health	Family Support/ Child Abuse	Criminal/ Substance Abuse
Criminal History			.999
Attitudes		-.235	
Child Abuse		-.445	
Family Support		.530	
Anger	.543		
Psychotic Symptoms	.416		
Depression/Anxiety Symptoms	.543		
Mental Health History	.609		
Substance Abuse History	.321		

Extraction Method: Maximum Likelihood, Rotation: Oblimin with Kaiser Normalization.

were collapsed at points recommended by analysis of ROCs.[14] Results for the summed scales are shown in Table 14. Results are adequate, but we would have preferred AUC values to be at .70 or higher. Nevertheless the values are well within results typically achieved in correctional prediction research.

Table 13: Regressions of 12 Month Prison Misconducts on Higher Order Factors, Binary Logistic Regression, Prison Sample.

	Misconducts (Y/N)		Misconducts (N)
Risk Factors	**b**	**Exp(b)**	**B**
Criminal History	.17**	1.18	.17***
Mental Health	.10**	1.11	.23***
Family/Child Abuse	.14**	1.15	.13**
	X^2 =18.66 (3) Nagelkerke R^2=.09		MR=.33 R^2 = .11, $p\leq$.001

[14] More elaborate weighting procedures will require larger samples.

Table 14: Predictive Validity of Prison Risk Models.

	Misconducts 6 Months			Misconducts 12 Months		
Risk Models	**N**	**Y/N**	**AUC**	**N**	**Y/N**	**AUC**
Risk Factors, Alone[a]	.29***	.29***		.35***	.27***	
Strengths (family support)	-.12***	-.13***		-.16***	-.13**	
Risk – Family Support	.31***	.30**	.67	.36***	.29***	.66
Three Levels[b]		.28***	.65		.28***	.64

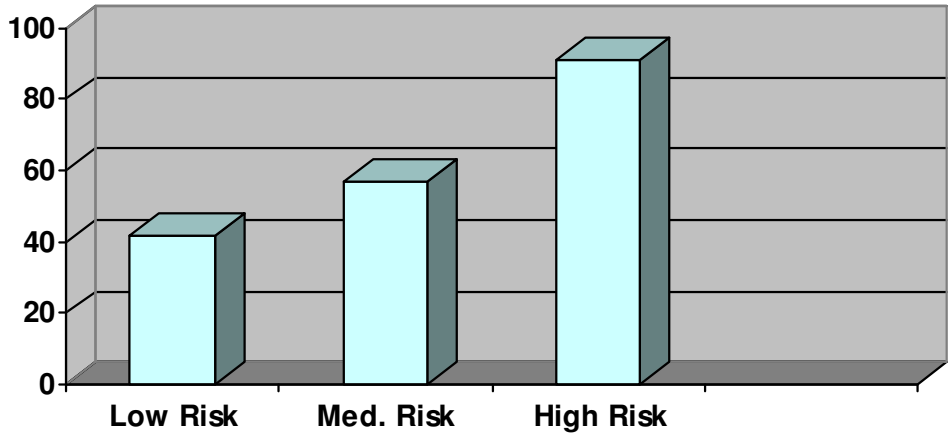
**p>.05, ***p>.01

[a] Risk factors = Criminal history, attitudes, anger, mental health history, depression/anxiety (symptoms), psychosis (symptoms), substance abuse history, and child abuse.

[b] Correlation is Tau $_b$

The continuous risk scale was collapsed into three levels informed by examination of ROCs. As with the probation risk levels, officials may wish to change these cut points (within appropriate consideration for maintaining validity) to meet such resource considerations as bed space and staff allocations. The levels correspond to the following scores: (1) minimum (-4 through 8); (2) medium (9 through 13); (3) maximum 14 and above. Figure 2 shows the misconduct rates for each level.

Figure 2. Correctional Outcomes (Prison Misconducts at 12 mo.) by Risk Level.



Using these cut points, the following groups were created among inmates in the general population: (1) Low risk = 57.9%; (2) medium risk = 29.8%; and (3) high risk = 12.3%. Distributions for the treatment sample were: (1) Low risk = 63.0%; (2) medium risk = 26.0%; and (3) high risk = 11.0%.

The inmate interview, resulting from these analyses, appears in Appendix H. The survey is the same for probation, prison, and pre-release populations. It appears in Appendix E. The scoring form for the inmate population is located in Appendix I. If officials wish to adopt the instruments for reclassification purposes, an item depicting misconducts since the last review should be added to the instrument. Cut-points will need to be reset for reclassification purposes.

Before leaving the topic of the institutional instrument, these analyses identified some concerns that have implications beyond classification policy per se. First, the misconduct curve reflects minor incidents, even when we omitted the least serious citations for minor violations of institutional rules and being out of bounds. Correlations to minor infractions tend to be weaker than those to more serious ones, because they reflect staff behavior as well as the behavior of inmates. (e.g., see Van Voorhis, 1994a; 1994b; Poole & Regoli, 1980).

Second, although the misconduct set for this sample reflects minor incidents, the proportions of inmates with at least one misconduct are somewhat high in comparison to other states. Minor misconducts vary considerably across institutions and can be indicative of organizational and staff cultures (Poole & Regoli, 1980). The high proportions coupled with the minor nature of these incidents may indicate that the facilities are excessively relying upon citations to manage inmates. This practice will tend to inflate reclassification scores if the facility continues to factor incidents in its reclassification models.

Third, the other NIC prison studies found relationship dysfunction and substance abuse to be more predictive of prison misconducts than we see in this study. As shown in Appendix I, these two factors appear in Section IV of the score sheet, in a section where needs which are not risk factors are listed. Future tests of this model should reexamine whether relationship dysfunction and substance abuse warrant later inclusion in the risk scale.

Finally, although, findings for mental health and child abuse are consistent with those for other institutional samples in the NIC research, the strength, potency, and consistency of these predictors was alarming. They findings warrant the attention of Missouri policy makers and administrators.

Results for the Pre-release Samples

The task of constructing a risk/needs instrument for women in prerelease settings was complicated by a number of factors. Ideally, such a tool would serve both the function of determining community risk, or risk of recidivism upon release, as well as identification of issues or needs that were likely to bring women back into the system. In this way, the tool was intended to facilitate pre-release planning by helping case managers identify and intervene with risk factors that were likely to cause problems upon release. Two shortcomings occurred with

this part of the project that did not occur with the probation and prison samples. First, concerns with the quality of the interview and surveys administered at pre-release were raised early in the project, but not in time to administer a new set of assessments. Second, and more important, pre-release risk/instruments contain a number of predictors that are not appropriately proximate to outcome. A number of the risk/needs factors, measured in prison, are likely to change upon release. Questions asked about pre-prison status; answers, to these questions may not reflect the realities of post-prison environments and conditions.

Table 15 shows bivariate correlations between the assessment scales and two forms of recidivism, technical violations and returns to prison. As typical with most follow-up studies, findings are somewhat stronger at 12 and 24 month periods than at 6 months post-release. It should also be noted that most inmates were in community residential centers for most of the 6 month follow-up period and not in more independent settings until later. The 12 and 24 month follow-up data better captures their performance while living independently or with their families.

Table 15 suggests the importance of economic and educational issues along with anger, mental health (primarily psychotic symptoms) and substance abuse. Family support (family of origin) was a major source of resilience, and educational assets (licenses and college degrees) appeared to facilitate successful community adjustment. Table 15 shows no results for the parenting variables, parental stress and parental involvement, but these variables along with parental custody status may have changed considerably upon return to the community. The observation of a significant relationship between adult physical abuse and technical violations

Table 15: Bivariate Correlations (Pearson's *r*, one-tailed) Between Assessment and Survey Scales and Outcome Data, Prerelease Sample.

	Technical Violations				Prison Admissions		
	6-month		12-month		6-month	12-month	24-month
Risk/Need Scales	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**Y/N**	**Y/N**
Assessment Interview							
Criminal History	.03	.11*	.05	.23**	.01	.12*	.16**
Antisocial Attitudes	.02	.01	-.05	-.01	-.02	-.04	-.11*
Family Conflict	-.07	-.13*	-.07	-.19**	.00	.07	-.03
Antisocial Friends	-.09	-.07	.02	-01	-.03	.07	.13**
Employment & Financial Difficulties	.07	.04	.10	.06	-.04	.15**	.10
Educational Challenges	.09	.08	.20***	.15*	-.02	.13*	.11*
Anger	.11*	.02	.08	..03	.14**	.15***	.15**
Educational Strengths	-.19***	-.15**	-.26***	-.19**	.02	-.13**	-.20***
Family Support	-.12*	-.05	-.11*	-.02	-.10	-.14**	-.15**
Parental Involvement	.08	.04	.09	-.01	.07	.03	.06
Unsafe Housing	-.09	-.05	-.04	-.00	-.10	-.02	-.02
History of Child Abuse	-.09	-.10	-.01	-.04	-.05	.06	.04
History of Adult Abuse	.14**	.13*	.14**	.13*	.14**	.13*	.18**
History of Mental Illness	.12*	.11*	.07	.09	.01	.08	.03

Table Continues

Table 15: Bivariate Correlations (Pearson's *r*, one-tailed) Between Assessment and Survey Scales and Outcome Data, Prerelease Sample, continued.

	Technical Violations				Prison Admissions		
	6-month		12-month		6-month	12-month	24-month
Risk/Need Scales	**Y/N**	**N**	**Y/N**	**N**	**Y/N**	**Y/N**	**Y/N**
Assessment Interview (continued)							
Current Depression & Anxiety	.03	.04	-.03	.01	.02	.11*	.02
Current Psychosis	.03	.05	-.01	.10	.00	.22***	.14**
Substance Abuse History	.08	.15**	.09	.21***	.13*	.16**	.20***
Substance Abuse Dynamic	-.01	-.05	-.01	-.06	.02	.00	-.01
Self-Report Survey							
Relationship Dysfunction	-.02	-.03	-.00	-.06	.01	-.09	-.00
Self-Esteem	.07	.09	.13**	.14**	.04	.07	.07
Self-Efficacy	-.03	-.05	.06	.03	.00	-.05	-.12**
Parental Stress	.07	-.01	.03	-.08	.03	.00	.05
Child Abuse	.01	-.04	.00	-.01	.10	.08	.07
Adult Physical Abuse	.08	.05	.03	.00	.07	.02	.12*
Adult Emotional Abuse	.04	.01	.02	.00	.00	-.02	.07
Adult Harassment	.11*	.06	.07	.07	.03	.00	.10*

"Y/N" indicates prevalence data; "N" indicates frequency (i.e., incidence) data. *p<.10, **p<.05, ***p<.01

and returns to prison was seen in another study of post-release inmates (see Salisbury et al., forthcoming) but not among prisoners or probationers.

Concern for the quality of the pre-release assessments was allayed somewhat, with the analysis of a second, post-release cohort. At our final follow-up data collection point, 244 of the participants in the prison samples had been released to community. An analysis similar to that shown in Table 15 was conducted. These findings must be viewed with caution since the time, intervening between the interview and the follow-up period was greater than for the other samples, thereby further threatening the attenuation of correlations between dynamic variables and outcome variables.[15]

Even so, we see that a similar pattern of findings is shown in Table 16. Again, factors associated with returns to prison included financial/employment problems, anger, substance abuse, mental health problems, and educational challenges. Antisocial friends, criminal history, and antisocial attitudes were not as important (for both samples) as we would expect on the basis of findings for male offenders. Family support and self-efficacy were again found to be important strengths that reduced recidivism. History of being victimized as an adult was modestly associated with returns to prison, but only for the interview scale and not the survey scale.

Findings for Cumulative Risk Scales

As with the probation and prison samples, analyses of potential sources of multicollinearity were conducted prior to constructing a full scale. This process began with an examination of a correlations matrix of all variables found to be significantly related to returns to prison. The matrix, shown in Appendix J, identified only one excessively high bivariate

[15] The 6, 12 and 24 follow-up data counts from prison release and not from the date of the assessment as with the other samples.

Table 16: Bivariate Correlations (Pearson's *r*, one-tailed) Between Assessment and Survey Scales and Outcome Data, Prison Sample Upon Release.

	Prison Admissions		
	6-month	12-month	24-month
Risk/Need Scales	**Y/N**	**Y/N**	**Y/N**
Assessment Interview			
Criminal History	.11**	-.03	.05
Antisocial Attitudes	.01	.03	-.01
Family Conflict	.08	.00	.00
Antisocial Friends	.06	.05	.14**
Employment & Financial Diff.	.11**	.08	.23***
Educational Challenges	.12**	.18***	.12**
Anger	.14***	.19***	.11**
Educational Strengths	-.12**	-.15**	-.15**
Family Support	-.18***	-.15***	-.09*
Parental Involvement	-.05	-.02	.06
Unsafe Housing	-.01	-.01	.01
History of Child Abuse	.03	-.05	.02
History of Adult Abuse	.12**	.06	.08*
History of Mental Illness	.15**	.12**	.09
Current Depression & Anxiety	.09*	.09*	.00
Current Psychosis	-.04	.02	-.07
Substance Abuse History	-.01	.03	.12**
Substance Abuse Dynamic	-.02	.02	.08*

Table Continues

Table 16: Bivariate Correlations (Pearson's *r*, one-tailed) Between Assessment and Survey Scales and Outcome Data, Prison Sample Upon Release, continued.

	Prison Admissions		
	6-month	12-month	24-month
Risk/Need Scales	**Y/N**	**Y/N**	**Y/N**
Self-Report Survey			
Relationship Dysfunction	-.01	-.03	-.07
Self-Esteem	-.02	-.07	-.07
Self-Efficacy	-.08*	-.17***	-.21***
Parental Stress	.02	.07	.08
Child Abuse	.03	.01	-.04
Adult Physical Abuse	.04	-.02	.03
Adult Emotional Abuse	-.02	-.01	.00
Adult Harassment	-.03	.00	-.04

"Y/N" indicates prevalence data, percent with a return to prison.
*p<.10, **p<.05, ***p<.01

relationship, the relationship between educational challenges and educational assets (*r= -.59, p≤..001*). As a result, it was decided that educational issues would be tapped in a manner similar to the structure of the probation instrument. That is, educational assets would be seen as a strength in the risk calculation, and educational challenges would be assessed and noted within the section for "other needs."

The second section of this analysis entered the remaining variables of interest into a multivariate model, shown in Table 17. The reduced model collapsed two of the strength variables, self-efficacy and family support into 2 point and 3 point variables, respectively, and the 15 point substance abuse scale into 4 points. Results for all models were strong, especially at the 24 month follow-up periods (*Nagelkerke* R^2 *= .22, p≤ .01*, for the full model, and *.27, p≤ .01* for the reduced model). Even so, very few risk factors reached significance, suggesting once again, that the analysis was impacted by the underlying structure of interrelationships among variables. Multivariate analyses such as the ones shown in Tables 17 (below) and earlier in Tables 4 and 10 are too conservative for identifying needs to include in a cumulative scale containing variables which are all interrelated to some degree.

To illustrate, the standard interpretation that only 4 variables (see Table 17) need to be considered in a risk instrument for pre-release clients was unwarranted once consideration was afforded the importance of the number of risk factors assessed for each offender. Table 18 shows that returns to prison increase beyond the point of a 4-variable instrument. For example, offenders with 9 to 11 risk factors had a 24-month return to prison rate of 82 percent. Thus, even variables found to be insignificant once multivariate analysis was conducted nevertheless contributed to the predictive validity of the cumulative scale.

Table 17: Logistic Regression of Returns to Prison at 12 and 24 Months on Pre-Release Risk Factors.

	All Risk Factors						Reduce Model					
	12 Months (Y/N)			24 Months (Y/N)			12 Months (Y/N)			24 Months (Y/N)		
Risk Factors	**B**	**p**	**Exp(b)**	**B**	**p**	**Exp(b)**	**B**	**p**	**Exp(b)**	**B**	**p**	**Exp(b)**
Criminal History	.07	.29	1.08	.10	.13	1.11	.08	.28	1.08	.11	.13	1.11
Antisocial Friends	-.04	.74	.96	.04	.72	1.04	-.01	.96	1.01	.10	.43	1.10
Employment/Financial	.05	.68	1.05	-.06	.66	.95	.05	.71	1.05	-.08	.52	.93
Anger	.32	.09	1.38	.38	.04	1.47	.42	.04	1.52	.48	.02	1.62
Adult Victimization	.39	.41	1.47	.79	.07	2.24	.55	.26	1.74	1.05	.02	2.88
Psychosis (symptoms)	1.05	.10	2.86	.49	.41	1.73	.50	.44	1.64	-.14	.82	1.87
Substance Abuse History[a]	.09	.07	1.09	.09	.05	1.09	.24	.11	1.27	.24	.01	1.26
Educational Strengths	-.14	.40	.87	-.34	.04	.71	-.17	.34	.85	-.38	.03	.68
Family Support[b]	-.21	.09	.81	-.21	.09	.82	-.57	.05	.57	-.44	.11	.65
Self-Efficacy[c]	.02	.59	1.02	.03	.37	1.03	-.06	.89	.95	.00	.99	1.00
Constant	-2.33	.17	.10	-2.38	.21	.11	-2.20	.02	.11	1.71	.14	.18
	X^2 (10) = 20.23, $p \leq .05$ Nagelkerke R^2 =.18			X^2 (10) = 27.39, $p \leq .01$ Nagelkerke R^2 =.22			X^2 (10) = 24.93, $p \leq .01$ Nagelkerke R^2 =.22			X^2 (10) = 32.11 $p \leq .001$ Nagelkerke R^2 =.27		

[a] Substance abuse scale is collapsed into 4 categories.
[b] Family support scale is collapsed into 3 categories.
[c] Self-esteem scale is collapsed into 3 categories.

Table 18: Percent Returns to Prison at 12 and 24 Months by Number of Assessed Risk Factors, Pre-Release Sample.

	Returns to Prison		
Number of Assessed Risk Factors	**6 Months**	**12 Months**	**24 Months**
1-3	5.3	5.3	10.5
4-6	12.2	23.2	39.0
7-8	23.7	47.4	55.3
9-11	27.3	72.7	81.8

When the analysis further tested for the existence of higher order factors, two were identified through factor analysis. As shown in Table 19, factor analysis (maximum likelihood extraction, and oblimin rotation with Kaiser normalization) identified one factor that combined antisocial associates with history of substance abuse, and another which depicted financial and emotional wellness (a combination of anger, employment/financial, self-efficacy, and educational strength scales). The other measures either failed to load on any factor or produced single loadings with eigenvalues that did not surpass 1.00.

Reconstruction of the multivariate model to incorporate higher order factors is shown in Table 20. At the 24 month follow-up time frame, two of the three measures remained insignificant, even though one (family support) evidenced a strong beta value. Moreover, the beta for adult victimization was much stronger than expected, and the scale for psychotic symptoms was not stable from the 12 to the 24 month time periods. The overall model statistics were adequate, but predictive values for two scales net of other factors were unstable. Likely the limited statistical power of multivariate models for a sample of 150 offenders also complicated this task.

Table 19: Factor Analysis of Institutional Risk Scales

Risk Scales	AS Friends/Substance Abuse	Financial/Emotional Wellness	Family Support	Abuse
Criminal History				
Antisocial Friends	.401			
Substance Abuse History	.985			
Family Support			.606	
Anger		.309		
Psychotic Symptoms				
Employment/Financial		.631		
Self-Efficacy		-.342		
Educational Strengths		-.345		
Physical/Sexual Abuse (Adult)				.463

Extraction Method: Maximum Likelihood, Rotation: Oblimin with Kaiser Normalization.

Table 20: Regressions of 12 and 24 Month Returns to Prison on Higher Order Factors, Binary Logistic Regression, Pre-Release Sample.

	Returns to Prison 12 Months (Y/N)		Returns to Prison 24 Months (Y/N)	
Risk Factors	**b**	**Exp(b)**	**b**	**Exp(b)**
Criminal History	.09	1.08	.12*	1.12
Abuse	.56	1.75	.86**	2.35
Psychosis	.67	1.94	.08	1.08
Family Support	-.50*	.61	-.36	.70
Substance Abuse/Friends	.13*	1.14	.14*	1.15
Economic/Efficacy/Educational Assets/Anger	.11	1.11	.11*	1.12
	-2.94	.05	-2.41	.09
	X^2 =20.51 (6), $p\leq$.01 Nagelkerke R^2=.19		X^2 =23.87 (6), $p\leq$.001 Nagelkerke R^2=.20	

The cumulative risk scale consisted of seven risk factors (e.g., criminal history, antisocial friends, substance abuse history, anger, symptoms of psychosis, employment/financial, and physical/sexual abuse as an adult) and three strengths (self-efficacy, educational assets, and family support). When they were summed to form a single risk scale, scores ranged from -7.00 to 28.00 (X = 11.59, med. = 12.00, s.d. = 6.22). The predictive validity of the instrument is shown on Table 21, below. Measures of association between the risk scale and returns to prison, were strong by 24 months following prison release: a) (r =.36, $p\leq$.001) for the scale prior to collapsing it into levels, and (Tau_c =.35 and .43, $p\leq$.001). Once the scale was collapsed into three and four-level models, respectively. AUCs for the 24 month follow-up period were also commendable --.72 (95% CI= $\pm$ 08.) for the four level model and .71 for the uncollapsed scale (95% CI= $\pm$ .09). Results for technical violations may have been attenuated by variations in enforcement and reporting patterns across officers, and by discretion in deciding whether to issue

a violation or return the offender to prison. The weak correlations and AUCs at 6 month periods are attributable to the fact that offenders were still in residential settings at 6 months following their release from prison. Thus, the findings for the 12 and 24 month follow-up periods appear to be most meaningful.

Collapsing of the continuous risk scale into four levels, in contrast to the three-level systems that were designed for the probation and prison samples, was preferred not only on the basis of improved validity but because doing so identified a group of low risk offenders with very low recidivism rates. Presumably, officials will find it beneficial to process that group much differently than the higher risk offenders. This is shown in Figure 3, below. It can be seen that recidivism rates (returns to prison) per risk group increased with risk levels. The fact that this did not happen for the technical violations may be attributable to the possibility that the high risk offenders were returned to prison instead of violated.

The distributions of offenders across the 4 risk levels were as follows: (1) Low risk = 21.6%; (2) moderate risk = 39.2%; (3) medium risk = 31.1%; and (4) high risk = 8.1%.

Table 21: Predictive Validity of Prerelease Risk Models.

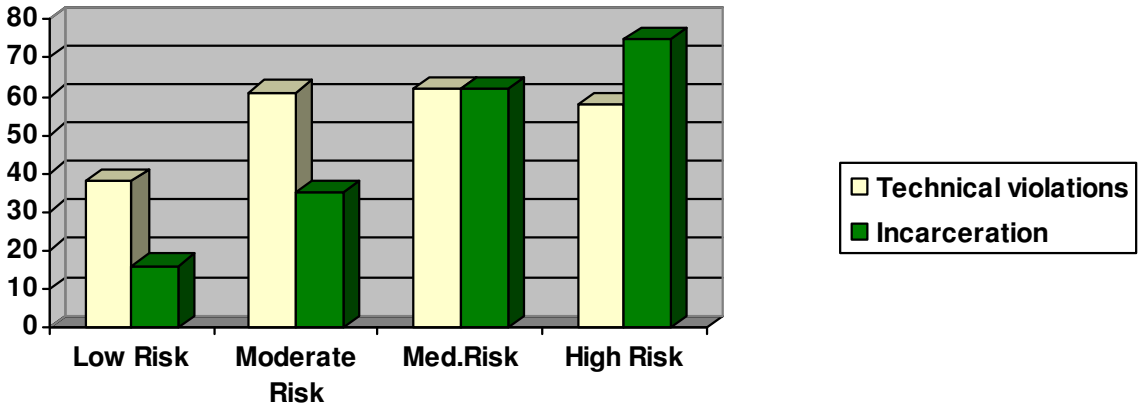
	Technical Violations						Incarcerations					
	6 Months			12 Months			6 Months[b]		12 Months		24 Months	
	Y/N	AUC	N	Y/N	AUC	N	Y/N	AUC	Y/N	AUC	Y/N	AUC
Risk factors, alone	.08	.54	.13*	.14**	.57	.25***	.10	.57	.30***	.69	.32***	.66
Strengths, alone	-.20***		-.15**	-.23***		-.15**	-.07		-.20***		-.23***	
Risk + Strengths	.14**	.57	.16**	.19**	.60	.27***	.11*	.59	.32***	.71	.36***	.71
Three Levels	.09[a]	.55	.10	.04 [a]	.52	.16***	.08 [a]	.58	.29*** [a]	.67	.35*** [a]	.68
Four Levels	.13* [a]	.55	.14**	.16** [a]	.58	.24***	.09* [a]	.58	.34*** [a]	.70	.43*** [a]	.72

**p>.05, ***p>.01

[a] Measure of association is Tau_c.

[b] The fact that inmates were still in residential settings at 6 months following release likely attenuated these predictions.

Figure 3. Correctional Outcomes (Technical Violations at 12 mo. and Incarcerations at 24 mo.) by Risk Level.



The interview, survey, and scoring sheet for pre-release may be found in Appendices K, E, and L, respectively.

Implementation Issues

This section puts forward a number of parting comments and recommendations intended to assist the process of implementing the Missouri probation, prison, and pre-release risk and needs assessments for women. We base this discussion not only on the present study but experiences to date with implementing the tool in other states.

Precautions and Limitations

This study and the research in two other NIC research sites fit under the rubric of construction validation research. That is, the studies essentially constructed assessments that were valid, but revalidation and additional refinements are still viewed to be necessary. The need for further refinement is not atypical to this research, but rather is a standard phase of test and assessment constructions (Kline, 2000). This is not to say that the scales and assessments

are not ready to be implemented, but rather that future research is needed to solidify predictive validity and to offer further refinements.

Most notably, scale cut-points at this point in time are still sample-specific. Larger scales, such as those obtained through the survey (e.g., self efficacy, child abuse, adult victimization, relationship dysfunction, and parental stress), are recoded into 2, 3, or 4 points scales. These cut-points are slightly different across samples. They likely will become more stable over time with the collection of larger normative samples.

Ironically, it is the Missouri gender-neutral scales rather than the gender-responsive scales that will need further refinement in future research (see Table 2). We are making some modifications to the criminal history, criminal thinking, employment/financial, and dynamic substance abuse scales. Among the gender-responsive scales, slight changes will be made to improve the housing safety and anger control scales, however, scales from the survey were actually quite strong. Notwithstanding the need to improve some scales, predictive validity was adequate to strong for most scales.

There are some limitations to the present study which should be taken into consideration by prospective users. They are as follows:

- Common to all of the NIC sites, resources were available to provide only introductory training to interviewers. As described below, training for full-scale use of these tools is far more extensive and covers a broader range of relevant topics. It is hoped that in-depth training and more thorough attention to quality control will sharpen future research findings.

- The Missouri probation and prison samples were affected by limitations to outcome measures. The base rate (incarcerations) for the probation sample was low (17.1% at two years following the assessment). Attempts to secure conviction and arrest data (which would have had improved variability) were not successful. This problem may have attenuated findings for individual scales, however, results for the model as a whole were strong, especially for AUC ratings which are less sensitive to base rates. Similar concerns affect the prison findings. Misconducts evidenced by the Missouri prison samples were mainly for minor offenses, and that may have attenuated findings somewhat.

- Sample sizes were not ideal. The original study design called for somewhat larger samples. However, data collection was called off as a cost-saving measure when interest appeared to wane.

Even so, the limitations to statistical power affected primarily the multivariate analyses and not the major portions of the study which consisted of bivariate analysis.

- We do not have an ideal tool for parole samples. The pre-release instrument is best termed a transition, "hand-off," tool where only the less dynamic needs were found to be predictive. Other needs (which we assess just the same) measure offender characteristics that may have changed once women were released (e.g., depression, dynamic substance abuse, family conflict, housing safety, parental stress). Had we had a sample of women who were assessed after a period of post-release time in the community, it is likely that many of these needs would have been found to be predictive of recidivism

Notwithstanding the study limitations, predictive validity for the resulting instruments was strong. And many of the findings observed for Missouri were noted in other sites. If anything, these limitations attenuated results for some scales rather than rendered the significant findings suspect. In fact, the results for the survey scales were generally more favorable in other sites than in Missouri. Officials would do well to expect that two scales in particular, relationship dysfunction and parental stress, are likely to work better in future studies than they did in the present one.

In sum, it is appropriate to move on to statewide adoptions of the Women's Risk/Needs Assessment in Missouri and other states. We move now to a presentation of discussions that may help such implementation activities.

Structure of the Assessment Tools

At the outset of this study, Missouri officials requested a seamless assessment that could be used in probation, prison, pre-release and parole settings. However, the discovery that patterns of predictive variable sets (risk factors) changed across correctional settings suggested that an identical risk/needs/strengths assessment instrument for each type of correctional setting was not possible. Therefore, we used knowledge of the environmental shifts in risk factors to create

different instruments for each type of population. These distinct instruments nevertheless have similar structures. Figure 4, illustrates this assessment structure across each of the three samples.

Regardless of sample/setting, each assessment: (1) adds risk factors (those needs that were predictive of offense-related outcomes); (2) creates a final risk scale by subtracting strengths from the risk factors; (3) collapses the continuous risk scale into three levels for probation and prison uses and four levels for pre-release; and (4) includes all other needs (those found not to be predictive) in the fourth and final section of the scoring tool.

The fourth section is designed to serve the following purposes:

1. It provides additional information that may be useful over the course of case-management and supervision, regardless of whether or not the variable is a risk factor (e.g., parental involvement);

2. It provides measures that will be important as women offenders' transition to other points in the system. For example, educational challenge is assessed for prison inmates, because it is a risk factor among parolees. In planning for release, prison officials may wish to program for educational considerations. Additionally, a recalibration of community risk, in anticipation of release and parole supervision then must move educational assets back into the Pre-release Risk Scale.

3. It retains the scale for purposes of future research, where studies with larger samples, optimal training, and different base rates may find some of the Section IV variables to be significantly related to outcomes. We have already seen this to be true. A number of the variables listed in Section IV have been related to recidivism in other sites. Relationship dysfunction is one such variable. Presumably a number of the Section IV, Pre-release variables will likely become significant when the instrument is administered to parolees who have been living in the community for at least four months.

Figure 4: Structure of Missouri Gender-Responsive Risk Needs Assessments

Probation	Institutional	Parole
Items for Risk Scale		
Criminal history Antisocial friends Employment/financial Family conflict Substance abuse history Dynamic substance abuse Anger/Hostility Housing safety Depression/anxiety symptoms Psychotic symptoms Parental stress <u>Strengths (Subtracted)</u> Educational assets Family support Self efficacy	Criminal history Antisocial attitudes Family conflict History of mental illness Depression/anxiety symptoms Psychotic symptoms Substance abuse history Child abuse Anger Relationship dysfunction <u>Strengths (Subtracted)</u> Family support	Criminal history Antisocial attitudes Employment/financial Anger/hostility Adult victimization Psychotic symptoms Substance abuse history <u>Strengths (Subtracted)</u> Educational strengths Family support Self-efficacy
Part IV Other Needs		
Antisocial attitudes Mental health history Educational Challenges Child abuse Adult victimization Relationship dysfunction Parental Involvement	<u>Other (Re-entry)</u> Antisocial friends Educational challenges Educational assets Employment financial Dynamic substance abuse Relationship dysfunction Adult victimization Parental stress Parental involvement Self efficacy Housing safety	<u>Other</u> Educational challenges Family conflict Housing safety Child abuse Antisocial attitudes Dynamic substance abuse Parental stress Parental involvement History of mental illness Depression/anxiety Relationship dysfunction

Outstanding Implementation Issues

The women's assessments are most appropriately used by jurisdictions that have invested in the strategic development of gender-responsive programs, practices, and services. Missouri clearly has made impressive investments in this regard. Even so, a number of logistical issues may still need to be resolved prior to implementation.

1. The instruments are not embedded within a software program at the present time. However, we have been informed by programmers in two states currently implementing the assessments that the programming involved in integrating the interview, survey and the scoring tools into existing systems was fairly straight-forward. Additionally work is currently underway at UC to develop a software program.

2. Decisions will have to be made about the purpose of the institutional assessment. Most importantly, will the tool be used as a custody tool (classifying inmates for institutional assignments) or as a needs assessment only, or both? There is some reluctance to elevate custody according to problems as opposed to behaviors and these assessments do just that. Jurisdictions where this concern is evident are opting to use the new instrument solely as needs assessments. However, at the outset of this study, Missouri work group members explained that the higher custody women's facility in Missouri was primarily a treatment center rather than one designed exclusively for deterrence and punishment. If this is still the case, the new assessment will map well-onto the Missouri model, because it conceptualizes higher custody offenders as high need.

3. Use of the institutional assessment for reclassification will require that officials add a variable pertaining to misconducts occurring since the last review (or some other set time period).

4. During a December 2007 report of research findings, the lead author participated in a discussion with Missouri officials concerning whether it was legally justifiable to use separate risk/needs assessments for men and women. As an update, there is growing legal support for using distinct tools for men and women. NIC has prepared a document assembling relevant case law, and the California State Courts recently issued a decision supporting the use of separate classification systems in that state. In working through the issues of parity, however, officials should not be lulled into a false sense of security afforded by the existence of identical assessments for male and female correctional clients. Identical assessments are not at all equal if they are valid for one group and not for the other! Moreover, they are not identical if they adequately identify the most relevant needs for males while ignoring those most relevant to females.

5. Jurisdictions requesting use of the assessments must secure permission from the University of Cincinnati. The instruments are considered to be in the public domain, however, intended users must certify in writing to: a) refrain from using the assessments for commercial purposes; b) refrain from changing the assessments without permission from the authors; c) make reasonable efforts to stay current with future refinements of the assessment; d) provide assurances that staff will be trained according to training guidelines listed below; e) credit UC and NIC in any publications emanating from future uses; f) agree to disclaimers; and g) agree to use the instruments for their intended uses and populations. It does not appear to be appropriate to ask Missouri to sign these agreements given the State's role in aiding the development of the tools. However, we do request that officials abide by these terms in principal and refrain from using the assessments for commercial purposes.

Recommended Training Guidelines and Quality Assurance

Staff using the assessments should have strong familiarity with (1) evidence-based practice; (2) gender-responsive principles and programming; (3) the assessments themselves; and (4) case planning procedures for using the assessments. Moreover, because the assessment taps personal information often not asked by existing correctional assessments, staff should receive additional training in interview/listening skills and motivational interviewing. The University of Cincinnati delivers a 3.5 day training covering these topics. Intended users are not required to use the UC training, but in the course of registering they must offer assurances that training in these areas will be required of staff who administer assessments.

Jurisdictions are also encouraged to implement quality assurance procedures for ensuring the integrity of assessment results. Assessment accuracy may be examined through file audits, observation, and software queries for logical errors. A common problem experienced during the present study was a failure to assure that the survey had been completed. Additionally, interviewers sometimes injected their own values regarding parenting, attitudes, relationships and other matters. Such biases can skew interview findings.

Future Research

The Women's Risk/Needs Assessments are currently being tested in the larger samples afforded by state-wide applications. We anticipate that the new studies will offer improvements to the assessments. More attention will be devoted to the exploration of item weights and standard scale cut-off scores. We also anticipate the development of an assessment for parole supervision. Doing so would allow for a test of the dynamic, risk/needs among parolees in a more current, proximate, context. Of course, jurisdictions are encouraged to conduct their own validation research to re-set cut-points, establish agency-specific norms, and assure the integrity of the assessments within their own agencies.

Conclusion

Notwithstanding the fact that there is room for improvement to these instruments, the present study and research in the other NIC sites has offered much to further the understanding of women in correctional settings. Dynamic risk/needs assessments, tailored to the needs of women offenders, show much promise in predicting future offending patterns and identifying the needs that if not appropriately treated are likely to contribute to future offending.

Scholarly discussion of these findings as they related to women's pathways to offending, correctional treatment, and correctional policy are offered in other publications prepared over the course of this project (see Bauman & Gehring, forthcoming; Salisbury, 2007; Wright et. al, 2007; Van Voorhis et al., 2007; Van Voorhis et al., 2008). Readers are also referred to our website which will track the most current information on the assessments (www.uc.edu/womenoffenders), and the NIC website (www.nicic.org).

References

Agnew, R. (1992). Foundation for a General Strain Theory of Crime and Delinquency. *Criminology, 30,* 47-88.

Andrews, D. A. (1983). Assessment of outcome in correctional samples. In M. J. Lambert, E. R. Christensen, & S. S. DeJulio (Eds.), *Assessment of psychotherapy outcome* (pp. 160-201). New York: Wiley.

Andrews, D. A., Zinger, I., Hoge, R. D., Bonta, J., Gendreau, P., & Cullen, F. T. (1990). Does correctional treatment work? A clinically-relevant and psychologically-informed meta-analysis. *Criminology 28,* 369-404.

Andrews, D. A., Bonta, J., & Hoge, R. D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior, 17,* 19-52.

Andrews, D. A., & Bonta, J. (1995). *Level of Service Inventory-Revised.* North Tonawanda, NY: Multi-Health Systems.

Andrews, D. A., & Bonta, J. (2003). *The psychology of criminal conduct* (3rd ed.). Cincinnati, OH: Anderson.

Andrews, D. A., Dowden, C., & Rettinger, L. J. (2001). Special populations within corrections. In J. A. Winterdyck (Ed.), *Corrections in Canada: Social reactions to crime* (pp. 170-212). Toronto: Prentice-Hall.

Aos, S., Miller, M., & Drake, E. (2006). *Evidence-Based Public Policy Options to Reduce Future Prison Construction, Criminal Justice Costs, and Crime Rates.* Olympia: Washington State Institute for Public Policy.

Austin, J., Bruce, M. A., Carroll, L., McCall, P. L., & Richards, S. C. (2001). The use of incarceration in the United States: American Society of Criminology National Policy Committee. *Critical Criminology: An International Journal, 10,* 17-41.

Avison, W. R., & Turner, R.J. (1986). Screening for Problem Parenting: Preliminary Evidence on a Promising Measure. *International Journal of Child Abuse and Neglect, 10,* 157-170.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Mechanisms of moral disengagement in the exercise of moral agency. *Journal of Personality and Social Psychology, 71,* 364-374.

Bauman, A. & Gehring, K. (forthcoming). What works for women and girls? Incorporating gender responsive strategies and cognitive behavioral programming. In B. Glick (Ed.) Cognitive Behavior Programs and Interventions: What Works With At-Risk Youth, 2nd Edition. Kingston, New Jersey: Civic Research Institute.

Beattie, M. (1987). *Codependent no more.* New York: Harper/Hazelden.

Belknap, J., Fisher, B., & Cullen, F. T. (1999). The development of a comprehensive measure of the sexual victimization of college women. *Violence Against Women, 5,* 185-214.

Belknap, J., & Holsinger, K. (2006). The gendered nature of risk factors for delinquency. *Feminist Criminology, 1,* 48-71.

Belknap, J. (2007). *The invisible woman: Gender, crime, and justice* (3rd ed.). Belmont, CA: Thompson Wadsworth.

Benda, B. B. (2005). Gender differences in life-course theory of recidivism: a survival analysis. *International Journal of Offender Therapy and Comparative Criminology, 49,* 325-342.

Bepko, C., & Krestan, J. (1985). *The responsibility trap: A blueprint for treating the alcoholic family.* New York: Macmillan.

Berkowitz, L. (1962). *Aggression: A social psychological analysis.* New York: McGraw-Hill.

Blanchette, K., & Motiuk, L. L. (1995). *Female offender risk assessment: The case management strategies approach.* Poster session presented at the Annual Convention of the Canadian Psychological Association, Charlottetown, Prince Edward Island.

Blanchette, K. (1996). *The relationship between criminal history, mental disorder, and recidivism among federally sentenced female offenders.* Unpublished master's thesis, Carleton University, Ottawa, Ontario, Canada.

Blanchette, K. (2004). Revisiting effective classification strategies for women offenders in Canada. *Feminism & Psychology, 14,* 231-236.

Blanchette, K. (2005). *Field-test of a gender-informed security reclassification scale for female offenders.* Unpublished doctoral dissertation, Carleton University, Ottawa, Ontario, Canada.

Blanchette, K., & Brown, S. L. (2006). *The assessment and treatment of women offenders: An integrative perspective.* Chichester: Wiley.

Bloom, B., Owen, B., & Covington, S. (2003). *Gender-responsive strategies: Research practice and guiding principles for women offenders*. Washington, DC: USDOJ, National Institute of Corrections.

Bloom, B., Owen, B., & Covington, S. (2004). Women Offenders and the Gendered Effects of Public Policy. *Review of Policy Research, 21*, 31-48.

Bloom, B., Owen, B., & Covington, S. (2005). *Gender-responsive strategies for women offenders: A summary of research, practice, and guiding principles for women offenders.* Washington, DC: USDOJ, National Institute of Corrections.

Blume, S. (1997). Women: Clinical aspects. In J. Lowinson, P. Ruiz, A. Milkman, & J. Langrod (Eds.), *Substance abuse: A comprehensive textbook* (pp. 645-654). Baltimore, MD: Williams and Wilkins.

Bonta, J. (1989). Native inmates: Institutional responses, risks, and needs. *Canadian Journal of Criminology, 31,* 49-62.

Bonta, J., & Motiuk, L. L. (1987). The diversion of incarcerated offenders to correctional halfway houses. *Journal of Research in Crime and Delinquency, 24,* 302-323.

Bonta, J., & Motiuk, L. L. (1990). Classification to correctional halfway houses: A quasi-experimental evaluation. *Criminology, 28,* 497-506.

Bonta, J., & Motiuk, L. L. (1992). Inmate classification. *Journal of Criminal Justice, 20,* 343-353.

Bonta, J., Pang, B., & Wallace-Capretta, S. (1995). Predictors of recidivism among incarcerated female offenders. *The Prison Journal, 75,* 277-294.

Bonta, J. (1996). Risk-needs assessment and treatment. In A. T. Harland (Ed.), *Choosing correctional options that work: Defining the demand and evaluating the supply* (pp. 18-32). Thousand Oaks, CA: Sage.

Bonta, J., Wallace-Capretta, S., & Rooney, J. (2000). A quasi-experimental evaluation of an intensive rehabilitation supervision program. *Criminal Justice and Behavior, 27,* 312-329.

Brennan, T., & Austin, J. (1997). *Women in jail: Classification issues.* Washington, DC: USDOJ, National Institute of Corrections.

Brennan, T. (1998). Institutional classification of females: Problems and some proposals for reform. In R. T. Zaplin (Ed.) *Female offenders: Critical perspectives and effective interventions* (pp. 179-204). Gaithersburg, MD: Aspen.

Brennan, T., Dieterich, W., & Oliver, W. (2006). *COMPAS: Technical manual and psychometric report Version 5.0.* Traverse City, MI: Northpointe Institute.

Brennan, T. (forthcoming). Explanatory diversity among female delinquents: Examining taxonomic heterogeneity. In R. T. Zaplin (Ed.) *Female offenders: Critical perspectives and effective interventions* (pp. 179-204). Sudbury, MA: Jones & Bartlett.

Brown, J. D. (1998). Statistics corner: Questions and answers about language testing statistics: Reliability and cloze test length. *Shiken: JALT Testing & Evaluation SIG Newsletter, 2(2),* 19-22. Retrieved from http://www.jalt.org/test/bro_3.htm

Browne, A., Miller, B., & Maguin, E. (1999). Prevalence and severity of lifetime physical and sexual victimization among incarcerated women. *International Journal of Law and Psychiatry, 22,* 301-322.

Brown, S. L., & Motiuk, L. L. (2005). *The Dynamic Factor Identification and Analysis (DFIA) component of the Offender Intake Assessment (OIA) process: A meta-analytic, psychometric, and consultative review* (Research Report R-164). Ottawa, Ontario: Correctional Service Canada.

Bureau of Justice Statistics. (1999). *Special report: Women offenders.* Washington, DC: USDOJ.

Bureau of Justice Statistics. (2005). *Prisoners in 2004.* Washington, DC: USDOJ.

Bureau of Justice Statistics. (2006). *Mental health problems of prison and jail inmates.* Washington, DC: USDOJ.

Campbell, D., Campbell, J., King, C., Parker, B., & Ryan, J. (1994). The reliability and factor structure of the Index of Spouse Abuse with African-American women. *Violence and Victims, 9,* 259-274.

Carp, S. V., & Schade, L. (1992). Tailoring facility programming to suit female offender's needs. *Corrections Today, (August),* 154-158.

Case, P., & Fasenfest, D. (2004). Expectations for opportunities following prison education: A discussion of race and gender. *Journal of Correctional Education, 55,* 24-39.

Chandler, S. M., & Kassebaum, G. (1994). Drug-alcohol dependence of women prisoners in Hawaii. *Affilia, 9,* 157-170.

Chesney-Lind, M., & Rodriguez, N. (1983). Women under lock and key. *Prison Journal, 63,* 47-65.

Chesney-Lind, M. (1997). *The female offender: Girls, women, and crime.* Thousand Oaks, CA: Sage.

Chesney-Lind, M., & Shelden, R. G. (2004). *Girls, delinquency, and juvenile justice* (3rd ed.). Belmont, CA: Thompson Wadsworth.

Coleman, F. L. (1997). Stalking behavior and the cycle of domestic violence. *Journal of Interpersonal Violence, 12,* 420-432.

Coulson, G., Ilacqua, G., Nutbrown, V., Giulekas, D., & Cudjoe, F. (1996). Predictive utility of the LSI for incarcerated female offenders. *Criminal Justice and Behavior, 23,* 427-439.

Covington, S. (1998). The relational theory of women's psychological development: Implications for the criminal justice system. In R. T. Zaplin (Ed.), *Female offenders: Critical perspectives and effective interventions* (pp. 113-128). Gaithersburg, MD: Aspen.

Crowley, J. D., & Dill, D. (1992). Silencing the Self Scale. *Psychology of Women Quarterly, 16,* 97-106.

Cullen, F. T., Fisher, B. S., & Applegate, B. K. (2000). Public opinion about punishment and corrections. In M. Tonry (Ed.), *Crime and justice: A review of research, Vol. 27* (pp. 1-79). Chicago: University of Chicago Press.

Dahlberg, L., Toal, S., Behrens, C. (1998). *Measuring violence-related attitudes, beliefs, and behaviors among youth.* Washington, DC: U.S. Department of Health and Human Services.

Daly, K. (1992). Women's pathways to felony court: Feminist theories of lawbreaking and problems of representation. *Southern California Review of Law and Women's Studies, 2,* 11-52.

Daly, K. (1994). *Gender, crime, and punishment.* New Haven, CT: Yale University Press.

Dollard, J., Doob, L., Miller, N., Mowrer, O., & Sears, R. (1939). *Frustration and aggression.* New Haven, CT: Yale University Press.

Dowden, C., & Andrews, D. A. (1999). What works for female offenders: A meta-analytic review. *Crime & Delinquency, 45,* 438-452.

Farr, K. A., (2000). Classification for female inmates: Moving forward. *Crime and Delinquency, 46,* 3-17.

Feeley, M. M., & Simon, J. (1992). The new penology: Notes on the emerging strategy of corrections and its implications. *Criminology, 30,* 449-474.

Ferraro, K.J., & Moe, A.M. (2003). Mothering, Crime, and Incarceration. *Journal of Contemporary Ethnography, 32,* 9-40.

Fischer, J., Spann, L., & Crawford, D. (1991). Measuring codependency. *Alcoholism Treatment Quarterly, 8*, 87-99.

Gendreau, P. (1996). The principles of effective intervention with offenders. In A. T. Harland (Ed.), *Choosing correctional options that work: Defining the demand and evaluating the supply* (pp. 117-130). Thousand Oaks, CA: Sage.

Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology, 34,* 575-607.

Gendreau, P., Goggin, C., & Smith, P. (1999). Predicting recidivism: LSI-R vs. PCL-R. *Canadian Psychology Abstracts*, *40*, 2a.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development.* Cambridge, MA: Harvard University Press.

Goldstein, A., Glick, B., & Gibbs, J. (1998). *Aggression Replacement Training: A comprehensive intervention for aggressive youth.* Champaign, IL: Research Press.

Grann, M., & Langstrom, N. (2007). Actuarial Assessment of Violence Risk: To Weigh or Not To Weigh? *Criminal Justice and Behavior, 34,* 22-36.

Greene, S., Haney, C., & Hurtado, A. (2000). Cycles of pain: Risk factors in the lives of incarcerated mothers and their children. *The Prison Journal, 80,* 3-23.

Hannah-Moffat, K. (2004). Gendering risk at what cost: Negotiations of gender and risk in Canadian women's prisons. *Feminism and Psychology, 14,* 243-249.

Hardyman, P. L., & Van Voorhis, P. (2004). *Developing gender-specific classification systems for women offenders.* Washington, DC: USDOJ, National Institute of Corrections.

Henderson, D. J. (1998). Drug abuse and incarcerated women: A research review. *Journal of Substance Abuse Treatment, 15,* 579-587.

Hoffman, P. (1994). Twenty years of operational use of a risk prediction instrument: The United States Parole Commisssion's Salient Factor Score. *Journal of Criminal Justice 22,* 477-494.

Holsinger, K., Belknap, J., & Sutherland, J. (1999). *Assessing the gender specific program and service needs for adolescent females in the juvenile justice system.* Presented to the State of Ohio's Office of Criminal Justice Services, November.

Holsinger, A.M., Lowenkamp, C.T., & Latessa, E.J. (2003). Ethnicity, Gender, and the Level of Service Inventory-Revised. *Journal of Criminal Justice, 31,* 309-320.

Holtfreter, K., & Morash, M. (2003). The needs of women offenders: Implications for correctional programming. *Women & Criminal Justice, 14,* 137-160.

Holtfreter, K., Reisig, M. D., & Morash, M. (2004). Poverty, state capital, and recidivism among women offenders. *Criminology & Public Policy, 3*, 185-208.

Hubbard, D. J., & Pratt, T. C. (2002). A meta-analysis of the predictors of delinquency among girls. *Journal of Offender Rehabilitation, 34,* 1-13.

Izzo, R., & Ross, R. (1990). Meta-analysis of rehabilitation programs for juvenile delinquents: A brief report. *Criminal Justice and Behavior, 17,* 134-142.

Kaplan, A. G. (1984). *The "self in relation": Implications for depression in women.* Publication No. 14. Wellesley, MA: Stone Center.

Kline, P. (2000). *A Psychometrics Primer.* New York, NY: Free Association Books.

Koons, B. A., Burrow, J. D., Morash, M., & Bynum, T. (1997). Expert and offender perceptions of program elements linked to successful outcomes for incarcerated women. *Crime and Delinquency, 43*, 515-532.

Kroner, D. G., & Mills, J. F. (2001). The accuracy of five risk appraisal instruments in predicting institutional misconduct and new convictions. *Criminal Justice and Behavior, 28,* 471-489.

Langan, N. P., & Pelissier, B. (2001). Gender differences among prisoners in drug treatment. *Journal of Substance Abuse, 13,* 291-301.

Larivière, M. (1999). *The relationship between self-esteem, criminality, aggression, and violence: A meta-analysis.* Unpublished comprehensive examination, Carleton University, Ottawa, Ontario, Canada.

Law, M. A., Sullivan, S. M., & Goggin, C. (in press). *Security classification measures for female offenders and predictors of female criminal conduct: A literature review.* Ottawa, Ontario: Correctional Service Canada.

Lipsey, M. (1992). Juvenile delinquency treatment: A meta-analytic inquiry into the variability of effects. In T. Cook, H. Cooper, D. Cordray, H. Hartmann, L. Hedges, R. Light, T. Louis, & F. Mosteller (Eds.), *Meta-analysis for explanation* (pp. 83-127). New York: Russell Sage.

Lipsey, M., & Wilson, D. (1998). Effective intervention for serious juvenile offenders: A synthesis of research. In R. Loeber & D. Farrington (Eds.), *Serious and violent juvenile offenders: Risk factors and successful interventions* (pp. 313-345). Thousand Oaks, CA: Sage.

Loucks, A. D. (1995). *Criminal behaviour, violent behaviour, and prison maladjustment in federal female offenders.* Unpublished Doctoral Thesis. Kingston, ON: Queen's University.

Lovins, L., Lowenkamp, C., Latessa, L., & Smith, P. (2007). Application of the risk principle to female offenders. *Journal of Contemporary Criminal Justice, 23* (4), 383-398.

Lowenkamp, C. T., Holsinger, A. M., & Latessa, E. J. (2001). Risk/need assessment, offender classification, and the role of childhood abuse. *Criminal Justice and Behavior, 28,* 543-563.

Marczyk, G. R., Heilbrun, K., Lander, T.,& DeMatteo, D. (2003). Predicting juvenile recidivism with the PCL:YV, MAYSI, and YLS/CMI. *International Journal of Forensic Mental Health, 2,* 7–18.

McClellan, D. S., Farabee, D., & Crouch, B. M. (1997). Early victimization, drug use, and criminality: A comparison of male and female prisoners. *Criminal Justice and Behavior, 24,* 455-476.

Messina, N., Burdon, W., & Prendergast, M. (2003). Assessing the needs of women in institutional therapeutic communities. *Journal of Offender Rehabilitation, 37,* 89-106.

Miller, J. B. (1976). *Toward a new psychology of women.* Boston: Beacon Press.

Miller, J. B. (1988). *Connections, disconnections, and violations.* Work in Progress No. 33. Wellesley, MA: Stone Center, Working Paper Series.

Morash, M., Bynum, T. S., & Koons, B. A. (1998). *Women offenders: Programming needs and promising approaches.* Washington, DC: USDOJ, National Institute of Justice.

Motiuk, M. S., Motiuk, L. L., & Bonta, J. (1992). A comparison between self-report and interview-based inventories in offender classification. *Criminal Justice and Behavior, 19,* 143-159.

Murphy, C., & Hoover, S. (1999). Measuring emotional abuse in dating relationships as a multifactorial construct. *Violence and Victims, 14,* 39-53.

Nuffield, J. (1982). *Parole decision-making in Canada: Research towards decision guidelines.* Ottawa, Canada: Ministry of Supply and Services.

Ogloff, J.R.P., & Davis, M.R. (2004). Advances in Offender Assessment and Rehabilitation: Contributions of the Risk-Needs-Responsivity Approach. *Psychology, Crime, and Law, 10,* 229-242.

Olson, D.E., Alderden, M., & Lurigio, A.J. (2003). Men are from Mars, Women are from Venus, But What Role Does Gender Play in Probation Recidivism? *Justice Research and Policy, 5,* 33-54.

Owen, B., & Bloom, B. (1995). *Profiling the needs of California's female prisoners: A needs assessment.* Washington, DC: USDOJ, National Institute of Corrections.

Owen, B. (1998). *In the mix: Struggle and survival in a woman's prison.* Albany, NY: State University of New York Press.

Peters, R. H., Strozier, A. L., Murrin, M. R., & Kearns, W. D. (1997). Treatment of substance abusing jail inmates: Examination of gender differences. *Journal of Substance Abuse Treatment, 14,* 339-349.

Poole, E. & Regoli, R. (1980). Race, institutional rule-breaking and disciplinary response: A study of discretionary decision-making in prison. *Law and Society Review, 14,* 931-946.

Prendergast, M., Wellisch, J., & Falkin, G. (1995). Assessment of services for substance-abusing women offenders and correctional settings. *The Prison Journal, 75,* 240-256.

Quinsey, V., Harris, G., Rice, M., & Cormier, C. (1998). *Violent Offenders: Appraising and Managing Risk.* Washington, DC: American Psychological Association.

Reisig, M. D., Holtfreter, K., & Morash, M. (2006). Assessing recidivism risk across female pathways to crime. *Justice Quarterly, 23*, 384-405.

Rettinger, L. J. (1998). *A recidivism follow-up study investigating risk and need within a sample of provincially sentenced women.* Unpublished doctoral dissertation. Carleton University, Ottawa, Canada.

Ritchie, B. (1996). *The gendered entrapment of battered, black women.* London: Rutledge.

Rodenberg, F., & Fantuzzo, J. (1993). The measure of wife abuse: Steps toward the development of a comprehensive assessment technique. *Journal of Family Violence, 8,* 203-228.

Roehling, P., & Gaumond, E. (1996). Reliability and validity of the Codependent Questionnaire. *Alcoholism Treatment Quarterly, 14,* 85-95.

Rosenberg, M. (1979). *The concept of self.* New York: Basic Books.

Ross, T., Khashu, A., & Wamsley, M. (2004). *Hard data on hard times: An empirical analysis of maternal incarceration, foster care, and visitation.* New York: Vera Institute of Justice.

Rumgay, J. (2004). Scripts for safer survival: Pathways out of female crime. *The Howard Journal of Criminal Justice, 43,* 405-419.

Salisbury, E. (2007). *Gendered Pathways: An Empirical Investigation of Women Offenders' Unique Paths to Crime*. Unpublished Dissertation, Cincinnati, OH: University of Cincinnati.

Salisbury, E. J., Van Voorhis, P., & Wright, E. (2006). *Construction and validation of a gender responsive risk/needs instrument for women offenders in Missouri and Maui.* Presented at the Annual Meeting of the American Society of Criminology, Los Angeles, CA.

Salisbury, E. J., & Van Voorhis, P. (2007). *Gendered pathways: An investigation of women offenders' unique paths to crime.* Presented at the Annual Meeting of the Academy of Criminal Justice Sciences, Seattle, WA.

Salisbury, E., Van Voorhis, P. & Spiropoulis, G. (forthcoming). The Predictive Validity of a Gender Responsive Risk/Needs Assessment. *Crime and Delinquency*.

Schram, P. J., & Morash, M. (2002). Evaluation of a life skills program for women inmates in Michigan. *Journal of Offender Rehabilitation, 34,* 47-70.

Seligman, M. (2002). *Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment*. New York: Free Press.

Shepard, M., & Campbell, J. (1992). The Abusive Behavior Inventory: A measure of psychological and physical abuse. *Journal of Interpersonal Violence, 7,* 291-305.

Sherer, M., Maddux, J.E., Mercadante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R.W. (1982). The self-efficacy scale: Construction and Validation. *Psychological Reports, 51*, 663-671.

Shields, I. W., & Simourd, D. J. (1991). Predicting predatory behavior in a population of incarcerated young offenders. *Criminal Justice and Behavior, 18,* 180-194.

Siegel, J. A., & Williams, L. M. (2003). The relationship between child sexual abuse and female delinquency and crime: A prospective study. *Journal of Research in Crime and Delinquency, 40,* 71-94.

Simourd, L., & Andrews, D. A. (1994). Correlates of delinquency: A look at gender differences. *Forum on Corrections Research, 6,* 26-31.

Sorbello, L., Eccleston, L., Ward, T., & Jones, R. (2002). Treatment Needs of Female Offenders: A Review. *Australian Psychologist, 37,* 198-205.

Spann, L., Fischer, J. L., & Crawford, D. (1991). Spann-Fischer Codependency Scale. In J. Ridley, *An investigation of prevalence of codependency personalities who enter nursing rather than other health care-related fields.* Unpublished doctoral dissertation, Walden University.

Swets, J., Dawes, R., & Monahan, J. (2000).Psychological Science Can Improve Diagnostic Decisions. *Psychological Science in the Public Interest, 1,* 1-26.

Sykes, G. M., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review, 22,* 664-670.

Task Force on Federally Sentenced Women. (1990). *Creating choices: The report of the Task Force on Federally Sentenced Women.* Ottawa, ON: Ministry of the Solicitor General Canada.

Van Voorhis, P. (1994a). *Psychological Classification of the Adult, Male Prison Inmate.* Albany, NY: SUNY Press.

Van Voorhis, P. (1994b). Measuring Prison Disciplinary Problems: A Multiple Indicators Approach to Understanding Prison Adjustment. *Justice Quarterly, 11*, 679-709.

Van Voorhis, P. (2004). An overview of offender classification systems. In P. Van Voorhis, M. Braswell, & D. Lester (Eds.), *Correctional counseling and rehabilitation* (5th ed.) (pp. 133-160). Cincinnati, OH: Anderson.

Van Voorhis, P., Pealer, J., Spiropoulos, G., & Sutherland, J. (2001). *Validation of offender custody classification and needs assessment systems for incarcerated women offenders in the (Unidentified State) Department of Corrections.* USDOJ, National Institute of Corrections.

Van Voorhis, P., & Presser, L. (2001). *Classification of women offenders: A national assessment of current practices.* Washington, DC: USDOJ, National Institute of Corrections.

Van Voorhis, P., Salisbury E., Bauman, A., Holsinger, K., & Wright, E. (2007). Classifying Women Offenders: Achieving Accurate Pictures of Risk and Identifying Gender Responsive Needs. *ICCA 2007 Plenary Address,* October, 2007, San Diego, CA.

Van Voorhis, P., Salisbury, E., Wright, E., & Bauman, A. (2008). *Achieving Accurate Pictures of Risk and Identifying Gender-Responsive Needs: Two New Assessments for Women Offenders.* Washington, D.C.: United States Department of Justice: National Institute of Corrections.

Van Wormer, K. (2001). *Counseling Female Offenders and Victims: A Strengths-Restorative Approach*. New York: Springer.

Ward, T., & Brown, M. (2004). The Good Lives Model and Conceptual Issues in Offender Rehabilitation. *Psychology, Crime, and Law, 10,* 243-257.

Washington State Institute for Public Policy. (2003). *Washington's Offender Accountability Act: An analysis of the Department of Corrections risk assessment*. Olympia, WA: WSIPP.

Widom, C. S. (1989). Child abuse, neglect, and violent criminal behavior. *Criminology, 27,* 251-271.

Woititz, J. (1983). *Adult children of alcoholics.* Hollywood, FL: Health Communications.

Wormith, J. S. (1984). Attitude and behavior change of correctional clientele: A three year follow-up. *Criminology, 23,* 326-348.

Wright, E., Salisbury, E. J., & Van Voorhis, P. (2006). *Gender-Responsive Needs: Preliminary Analyses of Six-Month Outcome Data from a Sample of Women Offenders in Minnesota.* Presented at the Annual Meeting of the American Society of Criminology, Los Angeles, CA.

Wright, E., Salisbury, E. & Van Voorhis, P. (2007). Predicting the Prison Misconducts of Women Offenders: The Importance of Gender Responsive Needs. *Journal of Contemporary Criminal Justice, 23*, 310-340.

Wright, E., Van Voorhis, P., Salisbury, E.J., & Bauman, A. (2008). *Results of Minnesota Gender-Responsive Classification Study.* Cincinnati, OH: University of Cincinnati Center for Criminal Justice Research.