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Mentally disordered offenders and the law: Research update on the insanity defense, 2004–2019

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ABSTRACT

The insanity defense is among the most controversial legal constructs that has attracted the attention of scholars, practitioners and policy makers. Here, we conducted a systematic review of the literature spanning 2004 to 2019 that produced 58 studies of insanity defense research. Findings are organized according to: (1) assessments and assessment-related issues, (2) juror decision-making in defense trials, (3) characteristics of insanity acquittees, (4) release recommendations for insanity acquittees, (5) revocation of conditional release status of insanity acquittees, and (6) additional areas of insanity defense research. Implications of the research for the insanity defense and cognate legal issues are proffered.

1. Introduction

The criminal law of most jurisdictions contains provisions that when invoked offer protection to individuals whose criminal actions resulted from mental incapacitation. For instance, the insanity defense legislation which holds that offenders who commit heinous and reprehensible acts (e.g., homicide but under the influence of mental disorder(s)) should not be held criminally responsible as they lack the guilty mind or intent (*mens rea*; Desmarais, Hucker, Brink, & De Freitas, 2008). The core issue pertaining to the insanity defense provision is whether an individual had “adequate” and rational mental capacity that could have prevented him/her from committing a crime. As a construct derived from psychiatry and the law (Thom & Finlayson, 2013), the insanity defense has generated several controversies in academic and public discourses. The present study provides a systematic review of the insanity defense literature from 2004 to 2019.

Contemporary insanity defense provisions arguably date to the case involving Daniel M’Naghten (also variously spelled as McNaughton) who mistakenly shot and killed Robert Peel, the private secretary of the then Prime Minister of England (Wondemaghen, 2014). At trial, M’Naghten was found to be mentally ill and was acquitted of the charges with a Not Guilty by Reason of Insanity (NGRI) verdict. The acquittal of M’Naghten caused a major uproar from the public and professionals alike. Anger surrounding the acquittal eventually led to

the codification of jurisprudential criteria for insanity claims ubiquitously referred to as the M’Naghten rules. According to M’Naghten rules, for the insanity defense plea to be successful, it must be proven that: (a) the party accused was laboring under such a defect of reason, from a disease of the mind, as not to know the nature and quality of the act being committed or (b) if the accused did know it, that he or she did not know that the act was wrong (Wondemaghen, 2014). The M’Naghten rules have influenced the criminal laws of common law countries across the globe (Adjorlolo, Chan, & Agboli, 2016; Bloechl, Vitacco, Neumann, & Erickson, 2007; Wondemaghen, 2014; Yeo, 2008).

A successful insanity plea traditionally leads to NGRI verdict. However, acquittals based on the insanity law have met strong opposition and resistance, culminating into public mistrust and negative attitudes in the United States (Bloechl et al., 2007), United Kingdom (Wondemaghen, 2014) and in other countries such as Russia (Raimundo Oda, Banzato, & Dalgarrondo, 2005). Reports suggest public dissatisfactions with the verdict of NGRI, especially in high profile cases such as John Hinckley Jr.’s attempted assassination of the then- United States president, Ronald Reagan (Bloechl et al., 2007; Kivisto & Swan, 2011). Consequently, the insanity defense standards have undergone several transformations with some states in the United States, for instance, adopting a second verdict choice: Guilty but Mentally Ill (GBMI), while others completely abolished the insanity defense

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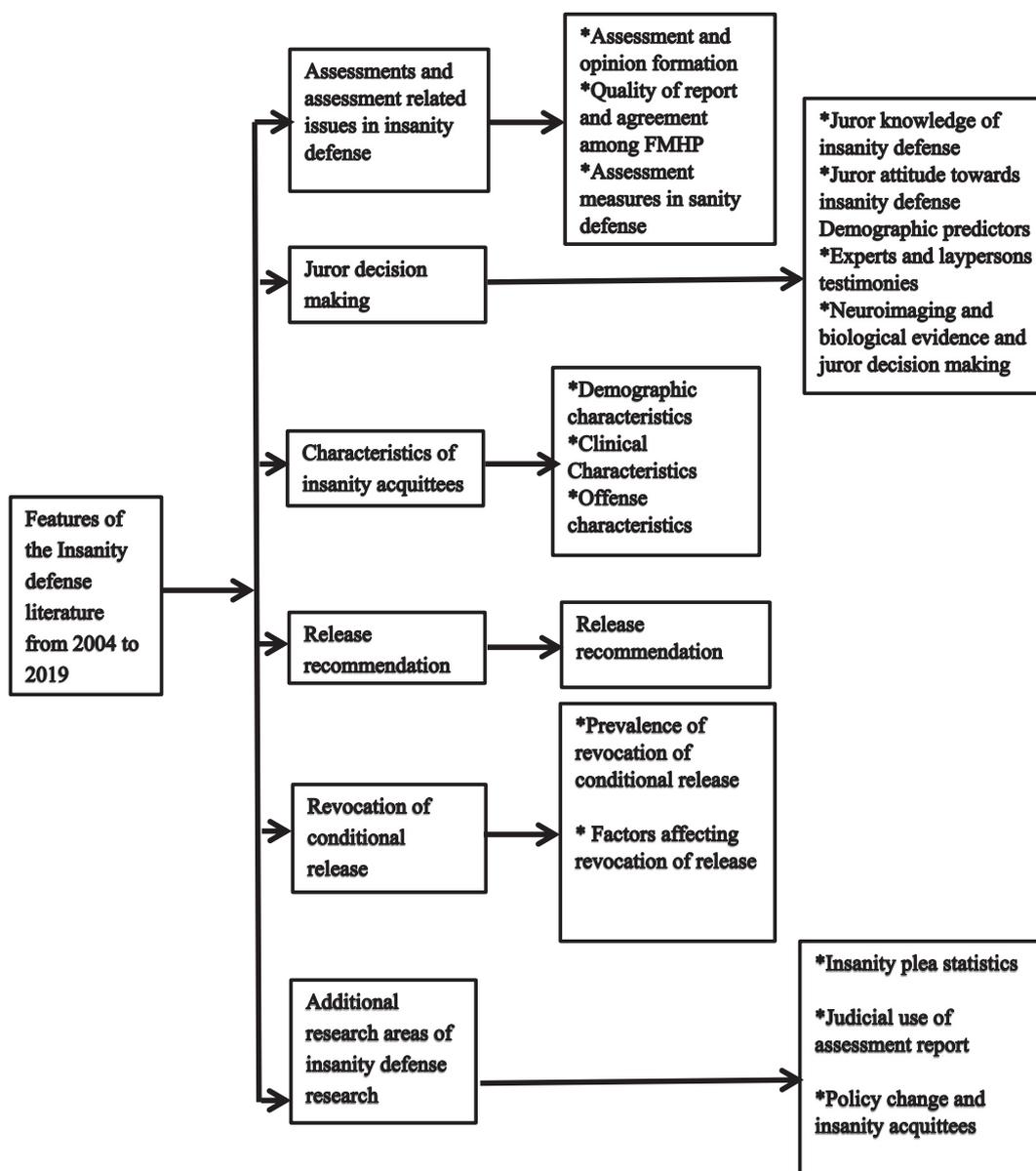


Fig. 1. Discursive framework of insanity defense literature from 2004 to 2019.

(Costanzo & Krauss, 2012).

The above developments have generated parallel interests across several professional and human right groups. Scholarly interests have culminated in research on this topical issue (Zapf, Roesch, & Pirelli, 2014). Examination of the literature reveals several topical issues relating to the defense have been investigated (e.g., Green, Stedman, Chapple, & Griffin, 2010; Manguno-Mire, Thompson Jr., Bertman-Pate, Burnett, & Thompson, 2007). As a result, the literature is so diverse that it is challenging to have a full understanding of developments in insanity defense research, a situation necessitating the need for a systematic summary of the literature. Although insanity defense and competence to stand trial are contested areas in forensic mental health practice, research updates on the former lags behind when compared with latter which has received at least three recent systematic reviews (see Fogel, Schiffman, Mumley, Tillbrook, & Grisso, 2013; Pirelli, Gottdiener, & Zapf, 2011; White, Meares, & Batchelor, 2013). Effort to summarize the literature on insanity defense was undertaken over two decades ago spanning 1993 to 1997 (Lymburner & Roesch, 1999). However, there have been significant developments over the years in terms of research output on insanity defense in the face of increasing

medico-legal advancements and societal changes. These developments provide the impetus for an update and the current review examined insanity defense research from 2004 to 2019.

2. Method

2.1. Search strategy and results

We searched ProQuest, EBSCOhost, Scopus, Social Science Citation Index, and PsychInfo using the following search terms: “insanity defen* and insanity plea*.” Additionally, we searched Google Scholar for additional literature and the reference sections of the retrieved articles. The search was restricted to articles, theses/dissertations, conference proceedings, and books that were available electronically and in English from January 1, 2004 to April 15, 2019. No effort was made to retrieve materials that were not available electronically as it may present a peculiar challenge that the authors may not be able to overcome (e.g., the authors may not be able to be certain if the authors could get a hold of the materials in hardcopy). We retrieved 2115 articles and after removed the duplicates, the number reduced to 1497. To be included in

the review, the following inclusion criteria have to be met: Data for the study were collected from institutional databases or directly from respondents where insanity defense is the primary focus, regardless of the population used and the research approach (quantitative, qualitative or both) adopted. The exclusion criteria were: (1) papers with discussion on court decisions where the insanity defense was invoked, (2) opinions on the insanity defense, (3) review articles, (4) articles on mentally disordered offenders who were not rendered an insanity verdict, and (5) articles with discussion on mentally disordered offenders with and without the insanity verdict. The articles were assessed for relevance using the inclusion and exclusion criteria.

3. Results

After performing the inclusion and exclusion criteria, 58 articles were deemed appropriate and included herein. Thirty (51.7%) and 28 (48.3%) of the articles were based on archival (databases) and non-archival data (firsthand data) respectively. The non-archival data were collected mostly via experimental or survey studies. Of the 58 papers, 45 (77.6%) were from the United States, 4 (6.9%) from Australia, 3 (5.2%) from Canada, 2 (3.4%) from New Zealand, 3 (5.2%) from Europe (Sweden, Portugal, and Israel), and 1 (1.7%) from Malaysia. We examined the retained articles to identify aspects of insanity defense that were investigated, resulting in the following thematic areas: (1) assessments and assessment-related issues in insanity defense, (2) juror decision-making in defense trials, (3) characteristics of insanity acquittees, (4) release recommendations for insanity acquittees, (5) revocation of release recommendations in insanity acquittees, and (6) additional areas of insanity defense research (see Fig. 1). This approach is consistent with prior systematic reviews on the insanity defense (Lymburner & Roesch, 1999) and competence to stand trial (Fogel et al., 2013; White et al., 2013) literatures. The next sections synthesized the findings of the individual studies based on the aforementioned thematic areas.

4. Assessments and related issues in the insanity defense

Assessment of mental state at the time of the offense (MSO) is among the major challenges confronting forensic mental health professionals (FMHPs). Assessments of MSO are conducted meticulously so that the outcome can assist the courts determining the appropriateness of the application of insanity defense. In conducting the assessment, the FMHPs are also guided by the public perception that they are “hired guns” who can assist criminals to escape punishment under the pretext of mental disorders (Wrightsmann & Fulero, 2005). Criticisms regarding the quality of forensic mental health report have largely shaped the depth and content of assessment of MSO (Fuger, Acklin, Nguyen, Ignacio, & Gowensmith, 2014; Nguyen, Acklin, Fuger, Gowensmith, & Ignacio, 2011). Studies in this arena are discussed under the following subheadings: (1) assessments and opinion formation, (2) quality of report and agreement among FMHPs, and (3) assessment measures in insanity defense.

4.1. Assessments and opinion formation

To undertake MSO evaluations and to form an opinion on MSO, FMHPs solicit and integrate information obtained from several sources such as the criminal justice system, social welfare system, hospital records, neighborhood, family records and other sources of collateral information such as witnesses and victims (Warren, Murrie, Chauhan, Dietz, & Morris, 2004). In the course of the assessment, the FMHPs are anticipated to have evidence to support that the defendant labored under mental defect at the time of the offense before a clinical diagnosis of insanity (mental disorder) would be rendered.

Warren et al. (2004) in a study found that, out of 563 defendants diagnosed as insane, 91% met the cognitive impairment criterion of

insanity defense, whereas 51 (9%) met the criterion for irresistible impulse. The authors also found that psychotic and affective disorders, and previous psychiatric histories significantly influenced the FMHPs opinion regarding whether the defendant labored under mental defect. In contrast, prior criminal history, intoxication at the time of offense, and drug charges were not significantly associated whether the defendant labored under mental defect. The authors further found that FMHPs are more likely to declare racial minorities to be clinically sane compared with their white counterparts, regardless of the differences or similarities in their demographic, psychiatric and criminal histories. In a related study, 44 (11%) of the defendants were found to be have impaired ability to make rational decision (volitional impaired; VI), few were cognitively impaired (CI), whereas the majority ($n = 372$, 89%) were found to be both volitionally and cognitively impaired (Donohue, Arya, Fitch, & Hammen, 2008). Defendants who met the criterion for CI were found to have committed more assaults, attempted homicide, arson or arson related offense, sex offense, child abuse, burglary, robbery, carjacking or related offenses and used deadly weapons than their counterparts with VI. However, no significant difference was observed between the VI and CI groups on demographic variables (marital status, race, sex, prior outpatient treatment). In terms of psychiatric disorders, it was found that psychotic disorder was the highest occurring disorder ($n = 229$, 62%) in the CI group, whereas schizophrenia was diagnosed almost equally in the CI and VI group. In general, individuals who exhibited psychiatric symptoms such as delusions, mania, lack of planning, hallucinations and disorganizations were found to have labored under mental defect at the time of offense. In a related study, Spencer and Tie (2013) found that various mental incapacitations such as inability to self-control, impaired ability to understand the criminal act and inability to resist from engaging in criminal act were influenced by mental and personality disorders. For example, insanity acquittees who lack the capacity to understand their criminal acts were significantly more likely to be diagnosed with delusional disorders.

4.2. Quality of report and agreement among FMHP

The quality of forensic examinations, and in particular insanity evaluations, has received substantial attention among researchers (e.g., Fuger et al., 2014; Gowensmith, Murrie, & Boccaccini, 2013; Large, Nielsens, & Elliott, 2009; Murrie & Warren, 2005; Nguyen et al., 2011; Stredny, Parker, & Dibble, 2012). Likewise, the extent of agreements among FMHPs has also attracted considerable attention. Murrie and Warren (2005) found that among 59 clinicians who conducted 4498 evaluations, the rate of rendering opinion supportive of mental defect varies considerably from 0% to 50%. Inexperienced evaluators (i.e., those conducting fewer evaluations) were more likely to opine that a defendant labored under mental defect than those who have conducted more evaluations. Examination of 110 insanity evaluations conducted in the United States found a moderate agreement among the evaluators (Large et al., 2009).

In terms of the quality of reports on MSO, Nguyen et al. (2011) found that none of the 150 reports submitted to Hawai'i judiciary achieved a predetermined report quality of 80%. In fact, some pertinent information such as informed consent, social history, and family history were missing from the reports. Furthermore, information regarding the relationship among the diagnoses and defendants' capacity for release and risk for violence were also missing from the report. Indeed, Wettstein (2005) argued that failure to link clinical opinion to the psycholegal issue of interest has been acknowledged as the most common problem in forensic evaluations.

In rendering an opinion on whether insanity acquittees should be hospitalized or not, Stredny et al. (2012) found that both psychiatrists and psychologists agreed on recommendations for hospitalizations in 78% of 160 cases. Yet, Gowensmith et al. (2013) reported that out of 483 insanity evaluations conducted on 165 defendants, only 55.1% agreement was reached by forensic practitioners, and this agreement

was not influenced by the evaluators' characteristics in the professional category (i.e., psychologist or psychiatrist). Disagreement was, however, pronounced when the defendants were under the influence of alcohol, illegal drugs, or both, at the time of the offense. The defendants' diagnostic status was also partly influenced the extent of the evaluators' agreement, which was high when the defendants were diagnosed with schizophrenia (Gowensmith et al., 2013). The foregoing notwithstanding, Gowensmith et al. (2013) reported that judges followed the majority (91%) of the sanity or insanity opinions provided by the evaluators, with only about 9% disagreements which mostly results in the defendant being found legally sane rather than insane.

4.3. Assessment measures in insanity defense

Following the development of the Mental State at the Time of Offense Screening Evaluation and Rogers Criminal Responsibility Assessment Scales (Zapf et al., 2014), there have been interest in developing and/or validating similar measures to assist in clinical decision making involving MSO. In 2005, the Alabama Structured Assessment of Treatment Completion for insanity acquittees (The AlaSATcom) was developed to estimate acquittees compliance with treatment for transfer or release decisions, as opposed to predicting future violence or risk (Hooper, McLearn, & Barnett, 2005). The AlaSATcom is completed by extracting salient information from a range of sources, including institutional records and interview.

Wright, Piazza, and Laux (2008) also examined the utility of the Substance Abuse Subtle Screening Inventory-3 (SASSI-3; Lazowski, Miller, Boye, & Miller, 1998) in the early detection of substance use disorders in acquittees. This inventory is particularly important because substance abuse is a common occurrence in insanity acquittees (Vitacco, Vauter, Erickson, & Ragatz, 2014). Therefore, detecting (subtle) substance abuse disorder and providing treatment early enough may help ameliorate acquittees psychosocial and cognitive functioning to contribute to a reduction in recidivism. The SASSI-3, which comprises seven subscales, is a simple, quick, and inexpensive screening tool to use in clinical assessments, diagnosis and in treatment planning. The SASSI-3 has a good concurrent validity with therapists' diagnosis of substance use disorder.

5. Jurors' decision-making and the insanity defense

Jurors' decision-making in insanity defense trials has received research attention partly because it has significant influence on the sanctity of the judicial process, including perceptions on justice delivery (Torrey, 2012; Vitacco et al., 2009; Willmott, Boduszek, Debowska, & Woodfield, 2018). Understanding the factors that may affect or bias jurors' decision-making may help to institute measures to ensure fair judicial outcomes in criminal proceedings. Recent developments in the study of jurors' decision-making are: (1) jurors' knowledge of insanity defense, (2) jurors' attitude towards insanity defense, (3) demographic factors affecting jurors' decision-making, (4) experts and laypersons testimonies and jurors' decision making, and (5) neuroimaging evidence and jurors' decision making.

5.1. Jurors' knowledge of insanity defense

Knowledge about the insanity defense and the various dispositions for a successful invocation of insanity defense are very instrumental in the judicial system. It is therefore extremely important that jurors and all actors in the judicial decision-making process possess relevant and adequate knowledge of the defense and dispositions associated with it. A study by Sloat and Frierson (2005) on 96 qualified jurors found that, only 4.2% correctly identified the meanings and outcomes of both NGRI and GBMI. Instead, the jurors substituted the legal definitions and the dispositions associated with NGRI for GBMI, and vice versa. With respect to the legal definition of NGRI, 55.3% answered correctly while

24.5% substituted the GBMI definition for NGRI. Similarly, 37.2% correctly identified the legal definition of GBMI whereas 27.7% substituted NGRI for GBMI. Furthermore, among jurors who correctly identified the definition of GBMI, those with less education were more punitive in their attitudes. In another study, Peters and Lecci (2012) reported that participants who were told by a judge that NGRI would result in indeterminate hospitalization or confinement were more likely to render NGRI verdict. However, in the absence of such information, 54.6% of the participants erroneously indicated that a defendant who is eventually convicted of the crime would be sent to psychiatric hospital, instead of prison. Furthermore, more than half of the participants who rendered a guilty verdict inaccurately believed that NGRI acquittees would be released instead of being committed to psychiatric institution for treatment. To validly measure knowledge about the insanity defense, the Knowledge towards Insanity Defense Scale (KIDS; Daftary-Kapur, Groscup, O'Connor, Coffaro, & Galietta, 2011) was developed. The KIDS consist of nine subscales (i.e., overused, violent crime, no risk, quick release, custody time, faking, experts as hired guns, battle of experts, and defense strategy), with each subscale comprising four items. The KIDS demonstrate convergent validity with the strict liability and the injustice and danger subscales of the insanity defense attitude scale-revised. The KIDS also has a good divergent validity with the Legal Attitude Questionnaire-Revised 23 (please refer to Daftary-Kapur et al., 2011 for more details).

5.2. Jurors' attitude towards insanity defense

Attitudes towards the insanity defense have the potential to affect jurors' decision-making process, judgments and verdict types (Louden & Skeem, 2007) by influencing, for instance, jurors' adherence to the instructions provided by judges (Peters & Lecci, 2012). In this regard, Hui (2005) found that Chinese participants reported more negative attitudes towards the insanity defense (e.g., not a good defense) than Caucasians. However, no difference was observed between the Chinese and Caucasians on opinion formation regarding insanity verdict. A study by Bloechl et al. (2007) found that, gender, ethnicity and religious beliefs do not significantly predict attitude towards the insanity defense. Political affiliation, however, was a significant predictor, with republicans (conservatives) holding negative attitudes, compared with democrats (liberals). Furthermore, individuals who overestimated the number of insanity defense pleas and the success rates of invoking the defense were significantly more likely to be negative in their attitudes towards the defense. Contrary to Bloechl et al. (2007), Kivisto and Swan (2011) found that religion (i.e., orthodoxy) and political-orientation were predictors of attitude towards insanity defense. More specifically, the authors found that religious fundamentalist and socio-political conservatist held negative attitude towards the insanity defense. Likewise, participants who appeared to be pro-prosecution bias tend to hold negative attitude towards the insanity defense (e.g., not a good defense). This is also true for participants who approved of the death penalty, thereby supporting the findings of an earlier study (Butler & Wasserman, 2006). Specifically, Butler and Wasserman (2006) reported that among death qualified venirepersons, a defendant charged with homicide is more likely to be convicted of the crime even when histories of psychiatric problems were presented to the court. Death-qualified venirepersons are also more likely to sentence a defendant to death and more likely to endorse certain insanity myths such as the defense is a loophole, and insanity acquittees are released immediately back into the community (Butler & Wasserman, 2006).

In another study, mock jurors who convicted a defendant of a crime scored significantly higher on legal authoritarianism and negative attitude towards the insanity defense (Rendell, Huss, & Jensen, 2010). Kardis (2013) found that participants who hold negative views towards the insanity defense were significantly more likely to render a guilty verdict. Consistent with the above, another study found that positive attitude towards the insanity construct was associated with the

tendency to ascribe more weights to the factors depicting diminished culpability (i.e., the defendant should not be held fully criminally liable for the criminal act in view of his/her impaired mental functions) (Stasiak, 2010).

The above studies have largely shown that negative attitude towards the insanity defense is more likely to result in a guilty verdict. These findings have pragmatic implications for empaneling jurors, thereby highlighting the need to examine juror attitude especially during the *voir dire* (Butler, 2006). The ability to validly and reliably assess jurors' attitude towards the insanity defense is therefore extremely important. The Insanity Defense Attitude Scale-Revised (IDA-R; Skeem & Golding, 2001) was developed as a measure of attitude towards insanity defense. The IDA-R has 29 items that map onto two subscales: Injustice and Danger, and Strict Liability (Louden & Skeem, 2007; Skeem, Jennifer Eno, & Evans, 2004). However, Vitacco et al. (2009) noted that the high cross-loading of the items on the scale weakens its discriminant and construct validity. The scale was subsequently revised using 239 venirepersons and validated on 567 undergraduates' students. The result yielded two subscales: Unprofessional Behavior and Safety Concerns (UBS; bias on the part of attorneys and mental health professionals to free dangerous people) and Strict Liability (SL; inclination to hold people accountable for their actions). A recent study conducted in Ghana, a West African State, found that a third factor underpinned IDA-R, in addition to UBS and SL. This factor, labelled as Expression of Sympathy, conveyed the idea that the participants were concerned and worried about the trouble, grief, and the misfortune of defendants pleading insanity at the time of offense (Adjorlolo, Abdul-Nasiru, Chan, & Bentum Jr, 2017). Perhaps it may relate to a possible cultural factor as it was evident in this African sample.

5.3. Demographic factors affecting jurors' decision-making

In addition to the knowledge and attitude towards insanity defense, empirical studies (e.g., Breheney, Groscup, & Galiotta, 2007; Butler, 2006; Dunn, Cowan, & Downs, 2006; Kardis, 2013; Smith, 2014; Yourstone, Lindholm, Grann, & Svenson, 2008) have also investigated the influence of other factors, notably gender, race and religious affiliation on juror decision making with respect to verdict and sentencing options. Gender is found to be an influential factor in legal decision-making. Prior research has revealed that females are more likely to invoke the psychiatric defense in filicide cases (Wilczynski, 1997), and are more likely to be cleared of their criminal charges than males (Armstrong, 1999; Lymburner & Roesch, 1999). It is also generally believed that females are less aggressive compared with men (White & Kowalski, 1998). In view of this, females exhibiting behaviors that contradict the law and societal expectations are more likely to be seen as acting under the influence of mental incapacitation. Nevertheless, the unaddressed question relates to the extent to which gender impacts judicial decision making in insanity defense trials. Dunn et al. (2006) examined the role of gender, race and method of killing on jurors' responsibility assignments and verdict types. The authors found that gender alone does not play a significant role on mock jurors' decision to label defendants as insane. However, gender interacted with race and method of engaging in a crime to influence jurors' decision-making in several unpredictable ways. Dunn et al. (2006) observed that a white female who shot at her children received severe outcomes, largely because, the use of a gun is considered a "male" form of violence and so its usage by a female is inconsistent with gender norms (i.e., sex-inconsistent hypothesis). Contrary to the sex-inconsistent axiom, Dunn et al. (2006) found that a black female who smothered her victims was treated more harshly than another black female who used a gun. Similarly, a white male who killed with a gun received less severe judgment compared to when a black male killed using a gun.

Mossière and Maeder (2016) surveyed 242 jury-eligible undergraduates in Canada to determine the role of gender and mental illness

on perceptions of criminal responsibility. Although the participants in general rendered NGRI/GBMI verdict, they rated female defendants as less dangerous relative to male defendants. Yourstone et al. (2008) found that students and forensic psychiatrists were more likely to render NGRI/GBMI verdict when the defendant was a female. Also, the male and female judges rendered insanity verdicts consistent with similarity leniency and the black sheep effects hypotheses (Breheney et al., 2007). In similarity leniency effect, members of an in-group (same gender) are more likely to be lenient and soft towards another in-group member, whereas in the black sheep effect, the in-group members are more likely to be harsher towards another in-group member who might be perceived as denigrating the group. In yet another study, it was reported that females are not only likely to be found guilty but also likely to be assigned more criminal responsibility (Breheney et al., 2007). However, females are likely to be assigned less criminal responsibility when they are proved to have acted under the influence of mental illness.

Similar to gender, the exact influence of race is unclear in this study. A study by Kardis (2013) failed to document the persuasive effect of race on juror decision making. Kardis (2013) reported that when mock jurors were presented with race (African-American, and Caucasian), facial maturity (baby-faced and matured-faced) and hygiene of the defendant (disheveled and non-disheveled), racial influence on NGRI or guilty verdict was not supported. Rather, the participants rendered NGRI when the defendant was non-disheveled, baby-faced appearance, compared to defendant with non-disheveled, mature-faced appearance.

Other demographic characteristics affecting jurors' decision-making are described. Kivisto and Swan (2011) found a relationship between Christianity Orthodoxy and attitude towards the insanity defense. Smith (2014), however, reported a converse finding. More specifically, Smith (2014) established that both Christian fundamentalists and non-fundamentalist Christians do not differ in their propensity to accept NGRI plea when the defendant was diagnosed with delusions or hallucinations of a religious content. The author further noted that the extent of Christian fundamentalism did not influence or impact on whether NGRI will be rendered. In another study, Butler (2006) found that increasing social support for the insanity defense was significantly related to the following: (1) likelihood of rendering NGRI verdict, (2) receptability of legal insanity standard, (3) positive attitude towards mental illness, and (4) low endorsement of insanity myths. Demographic variables such as age (older), education (college and above), occupation (i.e., teachers), liberalist, and prior experience as a juror on a criminal case were strongly correlated with the propensity to render NGRI verdict.

5.4. Expert and layperson testimony and jurors' decision making

Experts diagnosis of mental disorder when the defendant placed his/her mental state at issue and the testimonies provided by FMHPs have contributed in several ways to jurors' decision-making on verdict options and sentencing recommendations during insanity defense proceedings (Breheney et al., 2007; Gonzales, 2011; Green & Follingstad, 2009; Stasiak, 2010). Psychiatric diagnosis may corroborate or counter a defendant claim of insanity. Likewise, laypersons or non-expert testimonies or accounts may be influential during insanity defense trials. Green and Follingstad (2009) examined the potential impacts of non-expert testimonies in a study in which three levels of third party information (TPI: eyewitness testimony, prior mental health records, and family member testimony) were presented to support or counter NGRI plea. When a psychologist initially testified that the defendant had delusions and should be rendered the NGRI verdict, only 69 (46%) of the participants agreed with the psychologist, while the majority ($n = 81$, 54%) disagreed. However, when the psychologist claim was supported by TPI, majority of the participants agreed to render NGRI verdict, compared to when the TPI contradicted the psychologist testimony. Green and Follingstad (2009) further found that, prior mental

health history appeared to have less effect on NGRI verdict compared with testimonies about the state of mind of the defendant prior to the killing.

Expert testimonies may not only serve to exculpate defendants, but also could lead to a guilty verdict (Rendell et al., 2010; Stasiak, 2010). Gonzales (2011) found that psychological diagnosis and crime type did not impact significantly on the verdict choice in insanity defense trials. The type of mental disorder plays a significant influence in decision making relating to whether a criminal activity was planned (Elmore, 2013). Elmore (2013) found that, compared with a schizophrenic patient who was charged with a physical assault, jurors rated a bipolar defendant who was charged with a sexual assault to have planned the act. In addition, where the defendant charged with sexual assault was perceived to be mentally incapacitated, the jurors appeared to exhibit positive attitude. Breheny et al. (2007) also found that defendants whose mental conditions were regarded as occurring for the first time were more likely to be exculpated from their crimes. In sum, both experts and layperson's testimonies have significant influence on jurors' decision-making. The effect is likely to be stronger when experts and layperson's accounts converge. Similarly, whereas the type of clinical diagnosis and the type of offense may not independently influence jurors' decision-making, the interaction between them may prove very influential.

5.5. Neuroimaging and/or biological evidence and Jurors' decision-making

With continuous growth and advancement in neuroscience imaging technologies, there is a debate over the potential biasing effects of neuroimaging of the brain on jurors' decision-making. Most opinions have been that neuroimaging evidence of the brain's functional and structural impairments will sway juror decision making (Batts, 2009; Brown & Murphy, 2009; Compton, 2009; McCabe & Castel, 2008). Perhaps, the first study to have examined the impacts of neuroimaging evidence on decision-making is McCabe and Castel (2008) who found that neuroimaging of the brain played an influential role on the students' decision-making. Gurley and Marcus (2008) built on this previous research to examine the influence of neuroimaging evidence on mock juror decision to render NGRI. The result suggests that when a defendant was diagnosed with psychotic disorder, the jurors were influenced by the history of brain injury and neuroimaging of the brain to render NGRI. However, the combined effect of the neuroimaging and brain injury evidence supersedes neuroimaging or brain injury only evidence.

Contrary to the previous findings, subsequent studies found no or limited evidence for the potential of neuroimaging evidence to bias judicial decision making. Schweitzer and Saks (2011) in a study manipulated neuroimaging, neuro-no-image, neuro-graph conditions, psychological evidence, and a family member account to determine verdict type in insanity trials. It emerged that there were no differences among the neuroimaging, the neuro-no image, and the neuro-graph conditions on GBMI verdict. However, the neuroscience evidence together was found to be more persuasive than psychological evidence and family member account. Another study by Schweitzer, Baker, and Risko (2013) found no statistically significant effect of neuroimaging of the brain and a graph containing neuroimaging evidence on verdict decision making. Even after replicating McCabe and Castel (2008) methodology, Schweitzer et al. (2013) found no effect of neuroimaging on verdict options. In a recent study, although unrelated to insanity defense, the result suggests that neuroimaging evidence did not significantly influence participants' decisions on prediction of future dangerousness, responsibility and death sentence decisions beyond clinical, genetic, and neurological evidence (Saks, Schweitzer, Aharoni, & Kiehl, 2014).

Rendell et al. (2010) found that biological evidence significantly influenced jurors' decision-making more than psychological evidence. In this study, the defense expert testified by presenting either biological

or psychological evidence suggesting that the defendant had schizophrenia. In contrast, the prosecution expert testified that the defendant was psychopathic, had a personality disorder, or was not mentally ill. The result indicates that the defendant was more likely to receive insanity verdict and mental treatment when the defense expert introduced biological evidence rather than psychological evidence (Rendell et al., 2010).

6. Characteristics of insanity defense acquittees

Understanding the characteristics of defendants who have benefited from the insanity defense has implications for assessments, treatment and release planning. Research in this area has been mounting over the years (Crutchfield, 2009; Ferranti, McDermott, & Scott, 2013; Fong et al., 2010; McDermott et al., 2008; Novak, McDermott, Scott, & Guillory, 2007). This section is discussed under the following sub-headings: Demographic, clinical and offense characteristics.

6.1. Demographic characteristics

Out of 84 insanity acquittee reports evaluated in Louisiana from 1997 to 1999, 74% were African-Americans, with males constituting the majority (87%; McDermott & Thompson Jr, 2006). Male dominance in the insanity acquittee population has been reported by other studies to be as high as 90% (Ferranti et al., 2013; Skipworth, Brinded, Chaplow, & Frampton, 2006). With regard to age at first offense, males committed their first offense at a significantly lower age than their female counterparts. Among Malaysian insanity acquittees, majority had secondary education ($n = 67$), followed by primary education ($n = 37$), 74% were employed, whereas 68.8% were deemed to have some form of social support (Fong et al., 2010). The inpatient hospitalization for the Malaysian acquittees ranged from three (3) months to 47 years, and this was highly associated with factors such as age, good family support, and index offense: homicide. Among New Zealand insanity acquittees, age was a significant predictor of the length of hospitalization such that the aged (> 35 years) were more likely to stay longer at mental health institutions (Skipworth et al., 2006). Similarly, among NGRI acquittees in Virginia, United States, the average time spent at treatment centers before release ranged from 61.63 months to 77.23 months, with longer inpatient hospitalization predicted by high risk of escape from the facility and non-adherence to treatment regimen (Vitacco et al., 2014).

Several studies found some significant findings that are noteworthy. For example, Ferranti et al. (2013) reported almost the same proportion of homicides in Caucasian females ($n = 33$; 70%) and males ($n = 30$; 64%), while females were significantly more likely to commit homicide in the study by Dirks-Linhorst and Kondrat (2012). In Novak et al.'s (2007) study, child molesters were more likely to be young Caucasians (86%), whereas adult offenders were more likely to be older individuals from African-American origin (72%). A study of insanity acquittees over three decades revealed that majority were Caucasians who were never married (McDermott et al., 2008), while the study by Ferranti et al.'s (2013) reported found that thirty-one (31) of the females reported ever married while twenty-nine (29) of the males were reportedly single.

In summary, insanity acquittees are more likely to be males of African-American origin, whereas their female counterparts are likely to be Caucasian. On the average, male acquittees are more likely to commit their first offense at a younger age than their female counterparts.

6.2. Clinical characteristics

According to Crutchfield (2009), mental disorders are considered as an important factor in the successful application of the insanity plea. Among 83 insanity acquittees, 71% were diagnosed with schizophrenia

(Parker, 2004). The above finding was confirmed by studies from New Zealand (Skipworth et al., 2006) and Malaysia (Fong et al., 2010) where 59% and 89.3% of the primary diagnosis was schizophrenia, respectively. Studies from other jurisdictions have reported similar findings, including from Portugal (Almeida, Graca, Viera, Almeida, & Santos, 2010), Australia (Spencer & Tie, 2013), Canada (Desmarais et al., 2008) and United States (McDermott et al., 2008; McDermott & Thompson Jr, 2006; Novak et al., 2007). Other common psychiatric disorders reported among insanity acquittees are substance abuse, bipolar and mood disorders, mental retardation and antisocial personality disorder (Almeida et al., 2010; Miraglia & Hall, 2011; Nielssen, Yee, Millard, & Large, 2011; Vitacco et al., 2014). There is evidence to suggest that the severity of offense is not necessarily correlated with severity of the psychiatric diagnosis. For instance, insanity acquittees whose index crime was homicide do not differ from other acquittees of lesser offenses on the following psychiatric diagnoses: psychotic disorder, mood disorder, and substance abuse disorder: however, differentials were noted for personality disorders, intellectual disorders and other Axis I disorders (Dirks-Linhorst & Kondrat, 2012).

Data from the few studies that have considered the sex of the acquittees suggest a trend that is not entirely different from the studies reviewed above. That is, the following diagnoses have been reported among female insanity acquittees: schizophrenia, bipolar disorder, depression, substance abuse, personality disorders, and mental retardation (Dirks-Linhorst, 2014; Ferranti et al., 2013; Vitacco et al., 2011). Females committing homicide have been found to have histories of childhood physical and sexual abuse, and intimate partner violence than males (Ferranti et al., 2013). Religious delusions were reported among females who kill infants (0–1 year old) and children between 2 and 18 years of age (Ferranti et al., 2013). Clearly, mental disorders, notably psychotic-spectrum disorders, are common disorders among insanity acquittees. More specifically, both male and female insanity acquittees are likely to be diagnosed with schizophrenia.

6.3. Offense characteristics

Violent offenses, particularly homicide appear to be the most common offense committed by insanity acquittees (Almeida et al., 2010; Dirks-Linhorst & Kondrat, 2012; Fong et al., 2010; McDermott et al., 2008; Skipworth et al., 2006; Vitacco et al., 2014). Other offenses include assault, use of dangerous weapons, threat to burn or arson, theft, and sex offenses. The type of offense and the manner in which it was committed are partly determined by the sex of the offender. Ferranti et al. (2013) reported that males have friends/acquaintance/stranger and adults as their victims while females on the other hand prefer infants and children. More males used firearms in killing their victims, whereas females' preferred weapon is knife. In another study, females were found to have committed more burglary and arson, while males were charged with homicide, sexual offenses and robbery (Dirks-Linhorst, 2014). The severity of the index offense significantly predict the duration of stay at inpatient facility. For instance, insanity acquittees who committed homicide are hospitalized much more longer than their counterparts committing other violent and nonviolent offenses (Dirks-Linhorst & Kondrat, 2012). In summary, insanity acquittees are more likely to commit homicide, particularly among males. Existing literature indicates that, relative to females, males are more associated with the use of lethal weapons. Females are likely to attack children and infants, while males are also more likely to target strangers as their victims.

7. Release recommendations for insanity acquittees

Releasing insanity acquittees back to the community is a very delicate decision that carries huge implications, including risk of re-offending. In particular, the decision to release insanity acquittees could be influenced by the following; (1) protecting communities from

future crimes, (2) decongesting forensic psychiatric institutions, and (3) protecting the fundamental human rights of the insanity acquittees. Recommendations from clinicians regarding the release of insanity acquittees are mostly based on the presence and the severity of mental illness, and the dangerousness or the risk posed to the community (McDermott & Thompson Jr, 2006). There are different facets of the release recommendations.

As stakes are high in release recommendations, so are the interest of researchers in examining and evaluating the processes to identify factors that are to be associated with release recommendations. Among 91 NGRI insanity acquittees in a maximum security, length of stay was not a significant predictor of release recommendations in a study by Manguno-Mire et al. (2007). Race, however, had a significant impact such that most African-Americans were released based on no mental illness condition. In this sample, the type of crime, whether violent or nonviolent, did not predict whether acquittees received conditional, unconditional or civil commitment. Another study found that acquittees who scored low on psychopathic traits and those whose offenses occur at an older age were more likely to be released (Manguno-Mire et al., 2007). An analysis of over three decades data on insanity acquittees revealed that compliance with and responsiveness to treatment, patients' substance use history, and risk of violence as factors that have influenced release recommendations (McDermott et al., 2008). In a related study in which the records of 84 insanity acquittees from 1997 to 1999 in Louisiana were examined, the community readiness profile, gender, psychiatric history and type of crime were significant predictors of release decision (McDermott & Thompson Jr, 2006). When females were recommended for release, it was to civil facilities and with moderate levels of symptoms; while males with moderate symptoms, low PCL-R scores were correlated with recommendations for release. High PCL-R scores were associated with recommendations for continued commitment for males.

Stredny et al. (2012) also found that demographic factors (gender, marital status, ethnicity, and age) and offense type did not significantly influence the release of insanity acquittees. Acquittees with a history of suicide attempt and self-injury and those admitted directly from jail to the hospital were more likely to be recommended for hospitalization, as opposed to those with a history of substance abuse. Data on 179 acquittees revealed that static factors such as racial status and dynamic factors such as the absence of structured daily activities and less than weekly treatment are not significantly associated with release recommendation (Norwood, 2013). There is evidence that females are more likely to be released, both conditionally and unconditionally, than males (Dirks-Linhorst, 2014). Some other common documented risk factors influencing release recommendations include: (1) aggression, (2) being transferred to hospital from jail, (3) previous psychiatric hospitalizations, (4) substance abuse, (5) denial or lack of insight, (6) history of medication noncompliance, (7) lack of meaningful employment or daytime activity, (8) family or psychosocial problems, and (9) use of weapons (Stredny et al., 2012). This notwithstanding, there is a trend suggesting that the type of offense, compliance with treatment, type of diagnosis and age at first offense are more likely to predict release recommendations. Similarly, females are more likely to be released than males. However, cautious interpretation is required as findings found in these studies were limited by their sampling populations and other study limitations.

8. Revocation of release recommendations of insanity acquittees

The main focus of research in this arena is to elucidate the factors associated with the revocations of the release recommendations. In this section, we discussed the prevalence as well as factors affecting revocation of release.

8.1. Prevalence of revocation of conditional release

Examining the records of 83 insanity acquittees in Ohio from 1996 to 2000, Parker (2004) observed that 5 arrests and 60 hospitalizations were made. The low re-arrest was largely attributed to the institutionalization of Assertive Community Treatment (ACT) program: inpatient-like community health services provided by group of mental health professionals. Data from New Zealand indicate that of the 135 insanity acquittees released before 2004, violent re-offending was reported for only 6% of the acquittees (Skipworth et al., 2006). In another study involving 363 insanity acquittees, 240 (66.12%) were found to maintain their conditional release for an average of 3.66 years, while 123 (33.88%) acquittees had their conditional release revoked either because of committing a new offense (7.11%) or failure to adhere to the rules of conditional release (Vitacco et al., 2008). Vitacco et al. (2011) also found that, out of 76 NGRI female acquittees, 24 (31.6%) had their conditional release revoked on grounds of violations of the release rules, instead of violent offenses. Furthermore, among 386 NGRI acquittees, it was reported that 20.8% and 10.6% had one or more re-arrest in the post release period and one or more arrests for violence, respectively (Miraglia & Hall, 2011). Among 127 NGRI acquittees, majority ($n = 96$, 75.6%) were able to maintain their release, thirty-one ($n = 31$, 24.4%) had their release revoked, with seven rearrested for new offense while the remaining violated the release conditions (Vitacco et al., 2014). Another data from 1148 insanity acquittees spanning 30 years found that more females received conditional and unconditional release and were able to keep their release better than the males (Dirks-Linhorst, 2014).

Compared with previous review (Lymburner & Roesch, 1999), the rate of recidivism in the current review is relatively low. This might be as result of interest in reducing recidivism, which has seen the establishment of requisite systems and institutions to deal with released-acquittees. In most jurisdictions, besides the intensive care management set up to monitor the implementation of conditional release plans, several adjunct treatments such as day treatment, psychosocial treatment, structured daily activities, and employment training were provided to the acquittees, when necessary. An example of such initiatives include the Assertive Community Treatment (ACT) found in Ohio (Parker, 2004). Indeed, the efficacy of community treatment programs may have contributed to the observation that re-offense among insanity acquittees was lower than non-beneficiaries of the insanity defense in Australia (Green et al., 2011).

8.2. Factors affecting revocation of release

The effects of demographic factors and criminal history on the revocation of release have been inconsistently reported. For instance, the type of diagnosis and the duration of inpatient hospitalization did not predict recidivism, whereas prior offending, age at release, ethnicity and gender significantly predicted reoffending (Skipworth et al., 2006). This finding was supported by Vitacco et al. (2011) who found that gender and age at release significantly predict revocation of conditional release. Contrary to the above findings, Vitacco et al. (2008) reported that gender, ethnicity, age, relationship status, years of education and living placement were significantly unrelated to release revocations. This was also confirmed in a study by Vitacco et al. (2014) where characteristics such as age, gender, ethnicity, number of years of education, previous violent offense, and total number of criminal charges were not predictive of revocation of conditional release. Other factors contributing to the revocation of release include substance abuse, antisocial personality disorder, brief inpatient hospitalization, intensive supervision, problems with previous release (Vitacco et al., 2008; Vitacco et al., 2011). In summary, the following variables appear to consistently predict revocations: being categorized into high risk supervision group, history of previous revocation, violations of release rules, and substance abuse.

9. Additional areas of insanity defense research

9.1. Insanity plea statistics and judicial use of assessment report

A 2-year (2000–2002) data from Israel indicate that both the insanity plea and CST were raised in 0.9% of cases, with 0.07% average acceptance rate for insanity plea alone (Toib, 2008). Also, the insanity plea rate in severe crime is not > 15%, contrasting the 60% acceptance rate in United States. Data from Australia indicate that, the overall success rate for insanity defense plea stood at 64.8%. Homicide-related offenses had a higher plea rate of 8%, but a low success rate of 33% in comparison with all the offenses brought before and heard by the mental health tribunal (Green et al., 2011).

Kazmierczak (2004) investigated how courts examine sanity using the content of the Rogers Criminal Responsibility Assessment Scales (R-CRAS). It emerged that on average only 30% of the R-CRAS variables were addressed during trials. Similarly, only 8% of the variables used in determining legal insanity were coded from the defendant's past psychiatric histories.

9.2. Policy change and insanity acquittees

For every insanity defense policy change, researchers and other advocates are not just interested in the reform, but rather the real impacts of such legislative reforms. Desmarais et al. (2008) reported on the impact of the *Winko* decision: Canadian Supreme Court decision in *Winko v. British Columbia (Forensic Psychiatric Institute)* in 1999 on insanity acquittees (See Desmarais et al., 2008 for more details). The authors compared the characteristics and outcomes for insanity 592 acquittees released before and after the *Winko* decision from British Columbia, Ontario, and Quebec. Statistically significant difference was observed for only substance abuse. The *Winko* decision partly contributed to differences in the characteristics of insanity acquittees across jurisdictions: reduction in personality disorders in British Columbia (27% versus 11%), increase personality disorders in Quebec (28% versus 40%), and increase in substance abuse in Quebec (29% versus 51%). The rate of personality disorders remains stable in Ontario, while both British Columbia and Ontario reported no significant difference in substance abuse. There were no significant differences in outcomes before and after the *Winko* decision, except that the average age at discharge was lower for Quebec sample post *Winko*. Regardless of the above, the key question is whether the above findings could be attributed to *Winko* effect. For instance, as noted previously that substance abuse is a common problem among insanity acquittees (Fong et al., 2010; Novak et al., 2007), it is not clear the extent to which *Winko* decision may account for this for the increase in substance abuse.

In a related development, Dirks-Linhorst and Kondrat (2012) observed that changes made to the procedures regarding the release of insanity acquittees in Missouri in 1996 were intended to tighten and harden the insanity defense system. Empirical analysis of the effects of the changes revealed that the get-tough-on crime policy has led to longer hospitalization for the acquittees: both NGRI homicide and NGRI non-homicide acquittees (Dirks-Linhorst & Kondrat, 2012). As noted in different studies, it appears that the real punitive effect of this policy has not been achieved, and, thus, may not be different from other policies implemented elsewhere (Balachandra, Swaminath, & Litman, 2004; Desmarais et al., 2008; Jacobson, 2006).

10. Discussion

The present review examined the literature on insanity defense from 2004 to 2019. The outcome of this review has significant implications for advancing both theory and practice in relation to insanity defense. With respect to assessment of MSO, the review found that assessors mostly proffer contradictory opinion, partly because of the poor quality of the assessment process and report. These findings are consistent with

similar findings reported for CST assessments (see Robinson & Acklin, 2010 for details). The evaluations may be enhanced beyond the current standard if clinicians endeavor to reexamine the previously conducted evaluations for possible mistakes that might inform and help improve upon subsequent evaluations (Murrie & Warren, 2005). Similarly, familiarity with the literature on best practices in forensic assessments and evaluations may also contribute towards improving the quality of the reports, as well as minimizing evaluator disagreements (Murrie & Warren, 2005). Forensic assessment of MSO can also be enhanced if practitioners endeavor to undertake holistic and comprehensive evaluations, as required by clinical assessment lore. In addition to the above, more research explicating the factors associated with producing poor MSO reports as well as factors accounting for the differences in opinion formation in insanity evaluations is needed, although the work of Murrie and Warren (2005) and others are recognized. The recommendations from these sorts of studies may help in narrowing the noticeable differences in opinion formation, thereby helping to improve MSO evaluations.

Similarly, all the studies into evaluator disagreements and report qualities are based on databases. This may not help in identifying and addressing the factors contributing to poor report quality or evaluator disagreements. It would be useful if researchers broaden their research focus beyond the databases to the collect firsthand empirical data from the evaluators. The outcomes of this line of research may have utilities for improving the quality of MSO. Discussions are ongoing regarding the introduction of neuroscience technologies into forensic assessments. In this respect, research may also be interested in examining whether neuroscience techniques may enhance MSO evaluations, hence the accuracy of MSO reports. Thus, it will be of both professional and scholarly interests to examine the modalities through which MSO examinations may benefit from neuroscience advancement and growth.

Studies on factors affecting jurors' decision have been inconsistent and inconclusive, although attitude towards and knowledge of the insanity appears to have significant influence. It is important that careful considerations are given not only to jurors' knowledge and attitude towards insanity defense when empanelling a jury, but also extralegal factors such as gender, race, religious fundamentalism, and political orientations. This may contribute to impartial judicial outcome. An observable trend is that combination of several factors may influence juror decision making, even in unpredictable ways. For this reason, research into jurors' decision-making may be interested in examining how different legal and extralegal factors (e.g., demographics) interact to influence verdict choice in insanity defense trials. The extralegal factors should include the background characteristics of the jurors, the defendants, and the defense and prosecution teams. Research activities into the range of factors that moderate or mediate jurors' decision-making during insanity trials would also be informative and insightful.

An emerging trend in the studies above is that biological or neurobiological evidence may have more persuasive influence on jurors' decision-making than psychological and psychiatric evidence. It is also important noting that the studies reviewed above may have methodological weaknesses. For instance, none of the studies significantly mirrored a typical jury trial since there were no deliberations among the participants in the study. Thus, studies in which the mock jurors are allowed to deliberate might be more informative on how neuroimaging influences their decision-making. Future studies may be interested in jurors' deliberations when neuroimaging evidence is presented. In addition, research may seek to examine legal and extra-legal factors influencing (i.e., moderating or mediating), if any, the relationship between neuroimaging evidence and juror decision-making.

In line with previous findings (e.g., Lyburner & Roesch, 1999), the present review has found that there are more male insanity acquittees than their female counterparts. It was further observed that the most occurring psychiatric disorders in acquittees are schizophrenia, schizoaffective disorders, substance abuse, and psychotic spectrum disorders. However, the above disorders were prevalent in males than

females. Female acquittees, on the other hand, are more likely to be diagnosed with mood, bipolar, and schizoaffective disorders. In conclusion, the most prevalent psychiatric diagnosis was schizophrenia. Notwithstanding the prevalence of schizophrenia in insanity, the type of schizophrenia associated with violent crimes is a grey area necessitating future research. This will be relevant for understanding the relationship between schizophrenic diagnosis and violent offenses.

Regarding release recommendations, there is a trend suggesting that the type of offense, compliance with treatment, type of diagnosis and age at first offense are more likely to be influential. Similarly, failure to comply with release rules was associated revocation of release. The prevalence of revocation of conditional release or recidivism among insanity acquittees was relatively low, compared with previous findings (Lyburner & Roesch, 1999). This may be as a result of several community programs instituted to rehabilitate and reintegrate acquittees, although studies are yet to comprehensively report on the effectiveness of community-based programs (exception: Parker, 2004).

In general, studies on jurors' decision-making, release recommendations and revocations of releases are riddled with inconsistent and inconclusive results, partly because of variations in the measurements and operationalizing of study constructs, different data source, time span of the data (recent versus old data), differences in sample size and sample characteristics. In addition to the above, it was observed that with the exception of studies into jurors' decision-making that are largely informed by experimental studies; almost all other studies have used data from existing databases. Primary data or firsthand data may help explain some observations made using the data from database. For instance, qualitative studies exploring the challenges and experiences of insanity acquittees discharged into the communities would be helpful to understand why some recidivate and others do not. In effect, a change in research focus to collect first hand data may add to the explanatory powers of the database findings.

In conclusion, research on insanity defense since 2004 has been informative. As research continues to expand the understanding of the insanity defense construct, several challenges associated with MSO evaluations, opinion formation in MSO, and release recommendations, maintenance of release conditions, improving jurors' decision-making could be addressed pragmatically.

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