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Psychiatric symptoms and mental health court engagement

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Abstract

People with mental illnesses are overrepresented in the criminal justice system. Many interventions have been implemented to treat the underlying causes of criminal justice involvement and prevent people with mental illnesses from recidivating. Mental health courts (MHC) are one of these programs. This analysis examines the relationship between psychiatric symptoms and MHC engagement. Eighty MHC participants from two Midwestern MHCs were interviewed. Symptom severity was assessed at baseline using the Brief Psychiatric Rating Scale. MHC engagement was estimated by treatment adherence, substance use, days spent in jail, probation violations, and MHC retention during a six month follow-up period. Using nonparametric statistical tests and logistic regression, results indicate symptoms of depression, anxiety, and guilt are more severe at baseline for those people who are incarcerated during the follow-up period. Symptoms of anxiety are more severe for people who are terminated or went missing during the follow-up period. Further research is needed to determine the directionality and causality of these relationships. MHCs professionals should be aware of the relationship between symptom severity and MHC engagement and attempt to connect participants with treatment and services as early as possible and individualize treatment plans based on current symptoms and need.

Keywords

severe mental illness; criminal justice; mental health court; psychiatric symptoms; recidivism

The high prevalence of people with mental illnesses within the criminal justice system is documented extensively in the literature. An estimated one million people with mental illnesses are arrested and booked in the United States each year (Morrissey, Meyer, & Cuddeback, 2007). Approximately 45% of people seeking services through community mental health agencies had at least one previous contact (e.g., arrest, detention, or citation) with the criminal justice system (Theriot & Segal, 2005). Once people with mental illnesses come into contact with the criminal justice system, they are at a high risk of criminal recidivism. People with severe mental illnesses (i.e., schizophrenia, bipolar, major

depression, and psychotic disorders) in prison have an increased risk of having multiple previous incarcerations in comparison to the general prison population; people with bipolar disorder were at the highest risk, 3.3 times greater risk for chronic recidivism (Baillargeon, Binswanger, Penn, Williams, & Murray, 2009).

One growing intervention for this population is mental health courts (MHC). The theoretical underpinnings of MHCs (i.e., therapeutic jurisprudence) posit that treatment and services coupled with intensive court oversight are needed to reduce criminal recidivism (Wexler, 1992). MHCs vary by judicial circuit in their target population, referral process, plea arrangements, supervision, availability and type of treatment, and the use of incentives and sanctions (Council of State Governments Justice Center, 2008) as MHCs tend to tailor programming to meet the unique needs of their communities while taking into consideration available resources and funding (Erickson, Campbell, & Lamberti, 2006; Watson, Luchins, Hanrahan, Heyrman, & Lurigio, 2000). Despite variation, MHCs do have a number of common components that distinguish them from traditional courts including a specialized docket for certain individuals with mental illnesses; voluntary diversion to the specialized docket; intensive community-based treatment as a condition of program participation; team-based monitoring of court orders by the judge, caseworkers, and/or probation officers; frequent status hearings before the judge; and rewards and sanctions to encourage compliance with court mandates (Council of State Governments Justice Center, 2008; Steadman, Davidson, & Brown, 2001; see Epperson et al., 2013, for further detail regarding the MHC model).

There is an expanding body of research on MHC participation that does suggest, at least among the people who choose to participate in MHCs, criminal recidivism post-MHC participation is reduced with the most significant reductions among MHC graduates (Campbell, Canales, Wei, Totten, Macaulay, & Wershler, 2015; Herinckx, Swart, Ama, Dolezal, & King, 2005; Hiday and Ray, 2010; Hiday, Wales, & Ray, 2014; Trupin & Richards, 2003; McNiel & Binder, 2007; Moore & Hiday, 2006; Steadman, Redlich, Callahan, Clark Robbins, & Vesselinov, 2011; Sarteschi, Vaughn, & Kim, 2011). There is also a small body of work that has examined MHC participant perceptions of court processes like procedural justice (Canada & Hiday, 2014; Canada & Watson, 2013; Kopelovich, Yanos, Pratt, & Koerner, 2013;), therapeutic jurisprudence (Redlich & Han, 2014), and stigma (Ray & Dollar, 2014) and how these processes may impact longer term outcomes like recidivism.

There are scant studies that measure or examine MHC participants' psychiatric symptoms and the impact these symptoms have on MHC engagement. One of the few studies that did measure psychiatric symptomatology actually found that participants' symptoms increased over time in both traditional court and MHC (Boothroyd, Mercado, Poythress, Christy, & Petrila, 2005). Authors caution that although MHC participants were engaged in treatment, there was no record of the type and quality of treatment provided. More recently, researchers found MHC participants' primary psychiatric diagnoses were not associated with receiving jail as a sanction (Callahan, Steadman, Tillman, & Vesselinov, 2013) or recidivism and MHC program retention (Comartin, Kubiak, Ray, Tillander, & Hanna, 2015). Campbell and colleagues (2015) did find that MHC participants' psychiatric symptoms had either

improved during MHC or stabilized; however, they did not examine how symptoms during MHC impacted engagement or court compliance.

Relatively little is known about the factors that facilitate or impede participants' success within MHC. Looking at the broader literature, a number of factors are thought to contribute to criminal recidivism among people with mental illnesses. Some of these factors include the high likelihood of probation or parole violations (Feder, 1991; Lamb & Weinberger, 2005; Lurigio, Rollins, & Fallon, 2004; Skeem & Eno Louden, 2006); having a dual-diagnosis (Wilson, Draine, Barrenger, Hadley, & Evans, 2013); and environmental factors like social disadvantage, social difficulties, and a lack of or inadequate social capital (Draine, 2002; Draine, Salzer, Culhane, & Hadley, 2002; Draine & Wolff, 2009). However, one of the most noted factors and the topic of extensive literature is the role of psychotic symptoms in criminal conduct and recidivism. One meta-analysis identified over 200 research studies that aimed to estimate the effect of psychosis on violence (Douglas, Guy, & Hart, 2009). In general, there is much debate in the literature regarding the role of psychiatric symptoms in criminal justice involvement. Wolff (2002) argues that there is no evidence that psychiatric symptoms cause criminal offending while others suggest untreated symptoms, the long-term effects of deinstitutionalization, and psychosis, in particular, are profoundly important in understanding the intersection of mental illness and criminal justice involvement (Douglas et al., 2009; Lamb & Weinberger, 1998).

The ways in which psychiatric disorders are commonly investigated in criminal justice-based studies complicates interpretation of the role that psychiatric symptoms may play in criminal offending. Studies investigating severe mental illnesses in the criminal justice system often place a heavy emphasis on psychosis at the expense of examining other symptoms (Draine & Solomon, 2000) while individual differences in the expression of mental illness symptoms are often ignored (Wolff, 2002). Further, the role of psychiatric symptoms in criminal justice involvement is often conceptualized in relation to diagnoses rather than the current state of symptoms (i.e., people with schizophrenia and crime, see Lindqvist & Allenbeck, 1990 for an example). It is commonplace for people with severe mental illnesses to have co-occurring or subsyndromal symptoms that may not necessitate a secondary diagnosis, but that may still contribute to overall mental health and behavior (Bartels & Drake, 1988; Kasckow & Zisook, 2008; Lysaker & Salyers, 2007; Padget, Hawkins, Abrams, & Davis, 2006; Siris et al., 2001; Ventura, Nuechterlein, Subotnik, Hardesty, & Mintz, 2000). For example, Zisook and colleagues (1999) found that 30% of their sample of people with schizophrenia reported mild depressed mood, feelings of guilt, and/or feelings of hopelessness. Draine and Solomon (2000) propose that symptoms of anxiety and depression among people with severe mental illnesses in the criminal justice system mediate quality of life. They argue that quality of life and symptoms like anxiety and depression may be important factors that, for example, could impair one's ability to comply with court orders, adherence to treatment, manage daily living, and follow probation requirements thus impacting the risk for criminal recidivism and successful engagement in programs like MHC.

Although it does appear that psychosis has a small effect on violence (Douglas et al., 2009), there is little evidence that psychotic symptoms alone cause people to recidivate (Draine,

2002; Draine et al., 2002; Epperson, Canada, & Lurigio, 2013; Wolff, 2002). Given the relationship between psychiatric symptom severity and MHC engagement remains relatively unknown, the purpose of the current analysis is to investigate that relationship—between psychiatric symptom severity, including subsyndromal symptoms, and MHC participant engagement as measured by treatment adherence, spending time in jail during MHC, substance use, probation violations, and MHC retention. The current analysis is not intended to suggest causal explanations for criminal justice involvement as the study sample is already involved in the criminal justice system, but rather it is intended to explore the relationship between psychiatric symptoms at one time point and engagement in MHC during a six month follow-up period. This analysis is important in order to explore and explicate the factors that impact MHC participants' success in MHCs and ultimately criminal recidivism.

Methods

Participants from two well-established Midwestern MHCs were recruited for this study between September 2010 and October 2011. The two MHCs in this study are comparable as they both include the core components that distinguish MHCs from traditional courts (Council of State Governments Justice Center, 2008). There are, however, several key differences between the courts: (1) one is housed in a large urban setting while the other covers both a smaller urban and rural area; (2) the large urban MHC only accepts felony charges while the other MHC primarily accepts felony charges but does consider defendants with misdemeanor charges case-by-case; and (3) the large urban MHC is post-adjudication meaning a guilty plea through the traditional court is required in order to participate in the MHC while the other MHC is both pre- and post-adjudication meaning some participants have the opportunity to have their charges dropped after successful MHC. Due to court differences, the MHC location is controlled for in multivariate analyses.

Eligible participants were adults enrolled in the MHC for between two and eighteen months. This cutoff was selected for two reasons. Participants are not always linked immediately with treatment and, at times, are required to wait for open beds in treatment facilities. Two months appeared to be a conservative estimate in order for potential study participants to be linked with treatment and engaged in the program. Second, program retention was an outcome of interest. Most participants in the MHCs in this study are in the program for about two years and according to MHC staff in this study, people who drop out or are terminated tend to do so between six and nine months. By instituting an eligibility cut-off of eighteen months, there was an opportunity to include MHC participants who did and did not complete the program (MHC administrators, personal communication, March 2010). This is important because non-graduates may have different experiences than graduates (Moore & Hiday, 2006).

Ninety-one participants met eligibility criteria and were invited to participate through the distribution of flyers by the researcher and MHC staff. Eighty participants (88%) consented to study participation (40 from each court). The 11 eligible participants who were not enrolled did not participate because they did not return the researcher's phone call ($n = 5$),

did not have a working phone number ($n = 5$), or presented with paranoid delusions that interfered with the consent process ($n = 1$).

Procedures

All eligible people who consented to participating in the research project met with the researcher for an interview at a location convenient to the participant. The interview consisted of completing standardized measures on symptom severity and self-reported information on participants' demographics and medical and legal history. Participants also provided consent for the collection of administrative data from the MHC staff regarding MHC program retention, days spent in custody, substance use, probation violations, and treatment adherence each month for six months following their interview. The University Institutional Review Board reviewed and approved all forms and procedures.

Study Variables

Demographic characteristics—All of the demographic and background information described in this section is self-reported and cross-validated with MHC documentation. Demographic information obtained includes age (in years), sex, relationship status (0 = *single*; 1 = *committed relationship*), education level (in years of education), country of birth, race, living arrangements (0 = *community*; 1 = *institution*), employment status (0 = *no employment*; 1 = *full time*; 2 = *part time*), disability status (0 = *no disability*; 1 = *receiving SSI or SSDI*), and annual income. Information regarding medical history including mental illness diagnosis (primary diagnosis, secondary diagnoses, and personality or intellectual disorders), substance use diagnosis, and psychiatric hospitalizations (number of admissions in the two years prior to MHC acceptance) was also obtained. Legal history including number of arrests in the two years prior to MHC acceptance, current charges, and length of MHC participation (in months) was collected.

Symptom severity—Symptom severity was measured with items from the *Anchored Brief Psychiatric Rating Scale* (BPRS; Overall & Gorham, 1962; Woerner, Mannuzza, & Kane, 1988). The BPRS is an 18-item measure with symptom severity reported on a 7-point scale from 1 (*Not reported*) to 7 (*Very severe*). Each item of the anchored version includes a description of the symptom and a descriptive anchor for each symptom scale. For example, the scale assessing anxiety describes anxiety as “worry, fear, or over-concern for present or future.” Raters are instructed to rate anxiety “...solely on the basis of verbal report of patient's own subjective experiences pertaining to the past week. Do not infer anxiety from physical signs or from neurotic defense mechanisms,” (Woerner et al., 1988). The level of symptom severity is also anchored (e.g., “*very mild*” = “*occasionally feels somewhat anxious*”) for improved clarity. As recommended by Woerner and colleagues (1988), some symptoms are participants' subjective reporting while others are assessed by the researcher throughout the interview. For subjective reported symptoms (i.e., somatic concerns, anxiety, guilt, grandiosity, depression, hostility, suspiciousness, hallucinatory behaviors, unusual thought content, and disorientation), the researcher read aloud the detailed symptom descriptors and asked study participants to discuss their experience with symptoms during the past week using the detailed Likert scale anchors as a guide. Other symptoms including emotional withdrawal, conceptual disorganization, tension, mannerisms and posturing,

motor retardation, uncooperativeness, and blunted affect were rated by the researcher using symptom descriptors and detailed anchors based on interactions with the participants throughout the interview. Studies on the reliability of the BPRS report inter-rater reliability ranging from $r = 0.52$ through 0.90 (Overall & Gorham, 1962; Flemenbaum & Zimmerman, 1973). One researcher who is a licensed clinical social worker assessed symptom severity for all study participants in the current study thus inter-rater reliability is not estimated; however, the BPRS has adequate internal consistency in this study ($\alpha = 0.77$).

Dependent Variables—A total of five dependent variables that represent MHC engagement were collected: (1) days spent in jail; (2) number of probation violations; (3) substance use including alcohol and illegal substances measured through urine analysis and breathalyzers; (4) MHC retention; and (5) treatment adherence. The MHC probation officer and administrator provided the number of days the participant spent in jail which is used as a sanction or because of a new arrest in both MHCs in this study, number of probation violations, substance use as measured by positive urine analysis or breathalyzer, and program retention. Variables were dichotomized at the end of the six month follow-up period. MHC caseworkers reported on treatment adherence each month using a four point scale (1 = *Never follows treatment recommendations*; 4 = *Always or almost always follows treatment recommendations*). Monthly scores were summed after six months; final scores were dichotomized into high and low treatment adherence for data analysis (low = *total adherence summed to 18 or less*; high = *total adherence summed to more than 18*).

Data Analysis

All statistical analyses were conducted using SPSS predictive software version 20.0.

Descriptive statistics—Descriptive statistics were calculated and reviewed for all demographic and dependent variables and symptom scales. These included mean, median, skewness and kurtosis coefficients, along with graphical representations (i.e., histograms and boxplots) of the distributions of the variables. Correlations between symptoms were calculated using Spearman's rho. Given the underlying distribution of the data were non-normal, nonparametric tests were employed. Differences in symptom severity were assessed for sex, race, substance use, mental illness diagnosis, and living situation using the Wilcoxon-Mann-Whitney Test (discussed below).

Nonparametric statistics—While both parametric and nonparametric tests assume random sampling and independence of errors, the parametric tests assume a normal distribution across groups while the nonparametric alternatives do not. The nonparametric tests, however, do assume that the distributions of observations in each group have similar shapes to their distributions (Fagerland & Sandvik, 2009). We tested this assumption by checking the variances of each group.

The Kruskal-Wallis Equality of Population Rank Test (Kruskal & Wallis, 1952; 1953) tests the hypothesis that two or more groups are from the same population. It is the nonparametric analog to the analysis of variance (ANOVA). If significant, the Wilcoxon-Mann Whitney Test was employed to test pairs of groups with a Bonferroni correction. The effect size for

the Kruskal Wallis was computed using $\eta^2 = \chi^2 / N - 1$, where χ^2 is the reported chi-square value for the Kruskal Wallis test and N is the total number of cases.

The Wilcoxon-Mann-Whitney Test (Mann & Whitney, 1947; Wilcoxon, 1945) tests the hypothesis that two groups are from the same population. It is the nonparametric analog to the independent t -test. The appropriate effect size was also computed. The effect size for the Wilcoxon-Mann-Whitney test is computed using $r = z / \sqrt{N}$, where z is the reported critical value for the Wilcoxon-Mann-Whitney test and N is the total number of cases (Rosenthal, 1991).

Multivariate analyses—After considering the bivariate analyses, theory-driven variable selection strategies to identify parsimonious logistic regression models (Chatterjee & Hadi, 2006) was used. In order for a variable to be included in the final model, the variable needed to make theoretical sense and have empirical support. Empirical support came from prior research, significant bivariate relationships, or an increase in the statistical significance of a model when including a variable in the regression analysis (Chatterjee & Hadi, 2006). Only theoretically-significant variables that added significance to the regression models were included in the final model due to limited statistical power.

Missing data—Direct communication with staff minimized missing administrative data; however, in cases where missing data were unavoidable, we either omitted the case or averaged the scores. Specifically, if data on substance use ($n = 5$) were missing, the cases were omitted from analysis. Missing data regarding treatment adherence ($n = 8$) were managed by averaging the missing month for cases missing one or two months; cases missing three or more months of data were omitted ($n = 4$). Two cases were omitted from analysis of days spent in jail and probation violations because participants were terminated from the program in the first month of follow-up. No data were missing for program retention, participant demographics, or symptom scales. For participants who were terminated from the program, missing, or graduated before the end of the follow-up period, the monthly variables were considered missing and addressed according to the standards above.

Results

Sample Description

Demographics—Over half of participants were men (55%) and self-identified as African American (56%). The average age of participants was approximately 40 years old ($SD = 12.1$). On average, participants completed 11.3 ($SD = 2.5$) years of education. Approximately half of the sample reported to be in a committed relationship (49%). Few participants were employed at the time of the structured interview (5%) and over half received Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI). The average annual income among participants was \$5,369 ($SD = \$5,302$); the majority of participants (89%) were living below the federal poverty line, which is \$11,770 annually for one individual (Illinois Legal Aid, 2015). Approximately 35% of study participants lived in an institution during the structured interview; institutional living

included inpatient mental illness/substance abuse treatment facilities, nursing homes, or inpatient psychiatric hospitals.

Clinical and legal variables—The majority of individuals in this study reported a primary diagnosis of bipolar disorder (54%) or schizophrenia/schizoaffective disorder (34%). Most also reported a co-occurring substance use disorder (84%). In the two years prior to MHC participation, study participants reported an average of 1.5 ($SD = 2.4$) psychiatric hospitalization admissions and 2.9 ($SD = 2.4$) arrests. Most participants were arrested for theft (44%), drug-related (21%), or battery charges (19%) when entering the MHC. Participants were in the MHC program for an average of 7.6 months ($SD = 5.2$) at the time of their structured interview. All participants were enrolled in mental health and/or substance use treatment. Treatment and related resources included individual/group psychotherapy, non-clinical groups (e.g., skill building, GED preparation, 12-step, vocational training), psychiatric visits, medication management, and substance use treatment (e.g., group therapy, dual-diagnosis treatment).

On average, participants' psychiatric symptoms were mild during the seven days preceding their research interviews ($M = 34.2$, $SD = 10.4$; possible range 18 to 126). All 18 symptom scales are outlined in Table 1. Reported symptoms were most severe for anxiety ($M = 3.8$, $SD = 1.9$), depression ($M = 3.3$, $SD = 1.8$), and feelings of guilt ($M = 3.3$, $SD = 2.0$) with average scores ranging between mild and moderate. Ogloff and colleagues' (2011) study on people with mental illnesses who were detained by the police also found the highest scores for depression, anxiety, and guilt as measured by the BPRS; however, participants' symptoms in the current study were, on average, more severe.

Participants' reports of anxiety, depression, and guilt were highly correlated with one another (anxiety and guilt $\rho = 0.36$, $p < 0.01$; anxiety and depression $\rho = 0.54$, $p < 0.01$; and depression and guilt $\rho = 0.39$, $p < 0.01$). Group differences in reported anxiety, guilt, and depression were estimated between men and women; white and minority participants; participants with and without substance use problems; and participants living in the community and an institution. Results are outlined in Table 2. Three salient group differences are important to note. The median depression scores reported by women were significantly higher than men (see Table 2 for test statistic and median scores). The median for women indicates moderate depressive symptoms while the median for men indicates mild symptoms. Medians scores were also significantly different in reports of guilt between white and minority MHC participants such that the median for minority participants indicates very mild feelings of guilt. Finally, the median for reports of depressive symptoms was lower for participants living in an institution (mild) in comparison to participants living in the community (moderate).

The Kruskal-Wallis test was used to examine differences in reported anxiety, depression, and guilt between participants' psychiatric diagnoses. No significant differences emerged. Differences in these symptoms by time in the MHC was also examined ($1 = \text{two to five}$; $2 = \text{six to 12}$; $3 = 13 \text{ to } 18$). Although there were no group differences in depression and guilt, group two reported significantly higher anxiety than the other two groups (moderately severe). Results were also significant in reported depressive symptoms between participants

charged with different types of crimes. Specifically, the mean rank value was significantly higher for people charged with battery or assault (moderate) in comparison to people charged with theft or burglary (mild).

Dependent Variables

As discussed above, the dependent variables were dichotomized at the end of the follow-up period. In bivariate analyses using the Kruskal-Wallis test, the average composite score of symptom severity was significantly associated with three dependent variables: jail, treatment adherence, and MHC retention. People who went to jail during the follow-up period had significantly more severe symptoms at baseline ($p < 0.01$). Similarly, people with low treatment adherence in the follow-up also had significantly more severe symptoms at baseline ($p < 0.05$). Symptom severity at baseline was significantly lower among people who remained in the MHC or graduated during the follow-up ($p < 0.05$). There were no significant associations between symptom severity at baseline and substance use or probation violations in the follow-up period.

The three variables with significant relationships to symptom severity in bivariate analyses were further examined by controlling for the amount of time participants were in the MHC at the time of baseline interviews, MHC location, and participant sex, age, and race. Relationships remained significant even when controlling for covariates. Table 3 outlines the final logistic regression models.

Guilt, Depression, and Anxiety in Relation to Dependent Variables

As described above, when explicating the composite symptom severity score, participants' symptoms of anxiety, depression, and guilt were most severe. Bivariate analyses using the Kruskal-Wallis test indicate that people who spent any time in jail during the following-up period had significantly more severe symptoms of depression, anxiety, and guilt ($p < 0.05$ for all tests) at the time of their baseline interview. People who graduated or remained in the MHC during the follow-up period had significantly less severe anxiety at the baseline interview ($p < 0.05$). However, there were no significant differences in these symptoms among people with high and low treatment adherence.

When examining these relationships using logistic regression and again controlling for the same variables noted above, symptoms of depression ($OR = 1.51$ [1.08, 2.12], $p < 0.05$), anxiety ($OR = 1.57$ [1.15, 2.13], $p < 0.01$), and guilt ($OR = 1.35$ [1.04, 1.76], $p < 0.05$) remain, on average, more severe at baseline for those people who are incarcerated during the follow-up period. Symptoms of anxiety also remain more severe for people who are ultimately terminated or went missing during the follow-up period ($OR = 1.74$ [1.02, 2.94], $p < 0.05$).

Discussion

The purpose of the current analysis is to examine the role of psychiatric symptoms in MHC engagement for a group of people with severe mental illnesses who were already involved in the criminal justice system. Symptom severity, assessed using a composite score of the BPRS, is associated with MHC program retention and incarceration and treatment adherence

during MHC when controlling for key differences in demographics, MHC location, and participant length of time in the MHC. This analysis also explicated symptom severity findings by assessing the relationships with being incarcerated during MHC, treatment adherence, and MHC retention through the examination of individual psychiatric symptoms.

The participants in this study experienced, on average, mild to moderate symptoms of anxiety and depression and feelings of guilt in the week prior to study participation. Heightened symptoms of anxiety, depression, and guilt, in particular, were significantly associated with incarceration in the follow-up period. People who remained active in the MHC or who graduated reported less anxiety during their initial interview in comparison to people who were terminated or went missing from the MHC. Contrary to what was expected, substance use and probation violations are not significantly associated with symptom severity.

This analysis is not intended to suggest causal explanations for criminal justice involvement as the study sample was already involved in the criminal justice system. These findings do suggest that current symptomatology is associated with important measures of recidivism and MHC engagement and may be especially important to consider because of the intensity of specialty court programs. Interestingly, when looking at differences in symptoms by time in court, participants in their sixth to 12th month of MHC reported moderately severe anxiety, the highest when comparing anxiety to newer participants and participants approaching graduation. Additional research is needed to explore why this group experiences higher anxiety but it could be related to the intensity of MHC programming or the process of recovery, for example.

Although understudied, it is not surprising that people with severe mental illnesses report symptoms of depression, anxiety, and guilt as this population encounters high rates of trauma (Padget et al., 2006) and victimization in the community (Maniglio, 2009) and in prison (Blitz, Wolff, & Shi, 2008). Women with mental illnesses report high exposure to trauma (Christensen et al., 2005; Padget, et al., 2006), particularly women in the criminal justice system (Salina, Lesondak, Razzano, & Weilbaeher, 2007; Wolff et al., 2011). Women in this study also reported significantly more severe depressive symptoms in comparison to men. In previous research, feelings of guilt and depressed mood were reported more frequently by people with schizophrenia than the general population even when excluding people with schizophrenia who have a co-occurring diagnosis of an affective disorder (e.g., schizoaffective or major depressive disorder, Zisook et al., 1999). Collectively, previous research and results from the current analysis highlight the importance of using trauma-informed care models in criminal justice-based interventions. They also suggest and support the use of individualized treatment plans for MHC participants where participants with the most severe symptoms receive more intensive treatment, support, and supervision until symptoms severity has stabilized. Campbell and colleagues' (2015) findings on using the risk-need-responsivity model also support the need for carefully matching services to the individual needs of MHC participants.

The group of participants in this study were largely living below the poverty line (89%). Although treatment for mental illness and substance use is an important component of the

MHC, participants may also benefit from financial literacy, vocational training, and job readiness programming. Living in poverty and economic hardship are risk factors for criminal justice involvement (Brown & Males, 2011). Helping people gain access to economic resources during MHC may serve a protective function after MHC participation.

The findings from the current analysis are important for MHC participants and, more broadly, people with severe mental illnesses within corrections. For MHC participants, having co-occurring symptoms of anxiety, depression, and guilt may create barriers to their engagement in treatment and compliance with court orders, both of which could lead to the use of jail as a sanction. Overreliance on mental illness diagnoses may cause MHC practitioners to overlook the individual needs of participants. Although Steadman and colleagues (2011) found MHC participants diagnosed with Bipolar disorder had better outcomes, other studies found no differences between diagnosis and program outcomes (Comartin et al., 2015). Examining symptom levels may provide the MHC team with more information on the specific needs of participants.

More broadly, Draine and Solomon (2000) argue the behavioral impact of symptoms like anxiety and depression (e.g., lack of motivation, hopelessness) complicates a person's ability to comply with the conditions of probation and parole. They found that participants' perceived quality of life explained current symptoms of depression and anxiety; researchers suggest that poor quality of life may exacerbate these symptoms and thus increase the risk for recidivism through probation and parole violations. Symptoms of anxiety and even panic commonly cooccur with schizophrenia; people with schizophrenia may be at a heightened risk for anxiety symptoms because of delusions and the misinterpretation of danger or fear, impaired coping strategies, and co-occurring heavy use of nicotine and caffeine (Pitch, Bermanzohn, & Siris, 2001). It is well documented that people with mental illnesses are at a heightened risk for probation and parole violations (Feder, 1991; Lamb & Weinberger, 2005; Lurigio, Rollins, & Fallon, 2004; Skeem & Eno Louden, 2006). It is plausible that these co-occurring or subsyndromal symptoms contribute to this heightened risk. However, in this analysis, symptoms of anxiety, depression, and guilt were not predictive of probation violations yet were predictive of incarceration during the follow-up period. Incarceration in MHCs can be used as a sanction or due to a new arrest.

Implications

There are a number of implications based on the findings from this analysis for MHC participants and, more broadly, people with mental illnesses who are involved in the criminal justice system. First, it is important for MHC treatment providers to conduct a needs assessment that includes an assessment and documentation of current symptoms, not just diagnosis, upon entry into the MHC in order to accurately identify the treatment, services, and/or solutions that may help MHC participants. King (2010) argues that in order to create a climate for self-efficacy and long-term behavior change, problem-solving courts should actually be more solution-focused where court staff and participants work collaboratively to identify solutions for recovery. Recovery does not always coincide with specific diagnoses but may also include addressing other mild to moderate symptoms that can impact quality of life and potentially recidivism (Draine & Solomon, 2000). To this end, assessments and

treatment plans would include an individualized focus based on the unique needs of court participants in order to assess for individual risk factors that could impact MHC program and treatment engagement (Campbell et al, 2015).

Results also speak to the importance of providing quality mental health and substance use treatment that adequately addresses the mental health needs of MHC participants. Symptoms, in this study, were associated with treatment non-adherence, days in jail for MHC noncompliance or a new arrest, and MHC program termination. The current analysis does not suggest that symptoms caused these negative outcomes. Further research is needed to determine if causal relationships exist. However, this analysis does support the importance of early management of psychiatric symptoms as self-reported guilt, depression, and anxiety are related to measures of program engagement. Symptoms may be a barrier to engaging in treatment, following through with court orders, managing the stress of intensive supervision, and feeling motivated to make change for some people.

In addition to MHC participants, the results from the current analysis may also inform intervention for people with mental illnesses in the criminal justice system outside of MHCs. Research is needed to examine the impact, if any, that individual psychiatric symptoms have on recidivism more broadly. Many approaches to treatment in corrections focus on more severe mental illness symptoms like psychosis; however, it may be important to expand the focus of programs to adequately address the role that subsyndromal symptoms play in recovery, community reentry, and recidivism by conducting individualized assessments based on offenders' individualized needs and current symptomatic state.

Many criminal justice-based programs utilize shame-based approaches to rehabilitation (Prelog, Unnithan, Loeffler, & Pogrebin, 2009). Although evidence exists for the effectiveness of shame-based programs for certain populations, this approach may not be effective for all populations (Ray, Dollar, & Thames, 2010). Given that feelings of guilt were associated with spending time in jail in the current study, it is important that shame-based programming help participants manage and process the ensuing guilt, as it may create barriers for long term recovery. An alternative approach for people with mental illnesses may be to focus on interpersonal skills and managing feelings of frustration, guilt, and anxiety that often accompany recovery (Meehan et al., 2012) through, for example, mindfulness, compassion-based treatments, and motivational interviewing. These approaches may be particularly important for those people charged with assault and battery related charges. Reported guilt, depression, and anxiety were highest for this group and people charged with drug-related charges in the current analysis. Offenders may act out impulsively or while under the influence and then feel guilty, depressed, and anxious regarding their actions and the consequences. Managing the resulting feelings and providing people with tools to cope with frustration and impulsivity, could help to improve the cycle of recidivism for people with mental illnesses.

Limitations and Directions for Future Research

When interpreting the findings from the current analysis, it is important to consider the key limitations of this study. As noted above, the research design utilized in this study was not intended to discern causal inference; rather, it was intended to explore the relationship

between symptom severity and MHC engagement (i.e., retention, adherence, and incarceration). Future research on MHC participants would benefit from measuring symptoms upon entry into the MHC and throughout MHC participation at multiple time points, particularly upon exit, to gauge the changes in symptoms across time and to further explore the differences between varying time in the MHC and anxiety found in this study. The current analysis assessed symptoms at one time point, thus limiting the understanding of how symptoms may, and often do, change over time. Further, due to the size of the MHCs in this study, the sample used in the statistical analyses is relatively small and limited in statistical power. Finally, although the BPRS, the scale used to measure symptom severity, is widely used, in the current analysis we examined individual items of the BPRS in order to understand which symptoms were most problematic for MHC participants. There are limitations in the validity of using a single item to measure a construct. Future research should employ a measure of symptoms that includes multiple items for each symptom (e.g., measures such as the GAD or PHQ-9).

Despite the limitations, the current analysis does support the need for future research on people with severe mental illnesses in corrections and the impact of co-occurring or subsyndromal symptoms that may occur outside of the symptoms inherent in their primary diagnosis on their future criminal justice involvement and MHC engagement. Diagnosis driven research is commonplace in criminal justice literature. However, different symptoms manifest in people in different ways despite similar diagnoses. Understanding how individual symptoms are related to criminal recidivism and mental health recovery will help to ensure that interventions for people with severe mental illnesses are fully addressing the complex needs of this population in order to break the cycle of recidivism.

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Table 1

Brief Psychiatric Rating Scale: Means, Standard Deviations, and Range of Scores (N = 80)

Symptom (range)	Mean (SD)	Mdn
Somatic Concern (1 to 7)	2.76 (1.96)	2.00
Anxiety (1 to 7)	3.79 (1.95)	4.00
Emotional Withdrawal (1 to 5)	1.78 (1.06)	1.00
Conceptual Disorganization (1 to 3)	1.21 (0.59)	1.00
Guilt Feelings (1 to 7)	3.29 (2.03)	3.00
Tension (1 to 5)	1.11 (0.53)	1.00
Mannerisms and Posturing (1 to 3)	1.15 (0.42)	1.00
Grandiosity (1 to 7)	1.56 (1.27)	1.00
Depressive Mood (1 to 7)	3.28 (1.77)	3.00
Hostility (1 to 7)	2.47 (1.79)	2.00
Suspiciousness (1 to 7)	2.21 (1.67)	1.00
Hallucinatory Behavior (1 to 6)	1.44 (1.23)	1.00
Motor Retardation (1 to 1)	1.00 (0.00)	1.00
Uncooperativeness (1 to 2)	1.05 (0.22)	1.00
Unusual Thought Content (1 to 7)	1.26 (0.98)	1.00
Blunted Affect (1 to 5)	2.15 (1.09)	2.00
Excitement (1 to 4)	1.18 (0.63)	1.00
Disorientation (1 to 6)	1.48 (0.94)	1.00
Total BPRS score (18 to 61)	34.16 (10.40)	32.00

Table 2

Group Differences in Median Symptoms

		Anxiety Symptoms		Depressive Symptoms		Feelings of Guilt	
		χ^2 (Mdn)	ES ³	U (Mdn)	ES	U (Mdn)	ES
Sex	Females ($n = 36$)	750.50	(4.0)	585.00 *	(4.0)	609.00	(4.0)
	Males ($n = 44$)		(4.0)		(3.0)		(2.5)
Race	White ($n = 27$)	708.00	(4.0)	653.50	(4.0)	510.00 *	(4.0)
	Minority ($n = 53$)		(4.0)		(3.0)		(2.0)
Substance Use	Yes ($n = 67$)	323.00	(4.0)	422.00	(3.0)	403.50	(3.0)
	No ($n = 13$)		(3.0)		(4.0)		(3.0)
Living	Community ($n = 52$)	670.00	(4.0)	532.50 *	(4.0)	675.50	(3.0)
	Institution ($n = 28$)		(3.5)		(3.0)		(3.0)
		Anxiety Symptoms		Depressive Symptoms		Feelings of Guilt	
		χ^2 (Mdn)	ES	χ^2 (Mdn)	ES	χ^2 (Mdn)	ES
Mental Illness	Schizophrenia ($n = 27$)	1.02	(4.0)	3.08	(3.0)	0.40	(3.0)
	Bipolar ($n = 43$)		(4.0)		(4.0)		(3.0)
	Major Depression ($n = 2$)		(3.0)		(2.5)		(3.5)
	Other ¹ ($n = 7$)		(4.0)		(3.0)		(4.0)
Months in Court	2 to 5 months ($n = 36$)	8.47 *	(3.0)	1.82	(3.0)	0.90	(3.0)
	6 to 12 months ($n = 30$)		(5.0)		(4.0)		(3.0)
	13 to 18 months ($n = 14$)		(4.0)		(4.0)		(3.0)
Criminal Charge	Theft/Burglary ($n = 35$)	7.68	(3.0)	10.83 ⁴ **	(3.0)	3.20	(3.0)
	Drug-related Charge ($n = 17$)		(4.0)		(4.0)		(3.0)
	Battery/Assault ($n = 15$)		(4.0)		(4.0)		(4.0)
	Other ² ($n = 13$)		(3.0)		(3.0)		(3.0)

¹ Other includes attention deficit hyperactivity disorder, generalized anxiety disorder, agoraphobia, and depression not otherwise specified by participant

² Other includes solicitation, criminal trespassing, forgery, probation violation, resisting arrest, and driving on a revoked license

³ Effect size for Kruskal-Wallis = $\eta^2 = \chi^2 / N - 1$ and $r = z / N$ for Wilcoxon-Mann-Whitney test

⁴ Bonferroni correction applied

100 d
**
500 d
*

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Table 3

Logistic Regression Models

	Jail			Treatment Adherence			Program Retention		
	Beta	Odds Ratio	95% CI	Beta	Odds Ratio	95% CI	Beta	Odds Ratio	95% CI
Age	-0.02	0.98	0.93, 1.03	0.06	1.06	0.99, 1.14	-0.03	0.98	0.90, 1.06
Sex	-0.09	0.92	0.30, 2.76	1.11	3.02	0.70, 13.08	-0.32	0.73	0.12, 4.28
Race	-0.49	0.61	0.18, 2.09	-0.13	0.88	0.18, 4.24	-0.08	0.93	0.12, 7.36
Months in court	-0.06	0.94	0.84, 1.06	0.03	1.04	0.90, 1.19	-0.11	0.90	0.72, 1.12
Court	0.69	1.99	0.54, 7.36	-1.64	0.19	0.04, 1.09	2.00	7.33	0.81, 65.91
Symptom Severity	0.11	1.11**	1.04, 1.18	-0.09	0.91*	0.85, 0.98	0.10	1.11*	1.01, 1.21

* p 0.05

** p 0.01

Note: Beta weights are unstandardized