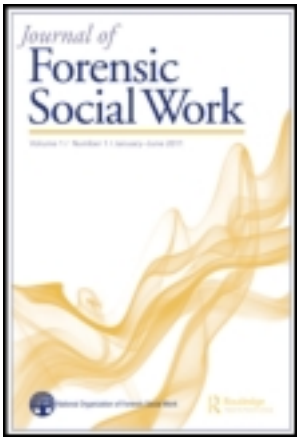

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Aging, Mental Health, and the Criminal Justice System: A Content Analysis of the Literature

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Aging, Mental Health, and the Criminal Justice System: A Content Analysis of the Literature

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*Whereas older adults in the criminal justice system are a significant public health concern, there has been little research examining mental health among this population. This content analysis attempts to fill that gap by examining the international peer-reviewed empirical journal articles on mental health and older adults in the criminal justice system. English-language articles that examined mental health among older adults in the criminal justice system were locating through a comprehensive search of peer-reviewed journals of Academic Search Premier Literature databases, which included MEDLINE and PsycLIT. Trained researchers extracted data on the research methods and major findings on mental health among older adults in the criminal justice system. Thirty-one empirical studies were identified as meeting the study criteria. Content analysis was conducted using deductive (frequency counts) and analytic strategies (thematic analysis of major findings across studies). Results indicated that between 1988 and 2012, 31 empirical studies were published on mental health among older adults in the criminal justice system. Most of the studies were conducted in secure care settings that were prisons (*n = *16) or forensic psychiatric hospital or units (*n = *8). Of the 31 studies, schizophrenia, major depressive disorder, dementia, and substance use disorder were the most widely diagnosed mental illness. Comorbid physical ailments were noted in the 10 studies. Common themes across studies were related to the mental health detection and access to services, group differences, comorbid conditions,*

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and the relationship of age, mental health, and criminal behavior, including potential risk and protective factors. Relatively few studies have focused on the mental health needs of older adults in the criminal justice system, especially at the time of arrest, court processing, probation, and parole. These results suggest that mental illness, including serious mental illness, needs to be addressed at all stages of the criminal justice process.

Aging in the criminal justice system is rapidly becoming an area of major concern for researchers, practitioners, policymakers, and civil and human rights advocates (American Civil Liberties Union [ACLU], 2012; Human Rights Watch [HRW], 2012). In the United States, about 10% of aged 50 and older are arrested and comprise about 16% of the U.S. general prison population (ACLU, 2012; Guerino, Harrison, & Sabol, 2011; Snyder, van Wormer, Chadha, & Jaggers, 2009). Official statistics suggest that as many as half of adults aged 50 and older in prison are diagnosed with some type of mental health problem, including serious mental illnesses, such as major depression, schizophrenia, and dementia (James & Glaze, 2006). However, there is a dearth of research available about the experiences of adults aged 50 and older with mental health problems involved in the criminal justice system, which includes at the point of arrest, court processing, probation, prison, and forensic psychiatric hospitalization, and parole or community supervision. Methodological limitations in prior research, which include the use of cross-sectional designs, small sample sizes, and the inconsistent use of mental health measures, and current mental health estimates among older adults in the criminal justice system may be inaccurate and in fact may be more even more common.

Available evidence suggests that there is a subpopulation of older adults with minor to serious mental illnesses. The types of disorders noted among current studies include posttraumatic stress disorder, substance abuse disorders, major depressive disorders, dementia, and schizophrenia in the criminal justice system, especially among older adults in prison (e.g., Arndt, Turvey, & Flaum, 2002; Fazel, Hope, O'Donnell, & Jacoby, 2002; Murdoch, Morris, & Holmes, 2008). Scholars, practitioners, and advocates have noted a process of accelerated aging among prisoners, which may be attributed to high-risk personal histories and further exacerbated by the stressful conditions of confinement and lack of adequate prison health services (HRW, 2012; Williams & Barboza, 2010). The projected increase of dementia among prisoners as well as other commonly noted age-related physical and mental health decline of aging prisoners elevates this issue to one of a major public health concern (ACLU, 2012). Because mental and physical health problems are intertwined among older adults coupled with other psychosocial needs, such as employment, family, housing, social security and financial assistance, it is an imperative that there is an integrated and interdisciplinary response to best foster

well-being of persons who are arrested or serve time who are currently or will reach older age under the supervision of the criminal justice system.

Despite over 30 years of research that has examined mental health among older adults in the criminal justice system, thus far there has been no study that has synthesized or evaluated this body of literature. This article attempts to fill the gap by conducting a content analysis of the peer-reviewed empirical literature that examines older adults, mental health, and the criminal justice system. The research question guiding this review was What does the peer-reviewed literature report about the methods and major findings on aging and mental health in the criminal justice system?

These findings have significant implication for research, practice, and policy for aging prisoners. The findings of this review can be used to take stock of the research conducted thus far, and the information garnered from this review can be used to improve future research with this underserved population with an eye toward improving practice and policy responses that foster the well-being of elders even when incarcerated. Recent reports and white papers clearly note that the correctional system is ill prepared to address the health and mental health problems of prisoners, especially of the rapidly growing aging prison population (ACLU, 2012; HRW, 2012). In general, there is the lack of adequately trained professionals in geriatric correctional mental health care that can provide a comprehensive and interdisciplinary response to older adults with complex biopsychosocial needs, including serious and terminal illnesses, in the criminal justice system (Anno et al., 2004).

METHODS

To locate the sample of articles that examined aging, mental health, and the criminal justice system, EBSCO HOST-Academic Search Premier research databases were used. A comprehensive literature search was conducted to identify English-language research studies published as of June 2012. All databases were selected, which included MEDLINE, PSYCHINFO, and SOCIOLIT. The following key word search term combinations were used: *older adults* or *elderly*, *mental health* or *mental illness*, and *criminal justice system* (including *arrest*, *courts*, *probation*, *jails*, *prisons*, and *parole*). Two members of the research team also manually searched article references lists to identify any additional articles not found in the archives of the electronic research databases. Articles were included in the sample if they (a) were a research study published in a peer-reviewed journal and (b) targeted mental health among adults aged 50 and older at some stage of the criminal justice process (i.e., arrest, court processing, probation, prison, or parole). Articles were excluded from the sample if they (a) were not peer-reviewed empirical studies, (b) sampled age groups aged 49 and younger only, (c) did not

examine mental health assessment or treatment, or (d) were studies on older adults with mental health issues in noncriminal justice settings.

Of the 58 articles located during the initial search, 31 were determined to meet the study inclusion criteria. A data extraction form was developed by the research team to extract the following data into an Excel spreadsheet: publication characteristics, study research methods (which included research design, sampling strategies, sample characteristics, diagnostic assessment methods), and summaries of major findings across studies (see Tables 1–5). Two trained research assistants extract and coded the data. The data were reviewed weekly for an 8-week period with the lead researcher until 100% consensus was reached for all categories of data extracted.

Data Analysis Methods

Content analysis strategies as outlined by Krippendorff (2004) and Neuendorf (2002) were used to analyze the data. Content analysis is a systematic procedure that codes and analyzes qualitative data, such as the content of published articles, and a combination of deductive and inductive approaches can be used (Bernard & Ryan, 2010). For example, the current study used deductive analysis, which consisted of preexisting categories for journal article characteristics and research methods (e.g., country of study, study setting, research design, measures, data collection) to extract the data. Counts of textual variables were then calculated to identify frequencies and percentages using the descriptive statistics function of SPSS 18.0.

The narrative data on major findings of the sample of studies were analyzed inductively using Tutty, Rothery, and Grinnell's (1996) four-step qualitative data analysis strategies. Step 1 involved identifying meaning units (or in-vivo codes) from the data. For example, the assignment of meaning units included assigning codes to reflect the major findings across studies. In Step 2, second-level coding and first-level meaning units were sorted and placed in their emergent categories (e.g., mental health detection and access to service, comorbid conditions). Meaning unit codes were arranged by clustering similar codes into a category and separating dissimilar codes into separate categories. The data was analyzed for relationships, themes, and patterns. In Step 3, the categories were examined for meaning and interpretation. In Step 4, a conceptually clustered matrix was constructed to illustrate the patterns and themes found in the data (see Table 5; Miles & Huberman, 1994).

FINDINGS

Table 1 provides an overview of the research methods used across studies. This included study publication year, countries of study, study setting, study

TABLE 1 Characteristics of Articles That Examined Mental Health Among Older Adults Involved in the Criminal Justice System ($N = 31$)

Characteristics	%	*n*
Publication year		
1980–1990	6%	2
1991–2000	26%	8
2000–2010	68%	21
Countries of studies		
Germany	3%	1
Republic of Ireland	3%	1
Israel	6%	2
Sweden	3%	1
United Kingdom	35%	11
United States	48%	15
Study setting (primary)		
Police	3%	1
Court	19%	6
Probation	3%	1
Jails	3%	1
Prison	51%	16
Forensic Psychiatric Hospital/Unit	26%	8
Parole	0%	0
Temporal designs		
Cross-sectional	100%	31
Longitudinal	0%	0
Research designs		
1 group design	45%	14
2 or more group designs	55%	17
Sampling strategies		
Probability	84%	26
Nonprobability	16%	5
Data collection*		
Case record reviews	65%	26
Interviews	8%	3
Semistructured interviews	3%	1
Questionnaire (self-admin)	13%	5
Questionnaire (in-person interview)	13%	5
Mental health assessment method**		
DSM clinical assessment	24%	9
Self-report survey	13%	5
Case records	34%	13
Others	29%	11
Competency to stand trial (CST)		
Reported	16%	5
Not reported	84%	26
Trauma history reported		
Sexual abuse	10%	3
Physical abuse	10%	3
Other stressors	13%	4
Not reported	84%	26
Mental health treatment history		
Reported	26%	8
Not reported	74%	23
Substance abuse treatment history		
Reported	3%	1
Not reported	97%	30

*Articles used multiple methods of data collection $N \neq 31$.

**Articles used multiple methods of mental health assessments $N \neq 31$.

design, research design, sampling strategies, data collection procedures, and characteristics of the sample. They are reviewed in that order, respectively.

Article Characteristics, Study Setting, and Research Designs

As shown in Table 1, the 31 studies were published between 1980 and 2012. Of the 31 studies, slightly over half ($n = 16$) were conducted in Europe and the Middle East, with a majority ($n = 11$) from the United Kingdom. Those studies not from Europe or the Middle East ($n = 15$) were conducted in the United States.

The criminal justice setting also varied that examined mental health among older adults in the criminal justice system. Although, the settings spanned police departments, courts, jails, prisons, and forensic psychiatric hospitals or units, slightly over half of the studies were conducted in prisons ($n = 16$) followed by forensic psychiatric hospitals ($n = 8$) and the courts ($n = 6$). Only one study, respectively, was conducted at the point of arrest, jail, and probation. Interestingly, no studies were located that examined older adults with mental health problems on parole.

In general, there were methodological limitations that plagued the sample of studies. All of the studies ($n = 31$) were determined to use cross-sectional research design, which limits the ability to establish causality. Over half ($n = 26$) of the studies using probability sampling and a majority of studies ($n = 17$) and used two or more comparison groups to examine age, gender, or race differences. Overall, these studies were often plagued with small sample sizes, thus limiting their representativeness and generalizability.

Data collection methods among the studies had questionable methodological rigor. Data was most often collected using only one data collection method, which were predominantly case record reviews ($n = 24$). Only eight of the studies used multiple forms of data collection (i.e., Barak, Perry, & Elizur, 1995; Cima, Merckelbach, Klein, Shellbach-Matties, & Kremer, 2001; Fazel, Hope, O'Donnell, Piper, & Jacoby, 2001; Fazel et al., 2002; Fazel, Hope, O'Donnell, & Jacoby, 2004; Hunt et al., 2010; Murdoch et al., 2008; Paradis, Broner, Maher, & O'Rourke, 2000). The reliability of mental health diagnosis and assessment, especially in studies that used only case record reviews based on clinical notes to gather accurate data, are questionable.

The methods used to determine mental health diagnosis varied among the studies. Mental health status was determined most commonly using case records ($n = 13$) followed by clinical assessment based on the *Diagnostic and Statistical Manual of Mental Disorders* criteria ($n = 9$), self-reported surveys ($n = 5$), and a variety of other methods ($n = 11$). Interestingly, most of the studies did not report other relevant psychosocial factors and service use patterns. Most of the studies did not report the

trauma histories of participants ($n = 26$), mental health treatment history ($n = 23$), or substance abuse treatment history ($n = 30$). The failure to report this type of additional information is a concern given those involved in the criminal justice system are disproportionately affected by trauma, mental health, and substance abuse and may be related to their mental health status.

Sample Characteristics

The social demographic characteristics of the study samples were examined next, which included overall sample size and participants' gender, age, and race/ethnicity (see Table 2).

Sample size, gender and age

As illustrated in Table 2, the sample sizes varied across studies and raged from 7 to 2,478. Out of the 31 studies, only 11 had sample sizes of 150 or more. As for age, nine of the studies used the age of 60 to qualify adults as elderly and eight of the studies used age 55 and older. The age of 50 was the youngest age used to classify older adults as elderly and was used in two studies. Of the total sample of 31 studies, over one-third ($n = 12$) used gender specific (male or female only) samples. However, of the 31 samples, most studies ($n = 28$) included men compared to 18 studies that included women. Of the 18 studies that included women, female participants made up at least 25% of the study population in only four studies. In two of the studies, gender was not reported. Overall, these findings suggest a vast majority of the information that does exist in this area of research is based mostly on samples of White males. The extent to which these findings pertain to women is less substantiated.

Race/ethnicity

Race/ethnicity varied in how it was reported across studies. Strikingly, almost half ($n = 14$) of the studies provided no information on the race and ethnicity of the participants. Whites were the largest racial ethnic group sampled ($n = 17$). In addition, Whites represented over 50% of the sample in 11 of the studies. Minorities were minimally represented across the 31 studies. African Americans were included in 10 studies and Latinos in only eight of the studies. Eight other studies reported other ethnicity. These sociodemographic statistics across the 31 studies indicate that much of what we know thus far about mental health among older adults in the criminal justice system is mainly based on the experiences and mental health issues of Whites as compared to persons of color.

TABLE 2 Sample Characteristics Across Studies: Sample Size, Age, Gender, and Race/Ethnicity (N = 31)

Author/s (year) (in alphabetical order)	Setting	Sample size	Age	Gender		Race/ethnicity				
				Women	Men	White	AA	Latino	Asian, NA, PI	Other
Arndt (2002)	Prison	180	55+	6%	94%	85%				
Barak (1995)	Court	28	65 to 80	7%	93%					
Caverley (2006)	Prison	49	50+	8%	92%					
Cima (2001)	FPH/U	30	19 to 66	0%	100%					
Coid (2002)	FPH/U	61	60 to 81	6%	94%	88%				
Curtice (2003)	FPH/U	32	65 to 84	3%	97%	100%				
Farragher & O'Connor (1995)	FPH/U	42	65 to 83	5%	95%					
Fazel & Grann (2002)	Court	210	60 to 89	8%	92%					
Fazel et al. (2001)	Prison	203	60 to 88	0%	100%					
Fazel et al. (2002)	Prison	203	60 to 88	0%	100%	95%				
Fazel et al. (2004)	Prison	203	60 to 88	0%	100%					
Frierson et al. (2002)	Court	57	65+			67%				
Haugebrook et al. (2010)	Prison	114	55+	8%	92%	36%	48%	16%		
Heinik et al. (1994)	Court	57	60+							
Hunt et al. (2010)	Court	2478	12 to 99	10%	90%					
Hurt & Oltmanns (2002)	Prison	157	21 to 61	100%	0%	41%	52%		2%	3%
Koenig (1995)	Prison	106	50 to 72	0%	100%	70%				
Lewis et al. (2006)	Court	99	60 to 82	12%	88%	67%	32%			1%
Maschi et al. (2011)	Prison	334	55 to 82	0%	100%	43%	41%	9%		7%
McShane & Williams (1990)	Prison	179	50 to 78	0%	100%	54%	31%	15%		
Murdoch et al. (2008)	Prison	121	55+	0%	100%					
Needham-Bennett et al. (1996)	Police	153	60+	28%	72%					
Paradis et al. (2000)	Jail	83	62 to 87	0%	100%	46%	37%	14%		2%
Rayel (2000)	FPH/U	7	50 to 79	0%	100%	86%	—	14%		—
Regan et al. (2002)	Prison	109	55+	13%	87%	73%	17%	1%		1%
Rosner et al. (1991)	FPH/U	52	63 to 88	13%	87%	31%	40%	23%	2%	4%
Shah (2006)	FPH/U	11	58 to 87	9%	91%	55%	27%[a]			18%
Shichor (1988)	Probation	52	55+	27%	73%					
Taylor & Parrott (1988)	Prison	63	55 to 88	0%	100%					
Williams et al. (2010)	Prison	360	55 to 84	6%	94%	57%	26%	15%	—	3%
Wong et al. (1995)	FPH/U	36	60 to 85	25%	75%					

Note. FPH/U=forensic psychiatric hospital/unit; AA=African American; Asian=Asian American; NA=Native American; PI=Pacific Islander. Empty cells indicate data not reported.
[a]African/Caribbean.

Findings on Mental Health Diagnoses, Psychosocial and Legal Histories

The next stage of the analysis involved content analyzing the descriptive findings on mental health diagnoses, types of diagnoses, and psychosocial and legal histories among the study samples (see Table 3).

Mental health diagnoses

As shown in Table 3, of the 31 studies, schizophrenia ($n = 16$), major depressive disorder ($n = 13$), and dementia ($n = 11$) were the most widely diagnosed mental illness, particularly in prisons, forensic psychiatric hospitals/units, and the courts. Older adults diagnosed with dementia represented 44%–46% of the sample in court settings (Frierson, Shea, & Shea, 2002; Lewis, Fields, & Rainey, 2006), 5% in prison settings, and 19%–27% in forensic psychiatric hospital settings/units. The percentage of older adults with schizophrenia ranged from 3% to 33% among the studies and this diagnosis was most prevalent in forensic psychiatric hospitals/units (33%). Interestingly, there was an absence of other commonly noted mental health disorders among the general criminal justice population. Posttraumatic stress disorder ($n = 2$), anxiety ($n = 2$), and dissociation ($n = 0$) was the least reported (or not reported at all) in the studies. This finding is interesting as there is a high prevalence of trauma-related mental health symptoms, such as PTSD, depression, and anxiety disorders commonly found in younger criminal justice populations.

Psychosocial and legal histories

Table 4 presents the psychosocial and legal histories of the study population. Across the 31 studies, substance use disorders ($n = 21$) were the most commonly reported mental disorder. However, only two of the studies reported substance abuse treatment history. Only one of the 21 studies that reported substance use disorder also provided information on substance abuse treatment history.

Comorbid physical conditions among older adults with criminal justice involvement were reported in only 10 of the studies. In five of these 10 studies, at least 80% of the study population reported one or more physical ailments. Educational level was only reported in eight of the studies and ranged from 11% to 63% of the participants reporting having received a high school diplomas or equivalent. The reporting of older adults' criminal histories also varied across studies. For example, only one study reported parole and probation violations and only one-third ($n = 10$) of the studies reported violent offense history.

Inductive Analysis of Major Findings

Next, we conducted an inductive analysis of the major findings extracted from the sample of studies. As shown in Table 5, the following four themes

TABLE 3 Frequencey of Mental Health Diagnoses Across Studies on Older Adults in Prison and Mental Health ($N = 31$)

Authors (year)	Diagnostic method	Mental health general	Schizophrenia	Dementia	Bipolar	MDD	Organic mood	PTSD	Dissociation	Anxiety	BPD	ASP
Police-mental health												
Needham-Bennett (1996)	Chart review	28%										
Court-mental health												
Barak (1995)	Chart review		4%	21%		4%						14%
Fazel & Grann (2002)	Chart review		7%	7%		8%	4%					—
Frierson et al. (2002)	Chart review	37%		46%		—	12%					—
Hunt et al. (2010)	Chart review		9%			46%						
Lewis et al. (2006)	Chart review		14%	44%	1%			1%			11%	32%
Jail/probation-mental health												
Paradis et al. (2000)	Chart review		15.6%	33%	5%	7.2%	1%					
Schichor (1988)	Chart review											
Prison-mental health												
Arndt (2002)	Chart review											
Caverley (2006)	Chart review		24%		18%	57%						
Fazel et al. (2001)	Chart review	45%										
Fazel et al. (2002)	Chart review			1%		7%						8%
Fazel et al. (2004)	Chart review	18%				30%						
Haugebrook et al. (2010)	Chart review	36%										
Hurt & Oltmanns (2002)	Chart review										12%	9%
Koenig (1995)	Chart review					24%						
Maschi et al. (2011)	Self-report	27%										

(*Continued*)

TABLE 3 Continued

Authors (year)	Diagnostic method	Mental health general	Schizophrenia	Dementia	Bipolar	MDD	Organic mood	PTSD	Dissociation	Anxiety	BPD	ASP
McShane & Williams (1990)	Chart review	9%										
Murdoch et al. (2008)	Chart review					59%						
Regan et al. (2002)	Chart review		12%	5%		33%				13%		
Taylor & Parrott (1988)	Chart review	38%										
Williams et al. (2010)	Chart review	14%	3%		5%	13%		6%				
Forensic psychiatric hospital/unit												
Cima (2001)	Chart review		7%									
Coid (2002)	Chart review		33%			42%				2%	0%	10%
Curtice (2003)	Chart review		6%	19%								
Farragher & O'Connor (1995)	Chart review		14%				14%					
Heinik (1994)	Chart review		14%	30%			1.7%					5%
Rayel (2000)	Chart review	28%					43%					
Rosner et al. (1991)	Chart review		15%	19%								
Shah (2006)	Chart review		91%	27%		9%						
Wong et al. (1995)	Chart review		47%				6%					

Note. ASP = antisocial personality disorder; BPD = borderline personality disorder; OMD = organic mood disorder; PTSD = posttraumatic stress disorder. Empty cells indicate data not reported.

TABLE 4 Percentage of Psychosocial and Legal Histories Across Study Samples (N =31)

Authors (year)	Trauma history	Other stress	Substance abuse	Physical ailments	Medication use	Mental Health Tx Hx	Sub abuse Tx Hx	High school diploma	Violent offense Hx	VOP	PV
Police-mental health											
Needham-Bennett (1996)					50%	57%					
Court-mental health											
Barak (1995)			4%	25%							
Fazel & Grann (2002)			15%								
Frierson et al. (2002)			39%			46%					
Hunt et al.(2010)			13)%						11%		
Lewis et al. (2006)			67%	34%	46%	56%			44%		
Jail/probation-mental health											
Paradis et al. (2000)			45%			28%		10%			
Schichor (1988)			12%	88%				38%			
Prison-mental health											
Arndt (2002)			71%				65.36%	50%			
Caverley (2006)					100%						
Fazel et al. (2001)				85%	77%			9%			
Fazel et al. (2002)			5%								
Fazel et al. (2004)			5%	85%	77%						
Haugebrook et al. (2010)	80%		81%								
Hurt & Oltmanns (2002)											
Koenig (1995)			40%			37%					
Maschi et al. (2011)	63%	69%	36%			31%		90%	62%	41%	38%
McShane & Williams (1990)				4%					60%		

(*Continued*)

TABLE 4 Continued

Authors (year)	Trauma history	Other stress	Substance abuse	Physical ailments	Medication use	Mental Health Tx Hx	Sub abuse Tx Hx	High school diploma	Violent offense Hx	VOP	PV
Murdoch et al. (2008)				82%							
Regan et al. (2002)									63%		
Taylor & Parrott (1988)			23%	41%		51%			11%		
Williams et al. (2010)			46%	80%		8%		53%			
Cima (2001)			17%								
Coid (2002)			29%						50%		
Curtice (2003)			3%								
Farragher & O'Connor (1995)			36%								
Heinik (1994)											
Rayel (2000)	14%		14%					70%	28%		
Rosner et al. (1991)			21%	66%		45%		12%	83%		
Shah (2006)					82%						
Wong et al. (1995)									67%		

Note. Tx Hx=treatment history; VOP=violation of probation; PV=parole of violation. Empty cells indicate data not reported.

were identified: (a) mental health detection and access to services, (b) group differences, (c) comorbid conditions, and (d) the relationship of age, mental health, and criminal behavior, including potential risk, and/or protective factors.

Mental health detection and access to services

The detection of mental health issues and access to services was found to differ at different stages of the criminal justice process for older adults. In the court setting, serious mental illnesses, such as dementia, schizophrenia, and other psychotic or personality disorders, were commonly reported. Serious mental illness was mostly related to assessment on older adults' competency to stand trial in court settings. This stage of the legal process, the courts, suggests the importance of determining if serious mental illnesses (e.g., dementia and schizophrenia) affect older adults' competence to stand trial. In comparison, in prison settings, substance abuse problems were commonly detected during the intake process. Interestingly, one study reported that participants reported having never received substance abuse treatment even after 40 years of use (Arndt, Turvey, & Flaum, 2002). Other studies found that detection of a mental illness increased an older adult's access to mental health services. For example, some court studies referred older adults for a forensic psychiatric evaluation to assess competency to stand trial. Other studies, especially in prison studies, found that most older adults diagnosed with serious mental illnesses, such as schizophrenia or dementia and/or personality disorders, were more likely to be referred for psychiatric care, including transfer to forensic psychiatric units (Curtice, Parker, Schembri-Wismayer, & Tomison, 2003; Heinik, Kimhi, & Hes, 1994; Shah, 2006).

Group differences

Some studies examined group differences, such as age, gender or gender/ethnicity, or offense histories. Some of the studies compared age as within-group differences (i.e., older adults in prison compared to older adults in the community). For example, Needham-Bennett, Parrott, and MacDonald (1996) found that the prevalence of mental disorders of arrested older adults were higher when compared to other community samples. Other studies examined between group differences (older compared to younger male or female offenders), or racial differences (i.e., White vs. non-White). In court settings, Fazel and Grann (2002) found that older adult offenders were more likely to be diagnosed with serious mental illnesses, such as dementia and schizophrenia, and personality disorders when compared to younger offenders. Similarly, Hunt and colleagues (2010) found older offenders (aged 65 and above) were more likely to be diagnosed with a mental illness compared to younger offenders. In jails, suicidal ideation was more common among

TABLE 5 Overview of Major Findings on Older Adults, Mental Health, and the Criminal Justice System (N =31)

Setting and first author (year)	Major findings on age and mental health	Major findings on criminal histories and other factors
Arrest		
Needham-Bennett (1996)	Psychiatric disorder in older arrestees is higher than in community samples	For older adults, 63% of offenses were for shoplifting
Court		
Barak (1995)	High rate of dementia and personality disorders among older compared to younger offender	Older compared to younger offenders had less drug-related offenses
Fazel & Grann (2002)	Older compared to younger offenders were less likely to be diagnosed with schizophrenia or a personality disorder, and more likely to have dementia or an affective psychosis	A diagnosis of dementia and being charged with a sexual offence was most typical of older offenders
Frierson et al. (2002)	Older adults deemed competent to stand trial (CST) versus incompetent to stand trial (IST); dementia was diagnosed significantly more with ISTs; older adults ISTs were less likely to display trail abilities because of their cognitive impairments	No statistically significant differences were found between types of crimes committed between CST and IST older offenders
Hunt et al. (2010)	Older compared younger perpetrators had higher rates of affective disorder and were more likely to be mentally ill at the time of offense compared to younger perpetrators, and less likely to have histories of drug and/or alcohol misuse	Old compared to younger perpetrators were less likely to have prior violence histories
Lewis et al. (2006)	About 50% of older adults had dementia and about 33% had anti-social personality disorder, most were alcohol dependent	The majority was facing violent charges and most were recidivists
Jail/probation		
Paradis et al. (2000)	Patients charged with nonviolent crimes were more likely to report experiencing delusions; suicidal ideations were more common in White jail detainees whereas thought disorders were more common among non-White jail detainees	Victims of these alleged violent acts were primarily family members; ethnic background, severity of legal charge, and having a competency evaluation ordered were not significantly related

Shichor (1988)	Poor health was common in the older adult probationer group; alcohol problems were mentioned in 7.7% of the cases	Most older probationers had a previous record; most males had sex offense charges; older compared to younger probationers received less severe punishment
Prison		
Arndt (2002)	71% of older inmates at admission to prison reported a substance abuse problem, 1/3 reported never receiving substance abuse treatment despite using for over 40 years	
Caverley (2006)	Prevalence of serious mental illness was lower in older inmates; depression being the primary diagnosis; the majority of older mentally ill inmates required sheltered or specialized mental health housing	
Fazel et al. (2001)	According to medical records, 85% of the older prisoners had one or more major illness and by self-report, 83% reported at least one chronic illness; of this group, 45% of older prisoners were reported to have a psychiatric disorder per their records, however, only 9% reported having a psychiatric disorder in the interview	
Fazel et al. (2002)	Sex offenders had more schizoid, obsessive–compulsive, and avoidant traits, and fewer antisocial traits compared with non-sex offenders	
Fazel et al. (2004)	77% of older prisoners were being prescribed medication; however, for those reported as having a psychiatric illness, only 18% were receiving psychotropic medications	
Haugebrook et al. (2010)	Approximately, 4 of 5 older adult prisoners reported an occurrence of traumatic experiences and/or life event stressors with an average of 2.59 different traumas or stressful life events occurring; mental health issues were present in 36% of the sample; as compared to their African American and Latino/Latina counterparts (29.1% and 27.8%, respectively), 48.8% of Caucasians reported mental health issues	
Hurt & Oltmanns (2002)	Older women had lower rates of personality disorders than younger women	

(*Continued*)

TABLE 5 Continued

Setting and first author (year)	Major findings on age and mental health	Major findings on criminal histories and other factors
Koenig (1995)	Depressive symptoms were higher for those raised by a person without a religious affiliation; Also inmates who attended religious services frequently experience significantly less depressive symptoms than others	Religiously active inmates were more likely to be arrested on robbery and theft charges
Maschi et al. (2011)	Age was significantly related to participants' subjective impressions of trauma and posttraumatic stress symptoms; participants with higher levels of past year subjective trauma and life event stressors also reported higher levels of post-traumatic stress symptoms	
McShane & Williams (1990)	Mental health issues, crimes committed, and infrequency of visits were not significant predictors of problem behaviors in an older adult prison population	
Murdoch et al. (2008)	Over 50% of older prisoners scored above the threshold for mild depression; the length of sentence served and other prison related variables were not associated with the depression scores; however, chronic physical ill health was strongly related to depression score	
Regan et al. (2002)	77% of the women's psychiatric group was incarcerated for committing murder and that a majority of these women suffered from a depressive illness	Older psychiatric prisoners had convictions of murder and other violent crimes
Taylor & Parrott (1988)	About half of older adult prisoners had active psychiatric symptoms; psychosis (37%) and alcoholism (27%) were the major psychiatric disorders	40% of older adults had theft charges, 20% were first-time offenders; 2/3 of 55–64 group and 3/4 of the over 65 group had histories of homelessness
Williams et al. (2010)	Almost 50% of older adults were veterans and had medical conditions, 14% reported serious mental illness	
Forensic psychiatric hospital/unit		

Cima (2001)	Dissociative symptoms might be related to frontal lobe deficits among older adults	
Coid (2002)	2% of inmates (aged 60+) and half of these had committed homicide; depressive illness, delusional disorder, and dementia were the most prevalent diagnoses	Patients (aged 60+) had less prior convictions than younger patients and were older when first admitted
Curtice (2003)	In an examination of referrals made to a regional forensic psychiatric facility, it was found that there was no diagnosis of mental disorder in more than half of referrals; it was also found that 19% of those referred were diagnosed with dementia	Sexual offenses were the most common offense among older adult psychiatric patients; most forensic referrals came from lawyers
Farragher & O'Connor (1995)	Organic brain disorder was the predominant psychiatric diagnosis; mental illness and lack of family support hindered reentry into society	Most older adults were charged with sexual offenses
Heinik (1994)	Among court referred inmates aged 60 and over, 30% suffered from dementia, 28% from a personality disorder, and 25% from a functional psychosis	
Rayel (2000)	Most sexual offenders had mood or psychotic disorders, and significant medical histories	33% had a history of violent or assaultive behavior
Rosner et al. (1991)	Almost 75% of geriatric forensic inmates with violent crimes used alcohol, whereas only 33% of those with non-violent crimes admitted to using alcohol	83% of geriatric forensic patients were accused of violent crimes
Shah (2006)	Most older prisoners referred for forensic psychiatric care were diagnosed with schizophrenia	
Wong et al. (1995)	One-time offenders were found to have higher rates of schizophrenia in higher rates when admitted before age 50 compared to older adult who committed crimes after the age 50	Most older adults in psych hospital were in their 20s and 30s after committing single event violent offenses

Note. Themes identified across studies include mental health detection and access to services, group differences, comorbid conditions, and the relationship of age to mental health and/or criminal behavior. Empty cells indicate data not reported.

White jail detainees (37%) compared to minority jail detainess (8%). In contrast, minority jail detainees (69%) were more likely to be diagnosed with personality disorders were more compared to White jail detainees (37%; Paradis et al., 2000). One prison study found that older women were found to have lower levels of personality disorder compared to younger women (Hurt & Oltmanns, 2002). Lastly, in a study of a forensic psychiatric setting, patients with schizophrenia before the age of 50 were more likely to have committed a violent offense compared patients who committed a crime after the age of 50 (Wong, Lumsden, Fenton, & Fenwick, 1995).

Comorbid conditions

Some studies reported comorbid biopsychosocial conditions among older adults in the criminal justice system. Some studies reported comorbid major health and mental health issues (Fazel et al., 2002). Several studies reported comorbid mental health and substance uses issues as well as histories of trauma (Haugebrook, Zgoba, Maschi, Morgen, & Brown, 2010; Taylor & Parrott; 1988; Maschi, Morgen, Zgoba, Courtney, & Ristow, 2011).

The relationship of age, mental health, and criminal behavior

Fourteen of the studies explored varying extents of the relationship of age, mental health, and criminal behavior and found mixed results. As shown in Table 5, some studies found that older offenders were less likely to commit serious offenses compared to younger offenders. For example, other studies found that older forensic psychiatric patients found that a small percentage of older adults with serious mental illness committed homicides (Coid, Fazel, & Kahtan, 2002; Regan et al., 2003). However, other studies reported correlations related to age, mental health, and violence. For example, Paradis et al. (2000) found that older adults who reported experiencing delusions were more likely to commit violent crimes. Several studies also found that older males were more likely to commit sex offenses compared to younger offenders (e.g., Regan et al., 2003). Similarly, Rayel (2000) also found that the majority of sex offenders had psychotic or mood disorders, suggesting a relationship between age, mental health, and sex offending. One study also found that substance use was highly common among older adults who committed violent crimes, suggesting another possible correlate (Rosner et al., 1991). Lastly, McShane and Williams (1990) found that a combination of mental health issues, crimes committed, and low social support (i.e., infrequent family visits) predicted problem behaviors in an older adult prison population.

Other potential risk and protective factors

Other potential risk and protective factors were examined in a number of studies. Religion and spirituality was noted as a potential protective factor in

one study. In a prison study, Koenig (1995) found that older adults who reported being raised by someone with a religious affiliation were significantly associated with lower depressive symptoms. The study also found that older prisoners who reported attending religious services more frequently reported lower levels of depressive symptoms that attended less frequently. As shown in Table 5, other studies also provided preliminary evidence for potential risk factors for older adults, mental health, and criminal behavior, which included gender, histories of earlier onset or prolonged mental illness, homelessness, and the level of past trauma and chronic stress, family support, education, and prior access to mental health assessment and treatment (e.g., Farragher & O'Connor, 1995; Haugebrook et al., 2010; Curtice et al., 2003).

DISCUSSION

This study sought to build upon the literature by systemically examining and evaluating the methods and major findings of the peer-reviewed empirical literature on age, mental health, and the criminal justice system. Despite over 30 years of research, the research conducted in this area seems to be in its infancy. As noted in the *Findings* section, the sample of articles was mostly cross-sectional and descriptive studies. In addition, the study conclusions are mostly based on samples consisting primarily of White males in European and American prisons, forensic psychiatric hospitals, or courts. There is a dearth of studies conducted in police, probation, or parole settings. However, these collective findings do suggest that mental disorders are detectable at all different stages of the criminal justice process from the point of initial police contact, court processing, probation, courts, prison, and parole. These findings also suggest that legal and clinical professionals serve a key role in have detecting minor to serious mental illness and providing referrals to services. What was not clearly discernable from these studies is the extent to which individuals enter the criminal justice system with mental disorders and/or develop them as part of age-related mental health decline or due to the often overcrowded and stressful conditions of confinement.

Serious mental illness was most commonly examined in many of these studies. To a much lesser extent, other comorbid less serious mental health issues and other biopsychosocial factors, such as physical health, homelessness, trauma and chronic stress, and social support, were examined. Because the studies take place at different stages of the criminal justice system, it also is difficult to discern the degree to which age, mental health, and criminal justice involvement are related. Of significant concern is serious mental illness, such as dementia, that is much more highly prevalent among older adults in prison compared to community-dwelling older adults (Wilson &

Barboza, 2010). Clearly, more research is needed is needed to better understand how older adults come to the attention of the criminal justice system and how they are assessed and treated while they are being detained. Moreover, in light of the proposed changes to the *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition (DSM-V; American Psychiatric Association, 2013), significant attention must be given to how the assessment of mental disorders are translated to research and practice with older adults in the criminal justice system, especially prisons.

Study Limitations

This content analysis has methodological limitations that temper how these findings can be applied to practice and policy development. First, although all attempts were made to identify all of the studies that met the inclusion criteria, there may have been some studies that were not identified. Other mental health conditions, such as obsessive compulsive and sexual disorders (as well as personality disorders like paranoid, schizoid, schizotypal, and passive aggressive) were not extracted. In addition, substance abuse was reported globally and alcohol and drug use were not reported separately in this analysis. Although the data were extracted using a systematic and two coders, there is no way to ensure that the data extracted are completely reliable.

Future Directions for Research

Despite these limitations, these findings suggest areas for the future research that can be used with an eye toward the development or improvement of evidence-based prevention, assessment, and intervention with older adults in the criminal justice system. For example, future studies would be most useful if they gathered a more comprehensive portrait of the mental health, physical health, and other psychosocial factors impacting this population. These additional variables may include physical health and functional status as well as psychosocial and environmental factors that include race, gender, age, offense histories, trauma and chronic stress histories, education, and prior and current access to and quality of services. In addition, future studies should examine professional bias in diagnostic assessment based on characteristics, such as age, race, and gender, as these assessments have potential significant implications for treatment and placement in the criminal justice settings. Future studies may also examine the impact of stricter sentencing policies and long-term incarceration, including solitary confinement, on short- and long-term mental health, especially among older adults. Future studies that are designed to be more methodologically rigorous than prior studies can be used to inform culturally competent assessment and intervention with older adults at each stage of the criminal justice process. Perhaps a

motto such as "no elder left behind" is quite fitting when examining the plight of older adults with or at risk of mental illness in the criminal justice system.

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