AUCTORES
Globalize your Research

Journal of Brain and Neurological Disorders
Monique M. Chouraeshkenazi*

Open Access

Review Article

Commentary On Forensic Neuropsychopathological Analysis on Altered Brain Structures in Combat Veterans: A Systematic Review

Monique M. Chouraeshkenazi

Department of Psychology, American Military University.

***Corresponding Author:** Chouraeshkenazi, Department of Psychology, 111 W. Congress Street, WV 25414.

Received Date: 30 August 2024 | **Accepted Date:** 16 September 2024 | **Published Date:** 26 September 2024

Citation: Monique M. Chouraeshkenazi, (2024), Commentary On Forensic Neuropsychopathological Analysis on Altered Brain Structures in Combat Veterans: A Systematic Review, *J. Brain and Neurological Disorders*, 7(5): **DOI:10.31579/ 2642-973X/122**

Abstract

This commentary reviews Chouraeshkenazi's (2023) systematic analysis of forensic neuropsychopathology, focusing on altered brain structures in combat veterans. The study explored how neuropsychopathologies such as PTSD, mTBI, and depression affect brain regions (i.e., frontal lobe and prefrontal cortex), impairing cognitive performance and increasing violent behavior risks. Emphasizing DoD's insufficient mental health standards as of 2020 (U.S. Inspector General, 2020), the study highlights the need for advanced neuropsychopathological evaluations and neuroimaging to improve military mental healthcare and address readiness and criminal liability issues.

Chouraeshkenazi (2023) advances forensic neuropsychopathology by identifying neuropsychopathological markers linked to violent behavior and suggests integrating these findings into legal and policy frameworks for better judicial outcomes. Using a robust systematic literature review (SLR) methodology, the research analyzed data from over 500,000 combat veterans over 11 years, revealing significant research gaps and leading to the development of forensic neuropsychopathology as a new subdiscipline.

Despite its contributions, the study faced limitations due to insufficient clinical results and limited sample representation, impacting the generalizability of findings on long-term combat exposure and its effects. As a result, this commentary proposes an updated definition of forensic neuropsychopathology as an interdisciplinary field examining how neurological conditions impact cognitive performance and behavior within legal contexts. This is to provide a better understanding and to encourage additional research to mitigate limitations and increase clinical findings. Nonetheless, future research should address these gaps with detailed neuropsychopathological evaluations and neuroimaging to enhance accuracy in diagnosing and treating severe neuropsychopathologies in military settings. This commentary further discusses integrating neuropsychopathological markers into clinical practice and legal decision-making to improve forensic outcomes. It advocates for ongoing research and interdisciplinary approaches to develop effective interventions and support systems for service members, veterans, and their families.

KeyWords: clinical psychology; combat veterans; combat exposure; forensic neuropsychopathology; forensic psychology; civilian and military law; military justice system; Mtbi; posttraumatic stress disorder; trauma; violent crimes

Introduction

Chouraeshkenazi (2023) investigated the impact of neuropsychopathologies in combat veterans who served in Operation Iraqi Freedom and Operation Enduring Freedom. Military service personnel who served in those campaigns were diagnosed with severe neuropsychopathologies due to combat exposure and trauma. Numerous studies on how combat exposure and trauma significantly impact the brain were examined for a plethora of concerns related to personnel and military readiness obligations (Krancevich, 2020; MacQuarrie et al., 2020; Giardino, 2019; Sreenivasan et al., 2013). Also, the relationship between severe neuropsychopathologies, altered brain regions, and cognitive performance was examined to determine whether combat veterans were predisposed to commit violent crimes (Chouraeshkenazi, 2023).

A systematic literature review (SLR) provided significant data regarding combat exposure effects and trauma and how this affected the brain, particularly cognitive performance. Data were analyzed using the PRISMA method, reviewing pre-existing studies to support and substantiate findings. Results revealed the leading severe neuropsychopathologies were PTSD, mTBI, and depression comorbidities among combat veterans diagnosed sometime after their return from deployment (Chouraeshkenazi, 2023). Also, existing studies

showed that the specific brain regions affected were the frontal lobe and the prefrontal cortex (Chouraeshkenazi, 2023). Not only did findings support information regarding how the brain is altered due to combat exposure and trauma as well as the regions are impacted, but evidence suggested that combat veterans diagnosed with such severe neuropsychopathologies were not "mission ready" to complete the responsibilities required of them to serve in the military and meet deployment requirements (Acosta et al., 20214). Also, findings indicated that combat veterans with severe neuropsychopathologies are at a higher risk of predisposition to commit violent crimes (Chouraeshkenazi, 2023). The complexity of the findings made it challenging to determine if combat veterans are criminally liable, although some met the criteria for the insanity defense (Umbrasas, 2020). Also, findings questioned whether combat veterans diagnosed with severe neuropsychopathologies are mentally and physically fit to remain on active duty (Deployment Health Clincial Center [DHCC], 2017). The conceptual framework developed through the process of study, forensic neuropsychopathology, identified the relationship between mental health issues, severe neuropsychopathological diagnoses, and its effects on the military legal system. Based on the research conducted, it was deemed necessary that further research is needed to examine severe neuropsychopathologies, specific brain regions, and cognitive performance through specific neuropsychopathological evaluations and assessments and neuroimaging techniques to provide advanced neuropsychological initiatives and improve mental healthcare practices within the Department of Defense (DoD).

Significance of the Study

As of 2020, the DoD had not met the required standards for mental health programs for military service members (U.S. Inspector General, 2020). Severe neuropsychopathologies such as PTSD, mTBI, and depression were the most significant mental concerns among the U.S. Armed Forces. However, there were no neuropsychological or neuropsychopathological initiatives to determine how severe mental illnesses impact not only brain regions but cognitive performance. Exploring this phenomenon is paramount, as there have been increased military discharges and violent crimes due to mental healthcare concerns (Cesur et al., 2020; Krancevich, 2020; MacQuarrie et al., 2020; Giardino, 2019; Acosta et al., 2014; Elbogen et al., 2014).

Chouraeshkenazi (2023) provided awareness of the relationship between neuropsychopathological deficits and criminal behavior, marking a significant advancement in forensic neuropsychopathology. The research identified neuropsychopathological markers associated with violent or criminal behavior. These findings could influence federal policy and legal frameworks by advocating for including neuropsychopathological evidence in legal decisions, leading to more informed and equitable judicial outcomes. Additionally, it implicates future research by examining the relationship between neuropsychopathological and environmental factors, potentially enhancing prevention and rehabilitation strategies within the DoD.

Forensic Neuropsychopathology

Forensic neuropsychopathology is the "combination of clinical neuropsychological practices and the scientific study of mental disorders that pertain to decision-making within the civilian and military legal systems" (Chouraeshkenazi, 2021). However, the findings from this study required the researcher to consider a more profound understanding of neuropsychopathology and provide a more precise definition of the framework. As previously stated, Chouraeshkenazi's (2023) findings revealed that severe neuropsychopathologies (i.e., PSTD, mTBI, MDD) altered the brain's prefrontal cortex and frontal lobe regions. Therefore, the term forensic neuropsychopathology should reflect the effects of psychopathology on the brain and its implications for military and even legal sysetems. This commentary incites a new definition of neuropsychopathology and an improved explanation of forensic neuropsychopathology to better understand their impact on clinical neuropsychology and psychology, forensic psychology, and military neuropsychology (Chouraeshkenazi, 2023). Through four years of research, the researcher was unsuccessful in finding the expert(s) who coined "neuropsychopathology." However, it appears that medical physician Sir William Osler was "the first to formally use the term 'neuropsychology' in 1913" (Bruce, 1985). Now, the researcher believes a simplistic definition of neuropsychopathology is defined as "the study of psychopathology and its effects on the brain and cognitive performance" (Chouraeshkenazi, 2024).

Also, an updated definition to further explain forensic neuropsychopathology is as follows:

> "An interdisciplinary field that applies principles of neuropsychology to understanding and evaluating the intersection of neurological conditions, psychological functioning, and legal issues. It focuses on how changes within the brain affect cognitive performance and how mental disorders influence behavior within legal contexts, such as criminal responsibility, competency to stand trial and risk assessment. This field combines neuroscience, clinical neuropsychology and psychology, forensic psychology, and the law to address complex questions about cognitive performance and emotional functioning related to legal questions and decisions" (Chouraeshkenazi, 2024).

Strengths of the Study

Chouraeshkenazi (2023) employed a robust and innovative research design; the SLR methodology enhanced the precision and reliability of the findings. The SLR approach is a rigorous methodology (Sataloff et al., 2021); therefore, it was the best approach for reviewing peer-reviewed articles on neuroscience, clinical neuropsychology and psychology, forensic psychology, and the law. Such a method requires researchers to meet strict standards for the entire research study, including sensitive research and appraisal of significant and relevant studies, increasing inter-rater reliability (Mancin et al., 2024). It served as an asset in providing a clear, comprehensive overview of available data to understand the complexity of combat exposure, trauma, severe neuropsychopathologies, the military, and violent crimes. This method produced a large sample size (over 500,000 combat veterans over 11 years) to produce statistically significant findings (Chouraeshkenazi, 2023).

In addition, using SLR allowed the researcher to understand the grand scheme of the findings, showing that advanced neuropsychological initiatives are needed within the DoD to provide improved mental healthcare programs for military service members (Sataloff et al., 2021). Also, incorporating SLR into the research studies identified significant informational gaps in clinical neuropsychology and psychology, forensic psychology, and military neuropsychology. As a result, the birth of a conceptual framework, forensic neuropsychopathology, was presented as

an emerging subdiscipline to address the psychological field's many complexities and informational limitations concerning psychopathology and its effects on the brain and cognitive performance (i.e., neuropsychopathology) (Chouraeshkenazi, 2023).

The SLR method does not only include qualitative data and its analyses; the researcher also had a unique ability to incorporate meta-analysis practices into the research to amalgamate qualitative and statistical findings that were deemed significant within the study (Sataloff et al., 2021). This provided a comprehensive understanding of the research topic through anecdotal, instinctive, quantifiable, and measurable approaches. Chouraeshkenazi (2023) utilized comprehensive data collection strategies, including large and diverse samples of combat veterans over 11 years. This broad data set increased the generalizability of the results. Also, it allowed for a more nuanced understanding of the neuropsychopathological profiles associated with various forms of criminal behavior highlighted in the study (Mancin et al., 2021; Sataloff et al., 2024).

In addition, the multidimensional analysis approach was significant; by integrating multiple neuropsychopathological dimensions, such as executive function, memory, and emotional regulation, the study offered a multidimensional analysis of cognitive deficits. This comprehensive approach provided a deeper insight into how different cognitive impairments contributed to criminal behavior, particularly violent crimes. The study's findings directly impact clinical practice, offering practical tools for clinicians to assess and manage individuals with neuropsychopathological impairments (Chouraeshkenazi, 2023). This was not highlighted in the study (Chouraeshkenazi, 2023); however, it was revealed in this commentary, which is critical to incorporation in future research.

The identification of specific neuropsychopathological markers (i.e., altered brain regions such as the frontal lobe and the prefrontal cortex that can cause impairment) linked to violent crimes can enhance risk assessment and intervention strategies. Chouraeshkenazi (2023) provided evidence that can inform policy and legal frameworks (which will be incorporated in the future research section). By demonstrating the connection between neuropsychopathological deficits and violent crimes, the study supports the need for incorporating forensic neuropsychopathological evaluations and assessments into legal decision-making, potentially leading to more just and individualized legal outcomes (Chouraeshkenazi, 2023). These strengths highlighted the study's contribution to advancing forensic neuropsychopathology, enhancing our understanding of the cognitive factors in criminal behavior, and providing valuable insights for clinical and policy applications.

Weaknesses of the Study

There were limitations in this study, mainly insufficient clinical results that are paramount in proving the theory that long-term combat exposure and trauma not only altered brain regions and affected cognitive performance but predisposed veterans to commit violent crimes (Chouraeshkenazi, 2023). Validity is of the utmost importance in all research studies; therefore, examining a phenomenon with limited clinical studies in this area could have compromised the study's findings (Patino & Ferreira, 2018). Though there was significant peer-reviewed work in neuroscience, neuropsychology, forensic psychology, psychology, and military mental health concerns, additional information is needed to examine the relationship to theorize (will be provided in future research) that increased violent crimes within the military due to severe neuropsychopathologies (Chouraeshkenazi, 2023).

The study had a limited sample representation (neuropsychological longitudinal and clinical studies), which slightly affected the generalizability of the findings. For instance, although there were over 500,000 combat veterans to sample from 11 years, there was only one peer-reviewed article that examined the implication of an insanity defense due to severe neuropsychopathologies revealed during court trials (Umbrasas, 2020). Also, this study did not provide evidence that the combat veteran was evaluated for cognitive impairment.

Emerging research in this area is critical for statistical and clinical significance to hypothesize that increased violent crimes within the military are due to severe neuropsychopathologies (Chouraeshkenazi, 2023). Also, this concern warrants further exploration of advanced neuropsychological initiatives within the DoD. In addition, there were insufficient clinical studies to focus on the association between altered brain regions, cognitive performance, and violent crimes within the U.S. military. This form of study may not be conducted due to various reasons such as ethical concerns, limited scope, longevity, time commitment, cost-effectiveness, manpower, and participant recruitment and attrition.

Nonetheless, to better understand this phenomenon, such research approaches are required. Further, there was a significant limitation in research regarding results from combat veterans completing neuropsychopathological evaluations and neuroimaging for further diagnostic clarification. Neuropsychopathological evaluations and assessments are relatively new (Chouraeshkenazi, 2024). However, neuropsychological evaluations are standard reports conducted for further diagnostic clarification (Schaefer et al., 2023; Schroeder et al., 2019).

Such evaluations assist in diagnosing complex neurodevelopmental, neurocognitive, and mental disorders by interviewing, administering assessments, conducting research, and determining diagnostic criteria of how these aspects impact the brain and behavior (Schroeder et al., 2019). Nonetheless, a step further, neuropsychopathological evaluations and assessments not only include aspects of a neuropsychological evaluation but focus on how psychiatric conditions impact the brain (i.e., changes within the brain), cognitive performance, and mental health.

Neuropsychopathological evaluations and assessments can provide additional insight into cognitive performance, particularly behavior, cognition, and emotion (Schroeder et al., 2019). Also, such evaluations can improve diagnosis accuracy for better treatment planning options tailored to everyone. In forensic or legal settings, neuropsychopathological evaluations and assessments focus on standard proceedings without the court, such as competency to stand trial, criminal responsibility, and other legal implications (Hoge, 2016).

Regular evaluations are essential in tracking an individual's progress and assessing the intervention or treatment effectiveness. As a result, these evaluations can provide objective and scientific value that is pivotal within the legal system (Reed et al., 2021; Samartzis & Talias, 2020). Finally, neuropsychopathological evaluations and assessments aid in understanding complex cases, particularly the intersection of clinical neuropsychology and psychology, forensic psychology, and military neuropsychology. These weaknesses highlighted areas where the study might be improved, or further research is needed to validate and extend its findings. Addressing these limitations can enhance the strength and

applicability of research in forensic neuropsychopathology (Chouraeshkenazi, 2023; Malik & Norman, 2023).

Implications

Practical Applications

Chouraeshkenazi's (2023) findings from this study offered several critical implications for advanced clinical practice in forensic neuropsychopathology. Identified neuropsychopathological markers associated with violent behavior and actions can provide clinicians with valuable tools for assessing risk and implementing preventative measures in the future (Chouraeshkenazi, 2023). By integrating these markers into neuropsychopathological evaluations and assessments, practitioners can enhance their ability to predict and manage potential threats, ultimately improving safety and outcomes in forensic settings.

Implications for Policy and Legal Frameworks

From a policy perspective, Chouraeshkenazi's (2023) results emphasized the necessity for updated guidelines incorporating neuropsychopathological findings into legal decisions. Forensic neuropsychopathology will influence the civilian and military justice systems. Findings showed that integral agencies such as Congress, the White House, DARPA, and DoD are responsible for significant initiatives regarding neuropsychological initiatives (Chouraeshkenazi, 2023). Based on the results of this study, it would be beneficial for federal, state, and local institutions to consider revising criteria for insanity defenses and sentencing guidelines to reflect the cognitive and behavioral patterns identified in this research. Such revisions could lead to a more nuanced understanding of criminal behavior, ensuring that legal outcomes are better aligned with individuals' neuropsychopathological profiles. Therefore, future research is vital to addressing these concerns.

Additionally, Chouraeshkenazi (2023) revealed the necessity of integrating forensic neuropsychopathological evaluations or assessments into pre-sentencing and court-martial hearings for the military justice system and pre-sentencing and parole hearings within the civil justice system. By providing a broader perspective of a veteran's cognitive functioning and potential risks, these assessments can inform more equitable and individualized legal decisions. Policymakers must advocate for including forensic neuropsychopathological expertise in forensic evaluations to enhance the fairness and effectiveness of the legal system.

Further, Chouraeshkenazi (2023) effectively integrated neuropsychology, neuroscience, forensic psychology, and criminal justice, fostering an interdisciplinary approach to understanding and addressing criminal behavior, particularly violent crimes among combat veterans. This integration enriched the study's contributions to the field and promoted collaboration across disciplines. Finally, this study adhered to high ethical standards, ensuring acknowledgment of potential bias, limitations, and possibly erroneous information provided during the research process.

Direction of Future Research

Chouraeshkenazi (2023) opened several avenues for future research in forensic neuropsychopathology. One critical area for further investigation is the longitudinal impact of identified neuropsychological markers on behavioral outcomes through clinical studies. The researcher discussed in the research study that a mixed methods approach should be completed; however, this commentary revealed a significant need for clinical information using forensic neuropsychopathology as a foundational basis for neuropsychopathological evaluations and assessments while incorporating Norman Garmezy's resilience theory.

Also, Chouraeshkenazi's (2023) study explained that a cohort study would further examine the outcomes and effects of variations in psychiatric conditions and environmental influences as they impact neuropsychopathologies progression, social change, emotional regulation, and behavioral effects. In addition, a longitudinal study is well-suited for future research in forensic neuropsychopathology for several vital reasons critical to this commentary and will serve as the pinnacle of change (Tuthill et al., 2020). For instance, forensic neuropsychopathology often involves examining how neuropsychological deficits influence criminal behavior over time.

A longitudinal clinical study tracks participants across multiple timelines, showing how these cognitive deficits develop, change, or persist. This temporal dimension allows researchers to observe how early neuropsychopathological impairments might predict future criminal behavior or how such impairments evolve concerning legal outcomes and interventions (Tuthill et al., 2020). Also, longitudinal and clinical studies are instrumental in establishing causal relationships between neuropsychopathological deficits and criminal behavior (Tuthill et al., 2020). By collecting data at various stages, researchers can better determine whether cognitive impairments precede or follow criminal conduct. This causal understanding is crucial for developing effective preventions and intervention strategies tailored to the specific needs of individuals with neuropsychopathological deficits (Tuthill et al., 2020).

Forensic neuropsychopathology will aim to evaluate the effectiveness of interventions, such as therapeutic programs or cognitive training (Chouraeshkenazi, 2023). Longitudinal designs enable researchers to assess the long-term impact of these interventions on both neuropsychopathological functioning and criminal behavior. Tracking over time provides valuable data on whether interventions lead to sustained improvements or reduced recidivism. Neuropsychopathological deficits and criminal behavior may be influenced by developmental and environmental factors that unfold over time.

A longitudinal approach can examine how these factors interact and contribute to changes in neuropsychopathological functioning and criminal behavior (Tuthill et al., 2020). This perspective is essential for understanding developmental trajectories and the role of early-life experiences or ongoing environmental stressors. Longitudinal studies allow for identifying risk and protective factors associated with neuropsychopathological deficits and criminal behavior.

By following individuals over an extended period, researchers can detect patterns and factors that mitigate or exacerbate the risk of criminal behavior. This information is valuable for creating targeted prevention programs and informing policy decisions. Tracking individuals over time improves the predictive accuracy of neuropsychopathological assessments concerning criminal behavior. Longitudinal data help refine predictive models by providing a more comprehensive view of how neuropsychopathological profiles relate to long-term outcomes, enhancing the precision of risk assessments (Sanip, 2020).

Finally, a longitudinal study design is ideal for forensic neuropsychopathology because it provides a dynamic and comprehensive understanding of how neuropsychopathological deficits and criminal behavior interact and evolve. This approach is essential for developing effective interventions, understanding causal relationships, and informing

policy and clinical practices. A longitudinal approach for this research study must include clinical trials, as this method is highly valuable in forensic neuropsychopathology (Sanip, 2020). Many clinical trials are designed to follow participants over time, providing valuable longitudinal data on the progression of neuropsychopathological conditions. This data can help understand how these conditions evolve and how distinctive factors influence development.

Clinical trials provide a controlled environment to study specific forensic neuropsychopathological evaluations and possible interventions (Kandi & Vadakedath, 2023). A controlled environment is critical to isolating possible confounding variables and understanding the direct effect of distinctive factors on conditions relevant to forensic contexts (Singh & Okpeku, 2024). For instance, rigorous scientific methods, including randomization and blinding, enhance the reliability and validity of the findings. This rigor is crucial in forensic neuropsychopathology, where accurate assessments and interventions are critical for diagnosis accuracy, treatment planning, and legal decisions. Clinical trials for this research study could generate evidence-based data that can be used to establish original diagnostic criteria, treatment protocols, or risk assessments (Tenny & Varacallo, 2024). This is vital for developing reliable tools and methods in forensic evaluations.

Most importantly, using clinical trials for this study is essential to adhere to strict ethical guidelines, ensuring that research is conducted with the highest standards of care (Kandi & Vadakedath, 2023). This is especially important in forensic neuropsychopathology, where ethical considerations are paramount due to the legal implications of the research outcomes. Finally, by testing interventions and treatments in clinical settings, trials provide insights into how these approaches work in real-world scenarios. This can be particularly useful for forensic neuropsychologists applying findings to practical, legal contexts. Clinical trials provide a robust framework for generating high-quality reliability for forensic neuropsychopathology, which is essential for advancing knowledge, improving diagnostic accuracy, and developing interventions (Stensland et al., 2022). Future research would examine severe neuropsychopathologies (i.e., PTSD, mTBI, MDD) and affected brain regions through neuroimaging (i.e., fMRI).

Additionally, Chouraeshkenazi (2023) explored the relationship between severe neuropsychopathologies and a predisposition to commit violent crimes (i.e., severe military offenses, killings, robberies, and domestic violence). Further, additional research would explore how combat veterans directly impact national security. Longitudinal and clinical studies could provide insights into how neuropsychopathological markers affect the progression of criminal behavior and inform the development of more effective intervention strategies (Kandi & Vadakedath, 2023; Tuthill et al., 2020; Sanip, 2020).

Moreover, research should explore the relationship between neuropsychopathological deficits and environmental factors, such as socio-economic status and exposure to combat and trauma. Understanding how these factors interact with neuropsychopathological vulnerabilities will offer a more comprehensive view of criminal behavior and inform more comprehensive approaches to prevention and treatment. As previously mentioned, examining the connection between neuropsychopathological deficits and violent crimes incorporating forensic neuropsychopathological evaluations or assessments into legal decision-marking could lead to improved treatment planning options and more just and individualized legal outcomes. Incorporating advanced neuroimaging techniques and neuropsychopathological evaluations or assessments to identify specific neurocognitive deficits associated with criminal behavior is significant. Chouraeshkenazi (2023) emphasized the importance of multidimensional approaches to forensic neuropsychopathological evaluations or assessments.

Clinicians are encouraged to consider not only traditional diagnosis criteria but also the specific neuropsychopathological profiles of combat veterans identified in this research (Gettings et al., 2022; Murphy & Smith, 2018). This comprehensive outlook can facilitate more accurate risk assessments and tailored intervention strategies for military service members. For instance, combat veterans (active duty, transitional members, or retirees) demonstrating neuropsychopathological deficits may benefit from targeted cognitive-behavioral therapies designed to address their specific impairments.

Finally, there is a need for research on the effectiveness of specific interventions tailored to individuals with neuropsychopathological impairments. Evaluating the efficacy of these programs in reducing recidivism and improving cognitive functioning will be crucial in refining treatment approaches and enhancing overall outcomes in forensic civilian and military populations.

Conclusion

Chouraeshkenazi (2023) highlighted the importance of integrating neuropsychopathological insights into forensic neuropsychology across clinical, policy, and research domains. This approach can improve our understanding of criminal behavior and contribute to a fairer legal system. The study underscored the role of neuropsychopathological factors in criminal actions, particularly among combat veterans. It stressed the need for interdisciplinary evaluations combining neuropsychopathological, psychological, and behavioral analyses. The research revealed that deficits in brain regions like the prefrontal cortex are linked to a higher risk of criminal behavior and highlighted the impact of combat exposure on neuropsychopathologies such as PTSD, mTBI, and MDD. The study emphasized that addressing these issues through advanced neuropsychological methods can enhance diagnosis, treatment, and overall support for veterans, advocating for continued research to develop effective interventions.

This research study that commentary is provided for was published by F1000 Research in May 2023. I have no known conflict of interest to disclose.

References

1. Acosta, J. D., Becker, A., Cerully, J. L., et al. (2014). *Mental health stigma in the military*. *RAND Corporation*.
2. Bruce, D. (1985). On the origin of the term “neuropsychology.” *Neuropsychologia, 23*, 6, 813-814.
3. Chouraeshkenazi, M. M. (2024). Forensic neuropsychopathological analysis on altered brain structures in combat veterans: A systematic review. [Peer commentary on the paper “Forensic neuropsychopathological analysis on altered brain structures in combat veterans: A systematic review” by M. M. Chouraeshkenazi].
4. Chouraeshkenazi, M. M. (2023). Forensic neuropsychopathological analysis on altered brain structures in combat veterans: A systematic review. *F1000 Research.*

5. Chouraeshkenazi, M. M. (2023). Forensic neuropsychopathology and Advanced Initiatives. *Psychology Today*.
6. Chouraeshkenazi, M. M. (2021). Understanding forensic neuropsychopathology. *Psychology Today.*
7. Cesur, R., & Sabia, J. J. (2020*). Post 9/11 war deployments increased crime among veterans* [Working paper National Bureau of Economic Research]. (Publication No. 27279).
8. Elbogen, E. B., Johnson, S. C., Wagner, H. R., et al. (2014). Violent behavior and post-traumatic stress disorder in US Iraq and Afghanistan veterans. *British Journal of Psychiatry*, 204*(5)*, 368-375.
9. Gettings, R. D., Kirtley, J., Wilson-Menzfeld, G., Oxburgh, G. E., Farrell, D. et al. (2022). Exploring the role of social connection in interventions with military veterans diagnosed with post-traumatic stress disorder: Systematic narrative review. *Frontiers in Psychology*,
10. Giardino, A. E. (2019). Combat veterans, mental health issues, and the death penalty: Addressing the impact of post-traumatic and traumatic brain injury. *Fordham Law Review*, 77(6), 2955-2995.
11. Hoge, S. K. (2016). Competence to stand trial: An overview. *Indian Journal of Psychiatry, 5*(Suppl 2), S187-S190.
12. Inspector General (2020). Evaluation of access to mental healthcare in the Department of Defense. *U.S. Department of Defense*.
13. Kandi, V., & Vadakedath, S. (2023). Clinical trials and clinical research: A comprehensive review. *Cureus, 15*(2), 35077.
14. Krancevich, M. (2020). Common factors in military domestic homicides: Implication for prevention and intervention. *Western Graduate & Postdoctoral Studies Thesis and Dissertation Repository*.
15. Malik, H. B., & Norman, J. B. (2023). Best practices and methodological strategies for addressing generalizability in neuropsychological assessment. *Journal of Pediatric Neuropsychology, 9*, 47-63.
16. MacQuarrie, B., Saxton, M., & et al. 9. (2020). Domestic homicides with police and military: Understanding the risks enhanced by trauma and workplace culture. *Preventing Domestic Homicides*, pp. 187-207.
17. Mancin, S., Sguanci, M., Anastasi, G., Godino, L., Lo Cascio, A., Morenghi, E., Piredda, M., & De Marinis, M. G. (2024). A methodological framework for rigorous systematic reviews: Tailoring comprehensive analyses to clinicians and healthcare professionals. *Methods, 225*, 38-43.
18. Murphy, D., & Smith, K. V. (2018). Treatment efficacy for veterans with posttraumatic stress disorder: Latent class trajectories of treatment response and their predictors. *Journal of Trauma Stress, 31*(5), 753-763.
19. Patino, C. M., & Ferreira, J. C. (2018). Internal and external validity: Can you apply research study results to your patients? *J Bras Pneumol, 44*(3), 183.
20. Reed, M. S., Ferre, M., Martin-Ortega, J., Blanche, R., Lawford-Rolfe, R. et al. (2021). Evaluating impact from research: A methodological framework, *Research Policy, 50*(4), 104-147.
21. Samartzis, L., & Talias, M. A. (2020). Assessing and improving the quality in mental health services. *International Journal of Environmental Res Public Health, 17*(1), 249.
22. Sanip, S. (2020). Research methodological challenges and recommendations for conducting a comparative qualitative longitudinal study across two countries on different continents. International Journal of Qualitative Methods.
23. Sataloff, R. T., Bush, M. L., Chandra, R., Chepeha, D., Rotenberg, B. et al. (2024). Systematic and other reviews: Criteria and complexities. *Journal of Otolaryngology Head Neck Surgery, 50,* 41.
24. Schaefer, L. A., Thakur, T., & Meager, M. R. (2023). Neuropsychological assessment. [Updated 2023 May 16]. In: StatPearls [Internet]. Treasure (FL): StatPearls Publishing.
25. Schroeder, R. W., Martin, P. K., & Walling, A. (2019). Neuropsychological evaluations in adults. *American Family Physicians, 99*(2), 101-108.
26. Singh, A. A., & Okpeku, M. (2024). Emerging methods of human microbiome. *Forensic Science International Reports, 9*.
27. Stensland, K. D., Sales, A. E., Damschroder, L. J., & Skolarus, T. A. (2022). Applying implementation frameworks to the clinical trial context. *International Science Communications, 3*(109).
28. Tenny, S., & Varacallo, M. (2022). Evidence based medicine. [Updated 2022 Oct]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing.
29. Tuthill, E. L., Maltby, A. E., DiClemente, K., & Pellowski, J. A. (2020). Longitudinal qualitative methods in health behavior and nursing research: Assumptions design, analysis and lessons learned. *International Journal of Qualitative Methods, 19.*
30. Umbrasas, K. V. (2020). An examination of PTSD and criminal responsibility among U.S. service members. *Military Medicine*, 185*, (1-2)*, 92-106.

DOI:10.31579/ 2642-973X/122