A Direct Test of Pathways Theory

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Abstract

Although qualitative research has informed Pathways Theory for decades, there are few quantitative studies that have explored this theory. This study utilizes a path analytic approach with measures of gender-responsive needs collected from 163 male and 103 female pretrial defendants. Results indicate the presence of a pathway to pretrial failure that includes childhood abuse, historical indicators of mental illness, and substance abuse for women only. The implications of this study are likely to inform the current practice of correctional risk/needs assessments and case planning, and to aid the development of more comprehensive and effective programs and interventions for justice-involved women.

For several decades, feminist criminologists and gender-responsive scholars have criticized "traditional criminological theories" as being male-centered and inadequate in explaining female offending (Belknap, 2015; Chesney-Lind & Pasko, 2013; Pollock, 1999). These theories were frequently developed through the study of male samples, only later to give consideration as to whether they include variables that are important contributors to female offending (Belknap, 2015). With the increasing number of women entering into the criminal justice system in the past several decades, this population can no longer be considered a "correctional afterthought" (Ross & Fabiano, 1986). Because of this, it is imperative that researchers and practitioners alike understand factors that may cause women to engage in criminal behavior. Identification of

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these causes will allow for interventions to address these issues to help prevent women from continually cycling through the system (Berman, 2005; Ney & Martin, 2005).

One line of theorizing about female offending is termed "Pathways Theory" (Belknap, 2015; Chesney-Lind & Pasko, 2013; Covington & Bloom, 2006). This theory holds that men and women enter into the criminal justice system through different pathways and that is it important to examine the lives of women prior to their criminal justice involvement to determine which factors have compelled them to engage in crime. Some components discussed in Pathways Theory include women's histories of abuse, relationship issues, mental health problems, and substance abuse (Bloom, Owen, & Covington, 2003; Covington & Bloom, 2006). Fundamentally, Pathways Theory posits that childhood (and sometimes adulthood) trauma can serve as trajectories to offending behaviors (Belknap, 2015). This theory has largely been discovered and developed through the use of qualitative methodologies. While qualitative research has provided a rich foundation for this theory to develop, it is now important to conduct quantitative investigations to further explore this theory. Indeed, it has been asserted that direct tests of Pathways Theory are "noticeably absent" (Blanchette & Brown, 2006, p. 36).

In the past decade, some quantitative studies have emerged that have investigated Pathways Theory. Of the research that has emerged, there are several limitations that preclude definitive conclusions that Pathways Theory is a woman-centered theory and the risk factors discussed are related to their offending behavior. In an effort to fill the gap and add to the empirical research, this study quantitatively investigates selected components found in Pathways Theory with an adult defendant sample comprised of both females and males. Specifically, this study used a path analytic statistical procedure with a sample of female and male pretrial defendants to investigate a feminist pathway discussed in the extant literature (Belknap, 2015; Chesney-Lind & Pasko, 2013). This pathway begins with childhood abuse and trauma experiences that cause psychological and behavioral effects (i.e., mental health issues, substance abuse) that culminate in women's criminal justice involvement. The implications of this study are likely to inform the current practice of pretrial and correctional risk/needs assessments, to facilitate assessment-driven case management, and to aid the development of more comprehensive and effective programs and interventions for justice-involved women.

Pathways Theory Research

Pathways Theory focuses on gendered elements in women's backgrounds that bring them into the criminal justice system. It is proposed that women and men enter into the criminal justice system through different pathways (Belknap, 2015; Bloom et al., 2003) and for women, the common pathways to offending are based on survival (of abuse and poverty) and substance abuse (Bloom et al., 2003). There are several components that have been identified in Pathways Theory research that are believed to produce and sustain female criminality. These include histories of personal abuse, mental illness, substance abuse, economic and social marginality, homelessness, and relationships (Bloom et al., 2003). While all these components are important in the

etiology of female offending, it is difficult to test them all in one study. Because of this, the current study highlights selected components from this theory, focusing on the links between childhood victimization and adult offending behavior (Chesney-Lind & Pasko, 2013). We turn to that literature below.

The most notable work that defines Pathways Theory is Daly's (1992, 1994) analysis of women entering into felony court. Her goal was to determine the circumstances that brought accused women to criminal court, and she accomplished this by examining the presentence investigation reports of 40 women. From these reports, Daly (1992, 1994) described five unique pathways which included (a) "harmed and harming" women, who were either abused or neglected as children, were labeled as "problem children," acted out, and may have substance abuse and psychological problems; (b) "street" women, who experienced abuse as children that compelled them to run away from home, and while on the street engaged in petty crimes to survive, subsequently becoming addicted to drugs and engaged in criminal behavior to support their drug habit which contributed to their extensive criminal histories; (c) "battered" women, whose involvement in the criminal justice system was a result of being engaged in an abusive relationship with a violent man; (d) "drug-addicted" women, whose involvement in the criminal justice system was fairly recent and a result of using or selling drugs in their relationships with significant others or family members; and (e) "other," who were women who did not fit any of the above profiles. The law-breaking of the women in this last group seemed to result from greed and they didn't have any histories of abuse, mental health problems, or substance abuse (Daly, 1992, 1994).

It should be noted that while abuse appears to be a common theme in most of the pathways, Daly (1994) notes that not all women who have been abused commit crimes. Indeed, there are many individuals who have experienced some sort of abuse who do not end up the in the criminal justice system (Widom, 1989b). It should not be assumed that abuse and victimization are the only explanations of female criminality. However, the extensive abuse histories of justice-involved women have caused scholars to wonder what lies in the "black box" between child victimization and adult criminal behavior (Daly, 1992, 1994). The large number of justice-involved women who have experienced childhood abuse (Harlow, 1999) has led many to believe this is either directly or indirectly related to female offending.

Other scholars have also provided support for women's pathways to offending behavior. For example, Chesney-Lind (1989, 2000; Chesney-Lind & Pasko, 2013; Chesney-Lind & Rodriguez, 1983; Chesney-Lind & Shelden, 2004) has consistently argued that the pathways girls/women take into the system are very different from those of boys/men. The development of Chesney-Lind's argument has been established through her own research involving extensive interviews with and analyses of women and girls to determine the factors that have propelled them into the juvenile and criminal justice system (Chesney-Lind & Rodriguez, 1983; Pasko & Chesney-Lind, 2010), as well as the research of others (e.g., Belknap & Holsinger, 2006; Bloom, Owen, Deschenes, & Rosenbaum, 2002; Gaarder & Belknap, 2002; Miller & Mullins, 2009; Schaffner, 2006; Zahn, 2009). Chesney-Lind discusses the importance of the interrelated issues of abuse, mental illness, and substance abuse and their contributions

to girls' delinquency and women's offending behavior. Other scholars have drawn similar conclusions regarding the relationship between the experience of having been victimized and subsequent offending behavior.

For example, Arnold (1990) conducted interviews with 50 incarcerated African American women serving sentences in a city jail and 10 African American women in prison to examine how these women, in her view, refused to accept or participate in their own victimization. She argues that for young African American girls who have a lower socioeconomic status, involvement in survival behavior may be viewed as active resistance to their victimization. That is, many of the women in the sample had severe trauma and abuse histories, which subsequently compelled them to run away from home, steal, and leave school. These activities brought them to the attention of the juvenile justice system, parents, and legal guardians, and the process of criminalization began. Sustained criminal involvement then became the norm and a coping strategy, with drug abuse being cited as a way of "blotting out what they had to do to survive on the streets, and crime as a way of supporting the drug habit" (Arnold, 1990, p. 160).

In another study, Gilfus (1992) conducted in-depth interviews with 20 incarcerated women in a Northeastern women's facility. From these lengthy interviews, Gilfus constructed "life event histories" for each of the women. Most of these women had grown up experiencing physical and sexual violence: 65% reported childhood sexual abuse and 75% had experienced "severe child abuse" (Gilfus, 1992, p. 72). Many women in the sample ran away from the abuse they experienced at home and engaged in survival strategies such as using drugs and prostitution. All of the women in the sample had life histories of what Gilfus characterized as "street crimes"—meaning they engaged in prostitution, petty theft, and drug law violations.

In addition to these qualitative studies, quantitative investigations of Pathways Theory have begun to emerge in the past decade. Reisig, Holtfreter, and Morash (2006) examined the predictive validity of the gender-neutral risk/needs assessment, the Level of Service–Revised (LSI-R; Andrews & Bonta, 1995), for women who had been determined as following a gendered "pathway" to their recent felony conviction. Using Daly's (1992, 1994) framework, the authors compiled biographies from existing official sources (i.e., correctional personnel, presentence investigation reports, participants) to determine whether each woman fit into one of Daly's gendered pathways. Their analysis revealed that for the three fourths of the women who could be grouped in four of the gendered pathways (i.e., street women, drug-connected women, battered women, harmed and harming women), the LSI-R was unable to accurately predict their recidivism (Reisig et al., 2006). As the LSI-R is a risk/needs assessment that is based on a traditional criminological theory (social learning theory), this evidence suggests that traditional theories may not accurately capture the risk factors or causes of some women offenders' criminal behavior, particularly if the risk factors are gendered.

Like Reisig and colleagues (2006), Salisbury and Van Voorhis (2009) also built upon Daly's (1992, 1994) framework when they conducted their empirical test of Pathways Theory. Using data collected from the Women's Risk/Needs Assessment (WRNA; Van Voorhis, Wright, Salisbury, & Bauman, 2010), they conducted path analyses using a sample of 313 adult women probationers. The results indicated that

three distinct gendered pathways, the *childhood victimization model*, the *relational model*, and the *social capital model*, predicted reincarceration. The *childhood victimization model*, the pathway of particular interest in the current study, illustrated the damaging interconnected effects of women's childhood abuse experiences, mental health, and substance abuse on offending behavior (Salisbury & Van Voorhis, 2009).

Another study conducted by Lynch, DeHart, Belknap, and Green (2012) used a mixed-methods approach to examine pathways to offending for women with and without serious mental illness (SMI). First, a quantitative analysis of a random sample of women in jail ($n = 491$) found that women with SMI had higher rates of victimization experiences and offending behavior than women who did not have SMI. Specifically, childhood and adult victimization significantly predicted mental health that in turn was the only significant predictor of offending behavior. Next, the researchers conducted Life History Calendar interviews with a subset of the sample ($n = 115$) to examine how the onset of different types of criminal activity and delinquency were a result of mental health issues and trauma exposure. They discovered women with SMI were at higher risk for running away, substance use, and drug dealing/charges. In addition to the increased risk associated with SMI, various forms of traumatic victimization predicted the onset of offending (Lynch et al., 2012).

Other empirical support for Pathways Theory has emerged in the form of research examining typologies of justice-involved women and girls. For example, Brennan, Breitenbach, Dieterich, Salisbury, and Van Voorhis (2012) used quantitative taxonomic methods on a large sample of women inmates ($n = 718$) to identify diverse pathway patterns. Using gender-neutral[1] and gender-responsive risk factors, their analyses produced eight distinct paths or subgroups, four of which reflected gendered pathways discussed in both the qualitative (Daly, 1992, 1994) and quantitative literature (Salisbury & Van Voorhis, 2009). Four of the eight paths were characterized by experiences with abuse, mental health issues, substance abuse, and abusive relationships with significant others (Brennan et al., 2012).

Unlike the previous research, Jones, Brown, Wanamaker, and Greiner (2014) was the first to include a male comparison group in their study. They used proximity scaling to determine the thematic structures of the background and offending characteristics of a sample that included 663 female and 1,175 male juvenile offenders under community supervision. The results indicated that a gendered pathway emerged for girls only, one that, among other things, included elements of abuse, mental illness, and substance abuse. Another pathway for girls also emerged, one that resembled a more traditional pathway that is depicted in the gender-neutral literature that included items such as impulsivity, criminal attitudes, and criminal peers. The results suggest that integration of both the gender-neutral correctional literature and Pathways Theory is necessary for fully addressing the needs of female delinquents.

In sum, Pathways Theory posits childhood abuse is important in the etiology of offending behavior and its influence is via a "pathway" that is mediated by mental health issues and substance abuse. More specifically, childhood victimization and trauma contribute to mental health issues, such as mood or anxiety disorders, and if left untreated, may result in self-medicating behaviors through the abuse of drugs and/

or alcohol. The addiction that results from the self-medicating behaviors may result in contact with the juvenile or criminal justice system due to various mechanisms, such as arrests for (a) possession of illegal drugs, (b) property crimes committed to support a drug addiction, and/or (c) prostitution, which is done to facilitate drug use.

The Current Study

This study endeavors to examine a pathway presented in the feminist criminological literature that underscores the importance of childhood abuse in the etiology of female offending. The research was conducted in the Pretrial and Community Transition Services' Department in Hamilton County, Ohio, using the *Inventory of Need Pretrial Screening Tool* (ION). This study is unique in that it addresses several limitations found in prior empirical research. These limitations include (a) lack of an adult male comparison group (Brennan et al., 2012; Jones et al., 2014; Reisig et al., 2006; Salisbury & Van Voorhis, 2009); (b) use of delinquent/offender samples (Brennan et al., 2012; Jones et al., 2014; Reisig et al., 2006; Salisbury & Van Voorhis, 2009); (c) use of assessments that do not identify gender-responsive needs (Jones et al., 2014; Reisig et al., 2006); and (d) lack of or inadequate measures of recidivism (Brennan et al., 2012; Jones et al., 2014; Salisbury & Van Voorhis, 2009).

The current study explores a childhood victimization model discussed in Pathways Theory to determine the direct and indirect effects childhood physical and sexual abuse, history of mental illness, and history of substance abuse have on two pretrial outcomes. It is the first to examine this pathway with (a) an adult male comparison group, (b) a defendant sample,[2] (c) a gender-responsive assessment instrument administered to male subjects, and (d) a measure indicating recidivism (i.e., new arrests). The current study poses two research questions. The first concerns whether the pathway that includes childhood physical and sexual abuse, mental health, and substance abuse is women-specific. The second seeks to determine if this pathway is related to the pretrial outcome measures of failure to appear[3] and new arrest.

Methods

Data and Participants

Data for this investigation were derived from the Inventory of Need Pretrial Screening Tool (ION). This instrument was created as part of a larger collaboration between the National Institute of Corrections (NIC) and the University of Cincinnati (UC) in which the Women's Risk/Needs Assessment (WRNA) was developed for convicted women offenders in probation, institutional, and pre-release correctional settings. The WRNA assesses gender-responsive needs such as child abuse, adult victimization, trauma, loss of personal power in relationships, housing safety, anger/hostility, family support, relationship support, parental stress, family conflict, and current symptoms of depression and psychosis (Van Voorhis et al., 2010). Initial discussions during the development of the WRNA included the desire to implement the instrument at all decision-making

stages of the criminal justice system, including the pretrial phase (P. Modley, personal communication, October 5, 2009).

In contrast to the post-conviction WRNA tools, the shortened pretrial version of the WRNA, the ION, was not subjected to construction validation research during the initial project. Just the same, the Hamilton County Pretrial and Community Transition Services Department used the ION with both male and female defendants to aid with pretrial release decisions and program referrals. To accommodate large numbers of pretrial defendants, the ION was shorter than the post-conviction WRNA[4] but nevertheless interviewed defendants on questions pertaining to residential stability and homeless status, family of origin, children, education, employment and financial status, abuse and trauma, mental health, and substance abuse.

Data collection for this study was conducted by a research team that administered the ION to pretrial defendants. The data were primarily collected by the author of this study and one other research assistant. Both individuals had appropriate training in interviewing skills, risk/need assessment administration, and human subject research.

In an effort to fully represent defendants on pretrial supervision, interviews with defendants took place at either the Hamilton County Office of the Department of Pretrial Services or the intake area in the Hamilton County Jail. When defendants were interviewed at the Office of the Department of Pretrial Services, a member of the research team approached a pretrial defendant and made a recruitment statement to enlist the defendant to participate in the study. Defendants agreeing to participate signed a consent form and the interview was conducted. If the defendant declined, the pretrial staff administered the screening tool[5] and that information was not included in this study. Interviews occurred in a private office.

At the Hamilton County Jail, a member of the jail staff introduced a research assistant to each defendant and the researcher recruited that person for the study. Obtaining consent was identical to procedures used in the pretrial office. Interviews at the Hamilton County Jail took place in a private section of the intake area. After each completed interview (at either the pretrial office or the jail), the research assistant made a copy of the screening tool and gave the original to pretrial staff.

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

A total of 313 individuals were approached to participate in the study. The sample was comprised of three groups of pretrial defendants: (a) diversion candidates, (b) individuals released on own recognizance bonds, and (c) individuals who were released from jail shortly after their arrest and booking. Forty-seven individuals opted not to participate, resulting in an acceptable 85% response rate. The final sample for this study was 266 pretrial defendants, 163 men and 103 women.

Table 1. Demographic and Criminal Histories of Pretrial Defendants.

Background characteristic	Entire sample (N = 266)	Men (n = 163)	Women (n = 103)
Average age (years)	29.4	30.8	27.1
% White[a]	47.0	49.1	43.7
% African American	48.9	49.1	48.5
% Hispanic	1.5	0.6	2.9
% Other race/ethnicity	2.6	1.2	4.9
% Married	10.9	12.9	7.8
% Children < 18	51.9	47.2	59.2
% High school diploma or GED	68.0	68.7	67.0
% Employed full-time	42.5	48.5	38.7
% Violent offense[b]	29.3	30.1	28.2
% Property offense[b,c]	33.1	28.2	40.8
% Prior felony	6.4	7.4	4.9
% Low risk (ORAS-PAT)[c]	39.5	32.5	50.5
% Medium risk (ORAS-PAT)[c]	51.5	58.3	40.8
% High risk (ORAS-PAT)	12.0	9.2	8.7

Note. ORAS-PAT = Ohio Risk Assessment System Pretrial Assessment Tool.
[a]Race and ethnicity was self-reported by the defendants.
[b]Refers to the defendant's current arrest offense.
[c]Gender differences were statistically significant.

Table 1 presents sample descriptives of the pretrial defendants' demographic and criminal histories. The mean age of the sample was approximately 29 years old, and almost half (47.0%) were White. Over two thirds (68.0%) of the sample had received a high school diploma or a GED, and 42.5% were employed full-time, were full-time students,[6] or provided full-time childcare.

Sample descriptives were also examined by gender. It was found that men were slightly older than women (approximately 31 years old vs. 27 years old, respectively) and more men were White than women (49.1% vs. 43.7%, respectively). Women were more likely than men to be arrested for property offenses (41% vs. 28% respectively), and this difference was statistically significant ($\chi^2 = 4.495$, $p \leq .05$). Women were also more likely to be classified as low risk by the Ohio Risk Assessment System Pretrial Assessment Tool[7] (ORAS-PAT; Latessa, Smith, Lemke, Makarios, & Lowenkamp, 2009) compared with men ($\chi^2 = 8.934$, $p \leq .01$; 51% vs. 33% respectively), whereas men were more likely to be classified as medium risk than women ($\chi^2 = 8.934$, $p \leq .01$; 58% and 41% respectively).

Measures

Measures of gender-responsive needs were obtained from the ION. Items comprising the mental health and substance abuse domains in the screening tool were factor analyzed using principal components extraction with varimax rotation. As a general rule,

items that loaded above 0.50 on each factor were retained and subsequently added together to create a cumulative scale. Table 2 presents measures of central tendency, dispersion, and internal consistency for each scale listed below.

Gender-Responsive Measures

Childhood victimization measures. Pathways Theory emphasizes the importance of abuse and trauma in the etiology of female offending. It has been proposed that experiencing abuse is at the root of the development of delinquency (Belknap, 2015; Chesney-Lind & Pasko, 2013; Chesney-Lind & Shelden, 2004) and may also be influential in continued offending patterns for some justice-involved women (Marquart, Brewer, Simon, & Morse, 2001; McClellan, Farabee, & Crouch, 1997; Widom, 1989a). This study included measures of childhood physical abuse and sexual abuse. Specifically, defendants were asked whether they had ever experienced physical abuse as a child and sexual abuse as a child. Dichotomous measures were developed to capture the incidence of both types of abuse (0 = no, 1 = yes).

History of Mental Illness Scale. Women in the criminal justice system tend to have higher rates of mental health problems and different mental disorders than men (Battle, Zlotnick, Najavits, Gutierrez, & Winsor, 2002; Belknap & Holsinger, 2006; Holtfreter & Morash, 2003; James & Glaze, 2006; McClellan et al., 1997; Owen & Bloom, 1995; Peters, Strozier, Murrin, & Kearns, 1997). Furthermore, gender-responsive scholars report that mental health issues result from abuse and trauma experiences and may result in women engaging in self-medicating with drugs and/or alcohol (Covington, 1998). Some studies have illustrated the interconnection between abuse, mental health, and substance abuse (Marquart et al., 2001; McClellan et al., 1997).

This scale included dichotomous items (0 = no, 1 = yes) reflecting whether respondents had (a) ever seen a counselor, psychologist, or psychiatrist; (b) ever been in a mental health hospital or in a mental health unit; (c) ever seen things or heard voices that were not really present; (d) ever taken any prescribed medication for a psychological problem or to help them feel better emotionally; and (e) ever been diagnosed with a mental illness. These five items were summed together to create a cumulative scale. A mental health scale using similar, if not the same, items has been used in previous pretrial research (Gehring & Van Voorhis, 2014), validated gender-responsive risk/needs assessments (see Van Voorhis, Salisbury, Bauman, Holsinger, & Wright, 2007; Van Voorhis, Salisbury, Bauman, & Wright, 2007; Van Voorhis, Salisbury, Wright, & Bauman, 2008; Van Voorhis, Salisbury, Wright, Bauman, & Holsinger, 2008; Van Voorhis et al., 2010) and other quantitative examinations of Pathways Theory (Salisbury & Van Voorhis, 2009).

History of Substance Abuse Scale. Although substance abuse is considered to be an important risk factor for both men and women (Andrews & Bonta, 2006), the gender-responsive literature suggests that justice-involved women who engage in substance abuse may be doing so to cope with untreated mental health issues and abuse histories

Table 2. Measures of Central Tendency, Dispersion, and Internal Consistency for Scales.

Scale	M		Median		SD		Minimum-maximum	Eigenvalue	% variance explained	α
	Female	Male	Female	Male	Female	Male				
Physical Abuse as a Child	0.19	0.18	0.00	0.00	0.40	0.38	0-1		Not applicable	
Sexual Abuse as a Child	0.28	0.06	0.00	0.00	0.45	0.23	0-1		Not applicable	
History of Mental Illness	1.58	1.29	1.00	1.00	1.61	1.56	0-5	2.80	56.05	.80
History of Substance Abuse	1.64	2.40	1.00	2.00	2.24	2.34	0-9	3.75	41.66	.82

(Bloom et al., 2003; Covington, 1998). Nine dichotomous items (0 = no, 1 = yes) measuring substance abuse history (including both alcohol and drugs) were asked of the respondents. These items were behavioral in nature and tapped into whether use or abuse of substances was significantly interfering in the respondents' lives.

These substance abuse items included in the scale asked if (a) they had a substance abuse offense on their record; (b) the use of substances was involved to the present offense; (c) their substance abuse had made it difficult to perform at work or school; (d) family or friends had expressed concern regarding their substance abuse; (e) they find it difficult to stop once they start drinking/using drugs; (f) they take prescription medication, they take more than their prescribed dosage; (g) they have experienced health or emotional problems due to substance abuse; (h) their substance abuse has ever caused any family or marital fights; and (i) their substance abuse has ever caused any financial problems. These nine items were summed together to create a cumulative scale. A substance abuse scale using similar, if not the same, items has been used in previous pretrial research (Removed for review, 2014), validated gender-responsive risk/needs assessments (see Van Voorhis, Salisbury, Bauman, Holsinger, & Wright, 2007; Van Voorhis, Salisbury, Bauman, & Wright, 2007; Van Voorhis, Salisbury, Wright, & Bauman, 2008; Van Voorhis, Salisbury, Wright, Bauman, & Holsinger, 2008; Van Voorhis et al., 2010), and other gendered pathways research (Salisbury & Van Voorhis, 2009).

Outcome Measures

This study examined two pretrial outcomes: (a) failure to appear for scheduled court appearances (FTA) and (b) arrest for a new offense while in the community (hereafter referred to as "new arrests"). These are standard outcome measures found in other pretrial studies (e.g., Latessa et al., 2009; Lowenkamp & Bechtel, 2007; Rose & VanNostrand, 2007). Dichotomous outcome measures were developed to capture FTAs (0 = no, 1 = yes), and new arrests (0 = no, 1 = yes) at 6 months following the data collection.[8] While prediction research involving offender populations often utilizes follow-up periods of 1 year or more (for examples, see Austin, Coleman, Peyton, & Dedel Johnson, 2003; Brennan, Dieterich, & Ehret, 2009; Brennan, Dieterich, & Oliver, 2004; Coulson, Ilacqua, Nutbrown, & Cudjoe, 1996; Girard & Wormith, 2004; Hollin & Palmer, 2006; Simourd, 2004; Van Voorhis et al., 2010), the average length of time of a defendant on pretrial release reflects a very limited time period. This time period can range from 3 to 9 months, depending upon the category (i.e., misdemeanor or felony) of the alleged charge (Piedmont Triad Regional Council, 2012). The outcome data were obtained from the Hamilton County internal database. A total of 19 men (11.7%) and seven women (6.8%) had acquired an FTA at 6 months. Thirty men (18.4%) and six women (5.8%) were rearrested after 6 months.

Data Analysis

Path analysis was used to test the hypothesized gendered pathway that included childhood physical abuse, childhood sexual abuse, history of mental illness, history of substance abuse, and outcome variables. The temporal order of the variables in the model

Table 3. Bivariate Correlations—Childhood Victimization Model for Females.

	Physical abuse as a child	Sexual abuse as a child	History of mental illness	History of substance abuse	6-month FTAs	6-month new arrests
Physical abuse as a child	—	.40**	.37**	.09	.16	.22*
Sexual abuse as a child		—	.53**	.17*	.17*	.06
History of mental illness			—	.41**	.31**	.17*
History of substance abuse				—	.46**	.31**
6-month FTAs					—	.64**
6-month new arrests						—

Note. FTA = failure to appear.
*p < .05. **p < .01.

was influenced by prior research and theory, and only recursive models were estimated. Path coefficients were estimated using a series of ordinary least squares regression analyses, progressing from left to right in each model. Path analyses were conducted for female and male defendants separately. The dichotomous measures of 6-month FTAs and 6-month new arrests were used as the endogenous variable in the final regression of each model.

Results

Bivariate Correlations

Tables 3 and 4 present the bivariate correlations from the child victimization model for females and males, respectively. Variables in this model included measures of childhood physical abuse, childhood sexual abuse, history of mental illness, history of substance abuse, 6-month FTAs, and 6-month new arrests. For women, the scales that were strongly correlated with 6-month FTAs were history of mental illness ($r = .31$, $p < .01$) and history of substance abuse ($r = .46$, $p < .01$). Interestingly, childhood sexual abuse was also correlated with this outcome ($r = .17$, $p < .05$). For 6-month new arrests, measures that were significantly correlated with this outcome also included history of mental illness ($r = .17$, $p < .05$) and history of substance abuse ($r = .31$, $p < .01$). A different abuse measure, physical abuse as a child, was also correlated with new arrests ($r = .22$, $p < .05$). For men, no measures were correlated with 6-month FTAs, and only one scale, history of substance abuse, was related to 6-month new arrests ($r = .16$, $p < .05$).

There were also several moderate and strong correlations between the independent variables. Not surprisingly, the abuse measures were correlated with one another for both women and men ($r = .40$, $p < .01$, and $r = .45$, $p < .01$, respectively). As for the other variables, physical abuse as a child and sexual abuse as a child were both related to the mental health measure for women ($r = .37$, $p < .01$, and $r = .53$, $p < .01$, respectively). In addition, sexual abuse as a child ($r = .17$, $p < .05$) and history of mental illness ($r = .41$, $p < .01$) were correlated with history of substance abuse for women.

Table 4. Bivariate Correlations—Childhood Victimization Model for Males.

	Physical abuse as a child	Sexual abuse as a child	History of mental illness	History of substance abuse	6-month FTAs	6-month new arrests
Physical abuse as a child	—	.45**	.33**	.24**	−.13	.07
Sexual abuse as a child		—	.27**	.20**	−.09	−.06
History of mental illness			—	.43**	.10	.11
History of substance abuse				—	.08	.16*
6-month FTAs					—	.29**
6-month new arrests						—

Note. FTA = failure to appear.
*p < .05. **p < .01.

For men, there were strong correlations between all of the variables. Like the women, physical abuse as a child and sexual abuse as a child were both related to the mental health measure ($r = .33$, $p < .01$, and $r = .27$, $p < .01$, respectively). In addition, both abuse measures (physical abuse: $r = .24$, $p < .01$, and sexual abuse: $r = .20$, $p < .01$) and history of mental illness ($r = .43$, $p < .01$) were related to men's substance abuse.

Path Model Analyses

The path model results are shown in Figures 1 and 2. The path coefficients in the model can be interpreted as standardized regression coefficients. Every possible recursive path was estimated in the model, but only significant paths are shown in the figures. Analyses indicated that for women, not only did childhood abuse indirectly influence FTAs and new arrests through mental health issues and substance abuse, but physical abuse as a child was directly related to new arrests. More importantly, a distinct pathway is observed for women; that is, childhood abuse led to a history of mental illness which contributed to substance abuse and later pretrial failure.

Path analyses of these same variables for men yielded very different results. As shown in Figure 2, a distinct pathway did not emerge. Instead, the results indicate that while childhood abuse, a history of mental illness, and a history of substance abuse are related, they are not working together to influence men's pretrial failure.

Discussion

Criminological theories are strengthened if research produces evidence to support their propositions. The current study endeavors to add to the empirical evidence regarding Pathways Theory while addressing the limitations presented in the previous quantitative analyses of this theory. A pathway exploring the intersections between childhood abuse, mental health issues, and substance abuse illustrated how these variables affected women's and not men's pretrial failure. For women, childhood abuse had both a direct and indirect effect on pretrial outcomes. Specifically, childhood
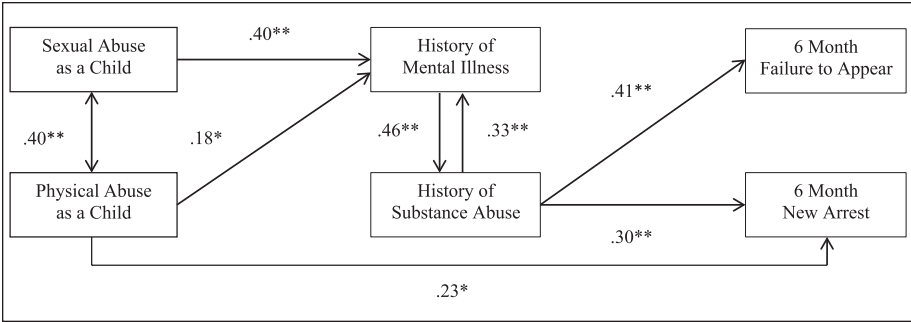
Sexual Abuse as a Child

Physical Abuse as a Child

History of Mental Illness

History of Substance Abuse

6 Month Failure to Appear

6 Month New Arrest

.40** .40** .18* .46** .33** .41** .30** .23*

Figure 1. Childhood victimization path model for women.
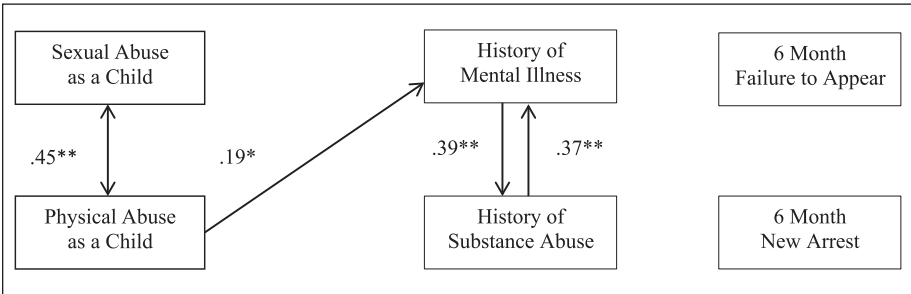*Note.* Only paths significant at *p* < .05 are shown.
*p < .05. ***p* < .01.

Sexual Abuse as a Child

Physical Abuse as a Child

History of Mental Illness

History of Substance Abuse

6 Month Failure to Appear

6 Month New Arrest

.45** .19* .39** .37**

Figure 2. Childhood victimization path model for men.
Note. Only paths significant at *p* < .05 are shown.
*p < .05. ***p* < .01.

physical abuse was directly related to new arrests, while both measures of childhood abuse created an indirect pathway to pretrial failure through psychological (mental health) and behavioral (substance abuse) variables. None of these relationships existed for men. These results suggest a gendered pathway to pretrial failure exists, one that is relevant for women and not men.

With any research study, certain limitations should be discussed. First, research examining "pathways" should ideally involve longitudinal data. This would allow for the correct designation of the temporal ordering of variables discussed in a specific pathway. While this would be ideal, it should not discount efforts to use statistical techniques with cross-sectional data that are strongly informed by theory and research. Therefore, the use of path analyses in the current study, while limited to the information to what conventional multivariate regression analysis can provide, allows for the testing of both direct and indirect effects on an outcome. While these results should not be interpreted as one variable *causing* another due to the cross-sectional nature of the data, the interpretation of the patterns of relationships is important in the current study.

Second, readers must be cautioned to the presence of low base rates on the outcome variables, especially for new arrests. Although low base rates are seen in most studies of pretrial outcomes (Mamalian, 2011; see Siddiqi, 1999; VanNostrand, 2003; VanNostrand & Keebler, 2009), they likely render findings somewhat unstable across studies and attenuate results. Low base rates are attributable to limited follow-up time frames, which are endemic to pretrial research (Peidmont Triad Regional Council, 2012). The limited follow-up time frame in the current study (6 months) was determined as it was population specific. The time between arrest and court appearances for pretrial defendants is much shorter than other criminal justice populations. As mentioned previously, prediction research involving convicted offender populations often utilize follow-up periods of 1 year or more (for examples, see Austin et al., 2003; Brennan et al., 2009; Brennan et al., 2004; Coulson et al., 1996; Van Voorhis et al., 2010). However, it should be noted that statistically significant pathways were apparent despite low base rates.

Third, the measures of childhood victimization consisted of two dichotomous questions tapping into whether the respondents did or did not experience physical or sexual abuse. While the ability to classify participants dichotomously according to the presence or absence of abuse is fundamental to research (DiLillo et al., 2006), there are some issues with assessing child abuse retrospectively. For example, there may be differences in how respondents perceive "abuse." One respondent may view being hit by a parent as physical abuse whereas another may perceive it as discipline, not abuse. In addition to this, retrospective assessments of abuse may be limited by several factors, including errors in recall due to the passage of time, intentionally false responding, and the possible inaccessibility of memories due to traumatic abuse (Widom & Morris, 1997). Regardless of these issues, the current dichotomous measures of childhood physical and sexual abuse are used in gender-responsive risk/needs assessments and have been shown to be valid predictors of pretrial failure (Gehring & Van Voorhis, 2014) as well as community recidivism and institutional misconducts (Van Voorhis, Bauman, & Brushett, 2012; Van Voorhis et al., 2010).

The final limitation is the size and type of the sample assessed in the present study. Researchers interviewed 163 males and 103 females. The limited number of cases could affect the number of statistically significant findings. In addition to this, locating and securing the cooperation of pretrial defendants is more problematic for pretrial studies than studies of probationers, parolees, and inmates. Sampling frames shift hourly and are not readily available to researchers. Thus, data collection was contingent upon who was arrested, who was in the jail intake area, and who appeared at the Hamilton County pretrial office on any given day. Use of a nonprobability samples is common to pretrial studies, yet it does raise concerns for the generalizability of these findings. However, there is no evidence to suggest the sample analyzed in the current study differed in any systematic way from the general population of pretrial defendants in Hamilton County, Ohio.

With consideration to these precautions, it is nevertheless possible to view the contributions of this study to the theoretical development and emerging empirical evidence supporting Pathways Theory. A common element in advancing theory

development occurs when researchers apply it in a new setting and discover that the relationships proposed in the theory hold in that new setting. Researchers need to learn something new about the theory itself as a result of working with it under different conditions. That is, new applications should improve the theory, not merely reaffirm its utility (Whetten, 1989). From a theoretical standpoint, while other research has provided evidence to illustrate that the Pathways Theory provides an explanation for women offenders' criminal behavior, the current study suggests that women's previous experiences are linked to their pretrial failure. Discovering the applicability of this theory at the beginning of the criminal justice system with a defendant sample broadens the impact of the components of Pathways Theory examined in this study. That is, while the current study cannot speak to whether the Pathways Theory impacts women's entry into the criminal justice system, it suggests that women's previous experiences (specifically with childhood abuse, mental health, and substance abuse) contribute to continued pretrial failure once they have entered into the system.

Following from this, the current study provides additional evidence to challenge the notion that traditional criminological theories adequately explain both male and female offending behavior. Just as traditional criminological theories were developed by studying men, Pathways Theory was developed by determining the correlates of female crime through the study of female offenders. By doing so, Pathways Theory has underscored the gendered context of crime and highlighted important components that are important in the etiology of female offending (i.e., the role of early victimization on later offending behavior) (Wattanaporn & Holtfreter, 2014). Future research expanding the pathways framework should include the examination of intersectionality between race, class, and gender (see Erez & Berko, 2010). It is not only important to study differences in criminal behavior between males and females but also *within* gender (Wattanaporn & Holtfreter, 2014). For example, future studies might examine how Pathways Theory explains female offending in samples that use gender and race/ethnicity combinations (i.e., White women compared with African American women).

From a practical standpoint, the current study illustrates there are gender-specific risk factors (i.e., child abuse, mental health, and substance abuse) that contribute to women's failure at the pretrial stage. This can inform the development of both pretrial and correctional risk/needs assessment instruments, case plans, and interventions for women. Risk/needs assessments should be based in theory and include risk factors that research suggests are linked to criminal behavior. For example, many "gender-neutral" risk/needs assessments are based in traditional theories of crime, such as social learning theory (Andrews & Bonta, 2006; Latessa et al., 2009). The current study suggests that an additional theory, Pathways Theory, should also be considered when developing risk/needs assessments for women. This would allow pretrial and correctional personnel to better identify and address issues that are contributing to women's criminal behavior. While it has been argued that a traditional criminological theory such as social learning theory describes *human* behavior, regardless of gender (Andrews & Bonta, 2006), there is nothing to suggest that this should be the *only* theory to inform correctional practices. Indeed, many scholars are now calling for a hybrid approach for women offenders, one that combines theoretical concepts from both the traditional

criminological literature and Pathways Theory (Hubbard & Matthews, 2008; Van Voorhis, 2012).

Some correctional risk/needs assessments have already begun to incorporate this hybrid model. Assessments like the WRNA (Van Voorhis et al., 2010), the COMPAS Reentry Assessment (Brennan & Dieterich, 2007), and the Service Planning Instrument for Women (SPIn-W; Robinson, Van Dieten, & Millison, 2005) utilize gender-responsive risk factors to achieve more accurate pictures of women offenders. The results from the current study suggest that abuse and trauma, mental health, and substance abuse are salient risk factors for women and are interconnected in a way that is different than their male counterparts. Pretrial and correctional agencies would do well to consider implementing a gender-responsive risk/needs assessment that has included Pathways Theory in its development.

Once a gender-responsive risk/needs assessment is implemented, case managers can use the assessment results to generate case plans. This is referred to as "assessment-driven case management" which is the focus of a treatment-oriented agency and a key to implementing evidence-based practices. Assessment-driven case management involves using the results of a risk/needs assessment to generate purposeful case plans. Both the case manager and the client work together to prioritize services and to develop goals based on dynamic risk factors. The case manager also works with the client to remove barriers or responsivity issues standing in the way of a client's treatment success. Because the results here suggest that childhood abuse, mental health, and substance abuse are risk factors for pretrial failure, developing a case plan at this stage of the criminal justice system that targets these issues may contribute to women's success. For example, a gender-responsive case management model, such as the Women's Offender Case Management Model (WOCMM; Van Dieten, 2008), could be used to comprehensively address these issues through the connection to a variety of service options and opportunities that target trauma, mental health, and substance abuse.

Following from this, effective correctional interventions should be based on an empirically solid theory of criminal behavior (Andrews & Bonta, 2006; Latessa, Cullen, & Gendreau, 2002). Programs that target risk factors identified in these theories will reduce the likelihood of reoffending. The results from this study suggest that components identified in Pathways Theory, specifically abuse and trauma, mental health issues, and substance abuse, should be treatment targets for women, as these directly and indirectly contribute to their pretrial failure. Furthermore, a holistic approach, one that collectively treats these issues, would be beneficial for many women offenders. Programs emphasizing only one of these components, such as substance abuse, may be unsuccessful due to inattention to the interrelatedness of the all factors. This manner of treatment has long been advocated by many gender-responsive scholars who propose a need for wraparound services, that is, holistic and culturally sensitive individualized plans for each woman that draws on a coordinated range of programs and services (Bloom et al., 2003). Identifying and attending to issues proposed in Pathways Theory is crucial for preventing women from reentering the criminal justice system.

Conclusion

In sum, the findings of the current study contribute to the quantitative investigation of Pathways Theory and lend support to the claims made by feminist scholars that compared with men, women follow unique pathways into the criminal justice system. The results indicated that childhood abuse was impacting women's pretrial failure, both directly and indirectly through mental health and substance abuse variables. This not only provides support for the importance of these components in Pathways Theory, but also confirms that these elements are important issues that must be addressed for female defendants. Assessing and addressing these needs at the pretrial phase has the potential to assist pretrial defendants to be successful at this stage. For example, knowing an individual's needs and connecting her to relevant services can stabilize her for the short amount of time between arrest and appearance in court. This may increase the likelihood that she will not fail during the pretrial phase (Byrne & Stowell, 2007; W. Niehaus, personal communication, August 5, 2009) because for many women, the cause of their cycling through the criminal justice system may not be criminal activity but failing to comply with a requirement of pretrial release (i.e., going to court). It is imperative that these issues are attended to, because unfortunately, once women are in the system, it is difficult for them to extricate themselves (Ney & Martin, 2005).

Notes

1. "Gender-neutral" risk factors are criminogenic needs that research has found to be linked to the offending behaviors of both men and women. Examples of these include antisocial attitudes, antisocial associates, employment, and education (Andrews & Bonta, 2006).
2. While an offender sample only includes those individuals who have been convicted of a crime, a defendant sample is broader, as it includes anyone who has been arrested. A defendant sample, therefore, could be considered a sample that falls between general population and offender samples. Using a defendant sample may alleviate the issues that arise when an offender sample is used, as offenders represent only a portion of all of the individuals who engage in offending behavior.

3. For some individuals, system outcomes, like failing to appear for scheduled court appearances, could potentially mushroom into more extensive involvement in the criminal justice system. This problem may be especially relevant for women, as research has reported female pretrial defendants are more likely to accrue failures to appear (FTAs) than men (Maxwell, 1999; Siddiqi, 2006).

4. It should be noted that although items included in the *Inventory of Need Pretrial Screening Tool* (ION) were initially developed in as part of the National Institute of Corrections/University of Cincinnati collaboration in which the Women's Risk/Needs Assessment (WRNA) was developed, there are differences between WRNA developed by Van Voorhis and colleagues and the ION. Unlike the WRNA, the ION *does not* include domains tapping into antisocial attitudes, educational strengths, antisocial friends, anger/hostility, current symptoms of depression/anxiety, current symptoms of psychosis, family conflict, relationship dysfunction, self-efficacy, and parental stress.

5. As noted previously, pretrial staff uses this tool to assess the needs of pretrial defendants. This assessment would have been conducted regardless of whether the current research study occurred or not.

6. Students were included in the "full-time" category as many students in this sample went to school full-time. That is, they were in high school or attending college full-time.

7. The Ohio Risk Assessment System: Pretrial Assessment Tool is a validated gender-neutral risk assessment used to determine a defendant's risk of FTA and new arrests. This tool is comprised of static items that research has linked to pretrial failure. These include age at first arrest, FTA history, incarceration history, employment status, residential stability, and substance abuse.

8. Prevalence data were used for this analysis (whether the incident happened or not). Incidence data were not used (number of times the incident occurred) due to the presence of outliers.

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