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Robert A. Moss, Ph.D., ABPP, ABN Editor

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American Academy of Clinical Psychology Board Update

Gerardo Rodriguez-Menendez, Ph.D., ABPP, MSCP

Dear AACP Colleagues,

The Board of Directors (BOD) thanks you for your continued support of the American Academy of Clinical Psychology (AACP or Academy). The BOD has been meeting monthly to provide the Academy membership with benefits that will soon become evident to all. The AACP strives to impart the highest levels of professional practice. We also value our members and wish to assist them with their professional development and practice management. A key aim or goal is to provide value innovation through a low cost membership, that will supplement your clinical skills, while providing the practice management resources you need to have profitable and sustainable private practices. In brief, if the knowledge and skills gained from the Academy doesn't provide a return on investment several times over your annual membership of \$50, then we will have failed in this endeavor. **New Board Members:**

The Academy is pleased to welcome **Jocelyn A. Markowicz**, **PhD** and **Gustavo Segura**, **PhD**, ABPP to the BOD! Dr. Markowicz works as a telethealth psychologist at the Neurocognitive and Behavioral

Institute of New Jersey. She is also a licensed psychologist in California, Michigan, and New Mexico. Additionally, she is the owner of Jocelyn A. Markowicz, Ph.D., P.C. Psychotherapy and Assessment Services. Dr. Markowicz is a graduate of the University of Pennsylvania's PhD program in Counseling Psychology. She is also completing her Master of Science in Clinical Psychopharmacology degree (MSCP) at New Mexico State University. Dr. Markowicz is also serving as Chair of the Clinical Psychopharmacology Committee. If this were not enough, Dr. Markowicz is also the author of the Bee Psychologist children's book series, a collection of six books.



Dr. Gustavo Segura has a distinguished career of military service and was stationed at the U.S. Army Medical Command at Madigan Army Medical Center, the 2nd Infantry Division in Camp Casey, South Korea, and Fort Hood, Texas. He retired from the military in 2015, and currently serves as the Deputy Director for Behavioral Health at the Walter Reed National Military Medical Center. Dr. Segura is of Puerto Rican heritage and obtained his PhD in Clinical Psychology from Albizu University, San Juan Campus. He also possesses the MSCP degree from Alliant International University. Dr. Segura is board certified in behavioral and cognitive psychology by the American Board of Professional Psychology. His professional interests include leadership in behavioral healthcare; and evidence-based treatments for trauma recovery, depression, and anxiety. Dr. Segura will serve as Chair of the Diversity, Equity & Inclusion Committee. In his spare time, he enjoys exploring the great outdoors with his beloved wife, Liza.

We are also pleased to announce that the Academy will now embark on the creation of the AACP Division of Graduate Students, which will be Chaired by **Rita Rivera**, **MS** and **David Benitez**, **MS**. David and Rita are doctoral clinical psychology students at Albizu University in Miami, Florida. The Division of Graduate Students will focus on issues relevant to student leaders that include: inclusion & diversity, legislative affairs & public policy and advocacy for Clinical Psychopharmacology to cite a few areas of interest. The AACP is strongly committed to student mentorship and the BOD looks forward to working with the Academy's student members.

David Benitez, M.S. is pursuing a Psy.D. with a concentration in clinical neuropsychology at Albizu University-Miami Campus. At AU, he serves as President of the Neuropsychology Society, President of the Division of Clinical Psychopharmacology, and Institutional Academic Board Student Representative. David is the newly elected Student Representative for the APA's Society of Prescribing Psychology (Div. 55) and Past Chair of the Florida Psychological Association of Graduate Students (FPAGS). He also serves as a Student Representative for Albizu University's Association of Neuropsychology Students and Trainees (ANST), sponsored by the APA's Society of Clinical Neuropsychology (Div. 40), and is Co-chair of the Higher Education working group of the APA's Interdivisional COVID-19 Taskforce. David has clinical experience working in outpatient and inpatient settings with a wide arrange of populations, including pediatrics, adults, and geriatrics. Among clinical presentations, he has worked predominantly with patients with traumatic brain injuries (TBIs), dementia, and other neurocognitive disorders.



David Benitez, M.S.

Rita M. Rivera, M.S., CTP, is a fourthyear Psy.D. student at Albizu University-Miami Campus who will begin her internship at Duke University. She is a Certified Trauma Professional by the International Association of Trauma Professionals (IATP) and a Certified Crisis Worker by the American Association of Suicidology (AAS). Rita is the Student Representative for the APA's Society of Group Psychology and Group Psychotherapy (Div. 49) and <u>Past Chair of</u> the Florida Psychological Association of Graduate Students (FPAGS). Rita is also Co-chair of several working groups of the APA's Interdivisional COVID-19 Taskforce, including the Higher Education working group, and a member of the student committees of the Hispanic Neuropsychological Society and the National Latinx Psychological Association. She is a writer for APA's Society of Counseling Psychology (Div. 17)-SCP Connect Team and her Psychology Today blog, "Physio & Psych." Her areas of interest include fields that explore the relationship between physiology and mental health, particularly among minority and underserved populations. Rita has clinical experience working with Hispanic/Latinx, trauma, and high-risk populations both in the United States and in her home country, Honduras.



Rita M. Rivera, M.S.

Free CE Offering

The AACP received authorization to share with you the opportunity to attend webinar trainings through The Chicago School of Professional Psychology (TCSPP) and it's The National Center for Teaching and Learning. Most of the presentations provide one hour of CE credit to licensed psychologists who attend the webinar in its entirety. Many of these webinars focus on clinical issues, social justice efforts, and other important topics. Please join us for our next webinar in the series, Perspectives in Psychopharmacology, where my guest will be **Morgan Sammons, PhD**, **ABPP**, Chief Executive Officer of the National Register of Health Service Psychologists. The webinar will be offered on Thursday, 6/23, from 1:00 - 2:00 pm EST. This webinar is a follow-up of our RxP Thought Leader Series. We hope you will attend this webinar, which is free and provides 1 CE to licensed psychologists.

AACP Diversity, Equity & Inclusion Efforts

Given that fewer than 8% of the Academy's membership is of minority ancestry, the BOD authorized Drs. Larry Beutler, Vice President, Gus Segura and I to approach minority psychological associations and provide their members with complementary 1-year memberships. Dr. Gustavo Segura, Chair of the Diversity, Equity & Inclusion (DEI) Committee, will provide additional information about the DEI Committee efforts. Suffice it to state that we are arranging meetings with the leadership of major psychologist associations representing underrepresented groups who may be interested in collaborating with the AACP. To this end the following groups have been identified that include professional associations and APA Divisions.

- 1. Society of Indian Psychologists <u>https://</u> www.nativepsychs.org/
- 2. Asian American Psychological Association <u>https://aapaonline.org/</u>
- 3. American Arab, Middle Eastern, and North African Psychological Association <u>https://www.amenapsy.org/index.cfm</u>
- 4. Association of Black Psychologists <u>https://abpsi.org/</u>
- 5. Society for Military Psychology (Division 19) https://www.militarypsych.org/
- 6. Society for the Psychology of Women (Division 35) <u>https://</u> www.apadivisions.org/division-35/index
- 7. Society for the Psychology of Religion and Spirituality (Division 36) <u>https://</u> www.apadivisions.org/division-36/index

New Initiatives for 2022

A primary project last year was to provide each member with a new AACP certificate, based on membership category: Member, Fellow, and Fellow Emeritus. The certificates serve to document your membership with the AACP and as well as your commitment to the highest standards of professional practice. In particular, I wish to thank Dr. Mary Ann Norfleet, our esteemed Treasurer, Dr. Joanne Babich, and Robin Parsons, Executive Director, who diligently worked t to create a professional certificate that is proper for display in your practice settings. Given that most of you have websites, a goal this year is to provide you with a digital certificate that can be placed on your practice website for patient information. We will also be providing you with a patient brochure that you can provide to prospective and current patients/clients to inform them that you are an AACP member in good standing.

As previously communicated, we will be holding the first **AACP Virtual Conference on Practice Management <u>free</u> for AACP members** to increase the profitability of your practice. The conference Call for Proposals has been issued and is found as an attachment to this update. The Conference will focus on:

- 1. Practice Marketing Strategies
- 2. Developing Niche Practice Areas
- 3. Financial Practice Management: Know your Key Indicators of Practice Health
- 4. Contracting with Insurance Companies and Agencies

- 5. Developing Consultation Services as Part of Your Practice
- 6. Practice Management Software and Technology
- 7. Practice Billing and Reimbursements
- 8. Ethical Practices for Financial Management

Key conference dates are found below:

Call for Proposals Due: July 8, 2022

Conference Dates: Friday and Saturday, Oct. 14 - 15, 2022

from 12:00 – 6:00 pm EDT

The cost of attendance to the virtual conference is:

Members (Fellows, Professional Members, and Students) = Free

Non-Members = \$150.00

The AACP BOD currently consists of six dedicated professionals, but there is only so much six persons can do to further the Academy. Similarly, we need to expand our committee membership. I can't emphasize enough that this effort does take a village. Currently, our committees are as follows:

> Membership Communications Continuing Education Finance Clinical Psychopharmacology Diversity

Therefore, if you are interested in serving on the BOD or a committee, please contact me.

In closing, the AACP BOD looks forward to serving you and we wish you the very best in your professional endeavors. If you are interested in serving on the BOD or an AACP committee, please contact me at:

grodriguezmenendez@thechicagoschool.edu

Best regards,

Gery

Diversity, Equity, and Inclusion Committee

June 13, 2022

Dear AACP Members and Fellows,

I am very excited to announce that the AACP Diversity, Equity, and Inclusion (DEI) Committee has 1 Vice Chair and several General Membership open vacancies. I would like to invite you to nominate one of your AACP colleagues or send me your self-nomination for one of these vacancies by June 27th 2022 to <u>gsegura@gmail.com</u>.

The Mission of the DEI Committee is to assist the AACP in formulating long-term strategic goals and objectives to better serve our membership and pluralistic society. The DEI Committee will accomplish this task by performing the following functions:

- Promoting AACP's visibility among under-represented members of the professional community.
- Providing input and recommendations to the AACP's regarding the incorporation of DEI research in professional practice.
- Working with the AACP to recognize members and fellows that are making significant DEI contributions in the professional community.
- Assisting in the formulation of member recruitment strategies in the AACP.
- Participating in special projects to advance the AACP's strategic goals and objectives; including but not limited to, outreaching and serving under-represented members of our society.

Today more than ever the AACP needs your active involvement to accomplish its mission, and I believe that you would find it gratifying and meaningful to do so by serving in the AACP DEI Committee.

If this is not the right time for you to get actively involved in this initiative, I would like to ask you a small favor, that collectively could have a big impact to diversify our membership. I would like to ask you to think about one or two esteemed colleagues of yours that belong to under-represented groups in our community on the basis of, but not limited to:

race, color, religion, sexual orientation, gender identity, national origin, age, disability, socio -economics, Veteran status

And invite them to become AACP Members. It is up to you how you would like to extend this invitation. However, to make it easier for you, I am including a brief message below that you could send to your colleagues electronically:

"Dear (Include the name of your colleague),

I am a proud member of the American Academy of Clinical Psychology (AACP). The AACP was founded in 1993, and it is an organization of Board Certified psychologists who have joined together to promote high quality psychological services, through encouraging high standards and ethical practice in the field. The Academy also provides member services, promotes the value and recognition of Board Certification, and encourages those qualified by training and experience to become candidates for Board Certification. I would like to encourage you to become an AACP member; I believe that you would be a great ambassador of the AACP community. Please take a minute to explore the AACP website and membership options: <u>https://www.aacpsy.org</u>."

If your colleges are not a board certified psychologist by the ABPP, you might want to remind them in this communication that ABPP certification is not a requirement for AACP membership.

I look forward to reviewing your nominations, and again, if you are not available to get involved in the AACP DEI Committee at the moment, I appreciate you taking a minute to share with your colleagues the AACP desire to get them integrated in our professional community. Regards,

Gus Segura, PhD, MSCP, ABPP

Chair, AACP DEI Committee

The Board of Directors wanted to share this letter to demonstrate our organization's commitment to increasing the AACP member diversity.



AMERICAN ACADEMY OF CLINICAL PSYCHOLOGY PO Box 6008, 11007 South Ocean Drive, Jensen Beach, Florida 34957

May 26, 2022

Dear Dr. Guzmán,

We are writing to you to invite you to join the *American Academy of Clinical Psychology* (AACP) Diversity Equity and Inclusion (DEI) efforts. We strongly believe that DEI values are fundamental in achieving professional excellence, growth, and development. For this reason, our Board of Directors would like to offer a one-year AACP membership (2023) to members of the **National Latinx Psychological Association** *with fee waiver during the* 2023 *membership year*. However, beyond this offer, we hope that we can meet with you virtually to better understand the needs of National Latinx Psychological Association and explore the possibility of developing future collaborations.

For your situational awareness, the AACP was founded in 1993. *It began as a membership organization of Board Certified specialists in Clinical Psychology who were certified by the American Board of Professional Psychology* (ABPP). It is now a membership organization of Professional Psychologists who aspire to the highest levels of practice. As its mission, the association endeavors to recognize and promote advanced competence within Professional Psychology, provide a professional community that encourages communication between and among Members and Fellows of the Academy, provide opportunities for advanced education in Professional Psychology and expand awareness and availability of AACP Members and Fellows to the public through promotion and education.

Our membership includes some of the most prominent and visible leaders in Clinical Psychology. They are frequently department heads or supervisors, and may be engaged in research, training, or clinical practice in a wide variety of settings including hospitals, universities, the military, medical schools, correctional facilities, clinics, and independent practice. They have served as reviewers of quality of care for insurance companies as well as for governmental third party payers and are frequently found in leadership positions in the profession. The members of the Academy provide professional services in many countries, but the overwhelming majority reside and practice in the United States.

We look forward to collaborating with you and the National Latinx Psychological Association. At your earliest convenience, please provide us your availability for a virtual meeting via Zoom.

We look forward to hearing from you.

Most cordially,

Gustavo Segura, Ph.D., MSCP, ABPP Chair, DEI Committee E-mail: <u>gsegura@gmail.com</u>

Larry E. Beutler, PhD, ABPP, AACP, FAPA, FAPS Distinguished Professor Emeritus, Palo Alto University Professor Emeritus, University of California, Santa Barbara Email: <u>drlebeutler@gmail.com</u>

Gerardo F. Rodriguez-Menendez, Ph.D., MSCP, ABPP President E-mail: grodriguez-menendez@thechicagoschool.edu

Psychopharmacology Committee

The American Academy of Clinical Psychology was founded in 1993. American Psychological Association (APA) endorsed prescriptive authority for psychologists in 1995. Since that time, several states have enacted RxP law for psychologists. Others are working actively to promote RxP legislation in their states. Despite APA's endorsement in 1995, still few psychologists even know about RxP (Curtis, Hoffmann, & O'Leary, 2022; Tomkins & Johnson, 2016). Prescribing psychologists reduce the current deficit of prescribing professionals by providing quality mental health care themselves. The American Academy of Clinical Psychology was created to support the advancement of psychologists. The creation of the Psychopharmacology Committee furthers AACP's commitment to promote advanced competence in clinical psychopharmacology by supporting students interested in applied psychopharmacology and current prescribing psychologists.

Psychopharmacology Committee members will provide educational resources and mentorship to psychologists interested in pursuing their clinical psychopharmacology degrees. Committee members will be dedicated to scholarship and outreach to promote knowledge and utilization of psychopharmacology to provide increased access to comprehensive mental healthcare. Committee members will promote the collaborative practice of psychological and pharmacological treatments with other health professions. The committee will interact with and make recommendations to the AACP Board and AACP committees surrounding the study and therapeutic use of psychotropic medication, in addition to traditional psychological interventions, for the treatment of mental disorders and promotion of overall patient health and well-being.

How the Psychopharmacology Committee Represents Psychologists' Interests:

- Identifying, promoting, and creating education resource opportunities for psychologists to deepen and expand the skills needed to understand the therapeutic use of psychotropic medication, in addition to traditional psychological interventions, for the treatment of mental disorders and promotion of overall patient health and well-being.
- Connecting psychologists across states who have specific clinical, research, educational, or policy interests regarding clinical psychopharmacology.
- Providing educational updates to the AACP membership regarding specific topics concerning clinical psychopharmacology.

How the Psychopharmacology Committee Represents the Mental Health Needs of the Public:

- Monitoring for legislative actions that may impact access to quality of mental health care such as the growing deficit of prescribing healthcare workers.
- Advocating for appropriate legislative and policy changes to positively impact mental health, including psychopharmacology, for patients.

PSYCHOPHARMACOLOGY COMMITTEE LETTER CONTINUED

- Developing and cultivating relationships with psychologists throughout the state who have been involved in policy work involving effective psychological treatment with the understanding of clinical psychopharmacology.
- Maintaining a distribution list of psychologists across states who have interest in integrating psychopharmacology into their comprehensive mental health treatment services and improving ease of training and practice opportunities.

2022/2023 Priorities

- Increase awareness and interest in pursing clinical psychopharmacology advanced degree and practice.
- Establish and mentorship program for graduate students and professionals to support their clinical psychopharmacology and integration of knowledge into their treatment of patients.
- Provide education to AACP members and the public on relevant topics related clinical psychopharmacology for children, adolescents, and adults.
- Provide training and outreach for psychologists to learn more about clinical psychopharmacology and prescriptive authority for psychologists.

MEMBERSHIP CALL

As consistent with American Psychological Association (APA), membership will value mul-

tiple perspectives deriving from differences in race/ethnicity, culture, gender identity and expres-

sion, sexual orientation, disability, religion, socioeconomic status, national origin, and aging.

Dr. Jocelyn Markowicz - Chair

Vice-Chair- open position

General membership- open positions

The Psychopharmacology Committee needs you. Please contact Dr. Markowicz

(dr.jocelynmarkowicz@gmail.com) to find out more information and to join. The first meeting

will be on Wednesday June 8th, 2022.

Since I assumed my role as editor, I am pleased to publish our first paper with a graduate student as lead author. I hope we will have regular contributions from our student members.

Neurocognitive Functioning in Law Enforcement Officers (LEOs) with Posttraumatic Stress Disorder (PTSD)

Deepali M. Dhruve and Michael R. Nadorff Department of Psychology, Mississippi State University

Author Note



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LEOs serve an important role by maintaining law and order in the communities they serve. LEOs are recurrently exposed to events that involve violent attacks, serious injury, and accidents, from early on in their careers. Although most individuals acknowledge the physical danger associated with police work, the psychological risk accompanying police work tends to be discounted (Violanti, 2006). Over their career, LEOs may be exposed to multiple traumatic events, and consequently, be at an increased risk for psychological problems, including posttraumatic stress disorder (PTSD; Carleton et al., 2020; Violanti, 2006). Although PTSD has conventionally been associated with emotional and behavioral symptoms, more recently, PTSD is also being associated with neurocognitive alterations (Lavoie et al., 2013). As such, this paper aims to discuss the traumatic experiences of LE-Os when on-duty, the association between PTSD and neurocognitive functioning, impact of neucognitive alterations for LEOs on duty, and implications for trauma management.

Trauma on Duty

LEOs are recurrently exposed to traumatic events from early on in their careers; exposure to such traumatic events is linked to an increased risk of developing PTSD (Carleton et al., 2020). This elevated risk is evidenced by a recent systematic review which suggested a higher prevalence of PTSD among LEOs as compared with the general population (Carleton et al., 2020). Indeed, studies show that the prevalence of PTSD among LEOs ranges from 6% to 32% (Berger et al., 2012; Marchand et al., 2015), whereas it ranges from 7% to 12% among the general adult U.S. population (Kessler, 2000; Kolkow et al., 2007). Thus, it is evident that LEOs are at an elevated risk of developing PTSD and associated neurocognitive functioning deficits that have implications for their job performance.

PTSD and Neurocognitive Functioning

PTSD has several characteristic symptoms including re-experiencing of traumatic memories through intrusive thoughts or nightmares, avoidance of trauma reminders, distress and physiological reactivity in response to reminders of trauma, emotional numbing, dysphoria, and hyperarousal (American Psychiatric Association, 2013). Memory irregularities are theorized to be the primary contributors to many of these symptoms (American Psychiatric Association, 2013; Brewin et al., 2010; McNally, 2006). Indeed, individuals with PTSD and those exposed to chronic stress (e.g., LEOs) complain of persistent problems with memory and concentration (Bleich et al., 1986; Roca & Freeman, 2001). Additionally, the co-occurrence of multiple PTSD symptoms has been hypothesized to be related with dysfunction in attentional processing, including threat-related attentional bias, hypervigilance to salient but superfluous environmental cues, and difficulties with attentional control over trauma-related thoughts (Litz et al., 1996). In support of these reports, individuals with PTSD show performance deficits on neuropsychological measures of attention, episodic memory, executive functioning, processing speed, and working memory (Aupperle et al., 2012; Bremner et al., 1993; Dalton et al., 1989; Uddo et al., 1993; Yehuda et al., 2005).

Affective and Cognitive Interaction

Given the affective and cognitive effects seen in individuals with PTSD symptoms, researchers have investigated the neurocircuitry of PTSD to better understand the interaction between emotion and cognition (Pannu Hayes et al., 2009; Scott et al., 2015). Several brain regions, including parts of the limbic system and dorsolateral and ventromedial regions of the preprefrontal cortex, are posited to have structural and functional alterations in individuals with PTSD symptoms (Bremner et al., 1993; Karl et al., 2006; Liberzon & Sripada, 2007; Morey et al., 2012; Rauch et al., 2006). Specifically, the amygdala, cingulate cortex, hippocampus, and prefrontal cortex are involved in emotional processing and emotional memory formation (e.g., acquisition of fear, establishment of emotional context, valence for memories) and in emotionally neutral neurocognitive performance (e.g., attention, affective and cognitive control, decision making, encoding and storage of episodic memory, direct attentional resources, working memory; Scott et al., 2015). Many neurocognitive studies investigating the relation between PTSD and neurocognitive functioning are founded on theories that memory is a primary contributor to PTSD symptoms (American Psychiatric Association, 2013; Brewin et al., 2010; McNally, 2006) and overlook the contribution of emotion.

Brown and Morey (2012) suggest that disease-specific models are required to understand the neural processes underlying key symptom clusters of PTSD with emotion -cognition interactions, as summarized subsequently. Although many studies that investigate trauma-related symptoms highlight the inability of cognitive control areas in the brain to regulate affective areas, emotion can have opposing effects on cognition. For example, emotional processing may improve cognitive speed or precision during emotional facilitation of cognition. Conversely, emotional interference may result in cognitive process deficits. In individuals with PTSD, trauma-related information may be processed more quickly and/or correctly than trauma-unrelated information with emotional facilitation. Whereas processing of trauma -related information would result in cognitive impairments due to emotional interferrence from the information. Both effects of emotional facilitation or interference on cognition may generalize past trauma-related material to trauma-unrelated emotional material for those with PTSD symptoms (Brown & Morey, 2012).

Given support for both theories that cognition and affect are primary contributors to PTSD symptoms, studies have attempted to parse out the individual and interactive effects of affect and cognition. Such studies use neutral, emotional, and trauma-related material to investigate functional differences in brain regions that have dual emotion-cognition. Although several functional differences have been noted in prior literature (Bechara, 2000; Dolcos et al., 2011; Gray et al., 2002; Hayes et al., 2011; Milad et al., 2007; Morrison & Salzman, 2010; Simmons et al., 2008), this paper will focus on one model that elucidates the cognition-affect interaction that explains PTSD symptom features.

Associative Fear Learning

Although not considered a traditionally cognitive process, associative fear learning provides an understanding for the maintenance of PTSD's main symptom clusters (Brown & Morey, 2012; Jovanovic & Ressler, 2010; Mahan & Ressler, 2012; Norrholm et al., 2011). Associative fear learning is generally an adaptive process that signals danger based on similarity of current threat cues to previously experienced threat cues (Blechert et al., 2007). Though, this process can be maladaptive when fear is associated with harmless stimuli following traumatic experiences and lead to impairments in occupational and social functioning (Amaya-Jackson et al., 1999). For example, defensive reactions to broad, generalized, and innocuous stimuli may result in wasting of energy resources that diminish cognitive functions and promote anxiety (Phelps & LeDoux, 2005).

The neural model for the fear learning response is conceptualized to have two components: (i) threat-alerting and (ii) threat-assessing. The threat-alerting component is theorized to consist of the amygdala, insula, and vmPFC and

the threat-assessing component is theorized to consist of hippocampus, anterior cingulate, striatum, dorsomedial PFC, precuneus, and ventrolateral PFC (Brown & Morey, 2012). A balance in the activation of the threat-alerting and threat-assessing components results in a resilient response to danger, whereas a discrepancy between activation of the two components may result in PTSD symptoms. Particularly, the threat-alerting component is more frequently activated than the threat-assessing component in those with PTSD symptoms (Brown & Morey, 2012).

Thus, the associative fear model integrates affect and cognition in those previous emotional experiences (i.e., frightful, dangerous) inform neural processes that affect subsequent responses to perceived threat.

Neurocognitive Alterations in LEOs with PTSD

The degree of neuropsychological alterations in LEOs with PTSD is generally understudied (Covey et al., 2013). Existing studies of cognitive functioning in LEOs with PTSD have several methodological limitations (Bisson Desrochers et al., 2021). Firstly, current data comprises mainly of police recruits (LeBlanc et al., 2007) or trauma-exposed LEOs who do not meet criteria for PTSD (Covey et al., 2013; Levy-Gigi et al., 2016); as such, these samples may not be representative of LEOs with PTSD symptoms. Secondly, studies consist of small sample sizes (Lindauer et al., 2006) or do not encompass all cognitive domains impacted by PTSD symptoms (Scott et al., 2015). However, these studies found that LEOs with PTSD performed more poorly in the cognitive domains of attention, executive functioning, information processing speed, lexical access, verbal learning, verbal memory, and working memory (Bisson Desrochers et al., 2021). These findings align with previous literature examining the association between PTSD and neurocognitive functioning in other populations.

In partial support of the interactive effects between emotion and cognition demonstrated in other samples, comorbidity of PTSD and depressive symptoms has a cumulative detrimental impact on LEOs' cognitive functioning (Bisson Desrochers et al., 2021; Nijdam et al., 2013). Conversely, a few cognitive domains are demonstrated to be significantly worse among those with PTSD than those without when controlling for depression status. Specifically, processing speed was worse among LEOs with PTSD symptoms than those who were traumaexposed when controlling for depression status (Bisson Desrochers et al., 2021). Despite these findings, the cumulative detrimental impact of depressive symptoms on cognitive functioning provides evidence that there is an interaction of emotion and cognition in LEOs. Furthermore, it is foreseeable that comorbid depression contributed to slower information processing speed given that diminished psychomotor speed is a central feature of depression (Bennabi et al., 2013).

Impact of Neurocognitive Alterations on Duty

Studies have yet to examine the impact of PTSD-related neurocognitive alterations on LE-Os' occupational performance. However, it is evident that the noted deficits in attention, executive functioning, information processing speed, lexical access, verbal learning, verbal memory, and working memory are likely to impact LEOs given that the profession requires major cognitive load (Bisson Desrochers et al., 2021). When considering the known interaction between affect and cognition in the broader populations, I predict that LEOs with PTSD are likely to have a more active threat-alerting system as compared to a threat-assessing system. This may prospectively result in complications for LEOs with PTSD who address potentially high-risk calls (i.e., mental crisis, domestic violence) as it may result in more heightened responses in otherwise innocuous situations. This prediction is supported by prior findings that LEO's emotional stability has a direct impact on their interactions with the public (Slate et al., 2007).

Trauma Management

The cognitive deficits noted throughout this paper have been demonstrated to negatively impact treatment and functional outcomes in PTSD. For instance, in veterans with PTSD. performance on episodic memory tasks individually predicted occupational and social functioning (Geuze et al., 2009). Further, better performance on measures of inhibitory control (Falconer et al., 2013) and verbal memory (Wild & Gur, 2008) predict response to cognitive-behavioral therapy (CBT) in individuals with PTSD. As such, it may be pertinent to administer neuropsychological evaluations and gather clinical information from LEOs to develop a holistic understanding of factors affecting their functioning and cognitive profiles. This will allow maximum treatment efficacy via selection of appropriate treatments and tailoring based on psychological and cognitive profiles (Bisson Desrochers et al., 2021). Additionally, a holistic psychological and cognitive profile will allow for specific work accommodations such as adapting existing tasks or providing a temporary position during treatment (Bisson Desrochers et al., 2021).

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Biopsychology in the Training and Practice of Psychotherapy: What Is the Future?

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As each of you recalls, APA requires the training in basic science courses which includes biopsychology. When I took biopsychology in 1978, I recall that most graduate students in our Ph.D. clinical program questioned what purpose it had due to its irrelevance to clinical assessment and treatment. When I last taught biopsychology in a Psy.D. clinical program in 2011, I heard the same critical question. Due to that training program being on probation with a specific criticism being that they had no one qualified to teach the biopsychology course, I was hired based on the fact I had a co-major in biopsychology from my graduate training, in addition to having published related articles. At that point I became aware of APA's training requirements that includes a graduate-level textbook and a current readings list. Moreover, the course was supposed to be made relevant to a clinical psychology program but was not to be taught as a neuropsychology course. From a logical standpoint, the only way I believe that could occur was to have a theory of brain operations which is applied to psychological assessment, conceptualization, and treatment. To my knowledge, that is not typically done.

My perception is that the question of relevance is now being heard among researchers who are faced with a growing push toward brain science in clinical psychology research. This push is seen in the Research Domain Criteria (RDoC) of the National Institute of Mental Health (Cuthbert & Kozak, 2013) which is attempting to shift away from the *Diagnostic and*

Statistical Manual (APA, 2013) clinical categories to one involving six major domains (e.g., negative valence systems, cognitive systems). The NIMH website criticizes the traditional classification system because it results in heterogeneous populations with the same diagnosis and the frequent comorbidity among diagnoses. As I read about the RDoC approach, it struck me as ironic that the way the different areas of each domain were determined was to have over 200 scientists determine what should be included by debating and voting. The irony is that is the same process involved with the traditional classification system in determining the criteria used for each diagnosis and what should be considered a disorder. I fail to see how this avoids heterogeneous populations in which the same domains and systems are involved, as well as comorbidity in which domains and systems overlap. As I mentioned about biopsychology in clinical training, this approach suffers from a lack of a unifying theory related to brain functioning. From a practical standpoint, I believe much of what occurred is a change in terminology (e.g., instead of saying cognitive one uses the term neurocognitive) and using functional imaging or transcranial magnetic stimulation (TMS) involving cerebral cortical areas and other brain structures to acquire funding as opposed a major step forward in understanding the neurophysiological basis of functional and dysfunctional psychological patterns.

In relation to imaging, much of what gets published is correlational. For example, noting

that the left dorsolateral cortex is involved in improved functioning related to clinical outcome measures does not explain how its structure results in specific functions that lead to the change. I would assume that this can be interpreted as involving the RDoC cognitive and negative valence domains. However, the subjects are not chosen based on the RDoC domains or systems; instead, they are chosen based on clinical criteria. That means there can be heterogeneous populations. For those who fail to show clinical improvement, does that mean the treatment fails to create the desired change or could it be the targeted area is not involved for certain subpopulations with those clinical symptoms that are being assessed. Similarly, saying that a cortical area upregulates or downregulates subcortical structures, such as the amygdala, based on blood flow measures obtained in fMRI show a naïve interpretation based on brain anatomy and operations. There are two amygdalae, and each with a complex structure, in addition to the bed nucleus of stria terminalis considered the "extended" amygdala for each. Useful explanations on exactly how a lateralized cortical area interacts with its amygdala, as well as the cortical and amygdala inputs and outputs to other cortical and subcortical areas, requires assessment at a more detailed level in association with theorized mechanisms.

In relation to TMS, studies can be designed so that causality can be shown. For instance, it may be shown that applying TMS to a certain area of the cortex leads to a desired change in clinical measures while sham TMS to that area and TMS applied to a different area does not. If TMS leads to similar outcomes compared to psychotherapy or medication, that does not imply the same areas are being affected by each. Without a viable theory of cortical functioning and how the cortex interacts with other brain areas then there can be little advancement in meaningful use of brain data as related to psychotherapy and other forms of treatment.

Despite my negative appraisal of the current state of how brain information is being applied to clinical psychological practice and research, I believe it is possible to make significant progress in this area. A useful approach should provide explanations and guidance in the areas of clinical assessment, conceptualization, and treatment. I think there are several aspects necessary for brain science to contribute to clinical psychology. First is that theory should provide information on the mechanisms involved in the development and maintenance of dysfunctional emotional and behavioral patterns. That requires an understanding of how the cerebral cortex processes information and how the cortex interacts with other brain structures (e.g., the cerebellum controlling automatic motor and cognitive functions that do not require "conscious" attention).

The main theory that I believe has the potential to provide guidance to clinical psychology is that of Luria (1966). I was introduced to his Higher Cortical Functions in Man in my neuropsychology class in 1979. He focused on determining cognitive functions in relation to the cerebral cortex which takes into consideration how the cortices interact with other brain areas (i.e., the whole brain). In that same year I took neuroanatomy and was introduced to the cortical column (Mountcastle, 1957) as a basic information unit in the cerebral cortex. I first considered how cortical columns could explain aspects of Luria's theory while teaching a neuropsychology class in 1984. Luria discussed a hierarchical arrangement in sensory cortex of both hemispheres that proceeds from primary to secondary to tertiary areas. In the process of doing my thesis, I gained familiarity with Colburn logic equipment in which the AND-GATE requires input from a set number of sources prior to sending its signal out and ONE SHOTS which provide

a singular feedforward signal when activated. As opposed to considering the cortex as somehow filtering or subtracting from a large volume of environmental information from the senses to form higher level representations of objects, I considered how it could add basic columnar sensory information to form higher level representations in a rapid feedforward fashion.

For example, there are auditory columns based on each frequency which are activated in a set order when basic speech units (phonemes and syllables) are heard. The information from those columns is sent out and where the information streams cross, I visualized a phoneme or syllable column forming. It then seemed simple to repeat that same pattern such that phoneme and syllable columns would have their information streams cross and become a word column. (This is a simplified example as compared to my discussion of how different sound frequencies associated with different voices must be considered prior to the formation of the highest-order column for each phoneme and syllable; Moss, 2016, p. 273.) Although there would be only one word column, there are multiple other cortical circuits which code for multisensory and action-related aspects associated with a specific word.

When I gave a talk to the biology department on the theory later in 1984, a graduate student asked in an incredulous manner if I was saying there was only a single word column for "wasp" to which I replied that is precisely what the theory would indicate. However, that does not mean there is only a single representation of a wasp in the cortex because the visualization of a wasp, the sound of its wings, and the sting it has caused involve columnar circuits involving visual, auditory, and somatosensory cortices which are a distance away from the word column and can involve both hemispheres. The doubtful nature of a specific location for information storage is characterized in the "grandmother" cell debates, most recently done in an article and series of commentaries in

Psychological Review (Bowers, 2009; Plaut & McClelland, 2010; Quian Quiroga & Kreiman, 2010). In fact, the cortical column as a basic information unit in the cortex has been dismissed by some (Horton and Adams, 2005).

At this time fMRI studies with humans have shown columns to exist in various cortical areas (Moss, 2020), one of which (Schneider, Kemper, Emmerling, De Martino, & Goebel, 2019) provided confirmation that different columns met the criteria for a Neural Correlate of Consciousness (Crick & Koch, 2003). However, there have been no studies to evaluate the proposal of columns functioning in AND-GATE fashion although current high-resolution imaging will likely be able to soon test this possibility (i.e., making the theory falsifiable). Due to the distance between columns, it will likely prove more difficult to confirm an important aspect of the column theory which is that for every "receptive" posterior (i.e., temporal, parietal, and occipital lobes) column there is a corresponding "action" frontal column. From a logical perspective there must be a way that the frontal lobes act upon relevant sensory information and having an action column form for each column in a posterior circuit can provide a reasonable explanation. For any given posterior columnar circuit there is a final column (highest-order) that represents all the information of its lower-order columns. In the frontal lobe the corresponding highest-order action column can the activate its lower-order columns in a decoding fashion until it reaches its lowest-order columns involved in the response. In speech production, saying a specific word involves the action word column activating its associated syllable and/or phoneme action columns which activate the columns controlling mouth and larynx actions. As words are combined into sentences, there is a receptive column for a sentence with a corresponding action column for the sentence, that when activated, can activate its lower-order word columns..

As one comprehends verbal concepts (e.g., a new verbal schema), those action

columns are in the left prefrontal region in front of (anterior to) the language production area typically called Broca's area. The same process would occur in the right cortex in relation to tonal (e.g., speech prosody) analysis and production, as well as in other areas such as emotional comprehension, analysis, and behavioral control. If one learns a new emotional schema, the newly incorporated concepts represented by right prefrontal action columns can be perceived as a change in emotions, including perceptions of controllability and personal adequacy. The theoretical reason the right hemisphere is strongly involved in emotional processing is that it has fewer columns in its circuits that allows fast processing in the analysis and reaction to non-detailed emotional stimuli (e.g., facial expressions, emotional tones/inflections, dangerous animals). In contrast, the left cortex has more columns in its circuits which allows detailed analysis and responses, such as required in spoken language.

If what I discussed is accurate, what are the implications for clinical psychology? I believe it may be significant. The theory indicates there are multiple streams of sensory information constantly occurring in both hemispheres. Those streams that result in our attention are the ones we perceive. Of those we perceive, only those that gain access to the left inferior frontal cortex (I call the Verbal Interpreter) are those we can verbally label and describe. Even if patients can describe verbally that "I feel anxious," it does not mean they are verbally aware of the information streams that activate in the right posterior cortex that may have led to the feeling. This means there is no uniform "mind" as represented by our inner voice. There are multiple cortical circuits in both hemispheres processing information and for those that result in attention, the frontal circuits are those that lead to voluntary

behavior and often do not involve awareness of the Verbal Interpreter circuitry. For those actions in which we lack verbal awareness, they are only unconscious in the sense the left frontal inferior cortex is not involved. This includes cerebral cortical processing (particularly in the right hemisphere) and automatic behaviors controlled by the cerebellum. In the sense that our brain receives, analyzes, and responds in a meaningful way to external and internal stimuli, reactions and behaviors lacking verbal awareness are quite "conscious."

In the past I used a theoretical example of a patient who had her wrists forcibly held in a rape who is engaged in a neutral discussion with her spouse. As she turns to walk away, her spouse reaches out and holds her wrist because he thought of an additional point. The somatosensory input to the parietal area when her wrist is held results in the various memories of the rape being activated in both cortical hemispheres leading to a fear response. After jerking her arm away and yelling "stop," she then verbally becomes aware that this is her husband and that her reaction does not appear to make logical sense. Despite the wrist being held as the stimulus that leads to the fear response, the memories are not stored in the upper extremity. The somatosensory input to the primary receiving parietal area initiates the columnar circuits which were associated with the multisensory traumatic event. If her therapist explains why she had the reaction based on the right cortical activation of memories, she verbally understands that her reactions are sensible. This is a new schema associated with the formation of a new higher-order action column in the left prefrontal area that activate the lower-order verbal interpreter (i.e., the words that are perceived in one's head). This can result in less anxiety because she has a logical explanation, and she feels less out of control. Despite her now verbally understanding, it does not prevent a fear response if someone grabs her wrist in the future because nothing changed the emotionally charged memories in the right cortex. Neutralization of those memories requires a change in the right cortical circuits. For that to occur, there must be a

formation of new circuitry in right prefrontal columns, and these can be associated with a change in perceived control and emotional understanding.

Based on this theoretical model, the goal of psychotherapy is to create new frontal action columnar circuits in both hemispheres associated with adaptive functioning. The goal of assessment in psychological treatment is to identify the various aspects that need to be addressed. Broadly speaking, this can involve influential negative emotional memories, loss-related issues (i.e., inability to activate prior positive emotional memories), and current factors (e.g., pain, ongoing relationship problems) as related to right and left cortical functioning. Of these, I believe that right cortical negative emotional memories are those that can be most quickly addressed with immediate emotional effects which requires the inclusion of experiential approaches and techniques resulting in visualization (e.g., guided imagery, analogies, metaphor) in treatment. However, those are used in conjunction with schema-based (left cortical) and mindfulness/acceptance approaches (interhemispheric congruence, or consistency) as those memories are addressed.

A potentially important aspect of the theoretical model is to allow the explanation of interpersonal behavior patterns (i.e., personality) which involves right cortical and left cerebellar circuitry. Based on the proposal that the nonverbal relationship behavior patterns develop prior to spoken language of the left cortex and are the result of positive and negative reinforcement in early influential relationships mainly within the family, there is a lack of verbal awareness of one's own personality patterns. On the short term one can verbally control what is done in relationships, but when verbal attention is focused elsewhere the right cortex and left cerebellum determine relationship behaviors (e.g., habit). This aspect of the theory allows an explanation of the behavior of others and logically derived rules to allow the most functional

ways to deal with others.

A goal of this paper is to encourage an openness to the future role biopsychology will play in meaningful advances in psychological treatment with the caution that theoretical guidance is required. I cannot say what I have proposed is accurate, but it is an internally consistent model which newer techniques can be used to evaluate its plausibility at the cortical level. For the interested reader, my open-access article (Moss, 2020) provides a detailed discussion of the neurophysiological model and its clinical applications.

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MEMBERSHIP PUBLICATIONS AND ACCOMPLISHMENTS

- Moss, R. A. (2020) Psychotherapy in pain management: New viewpoints and treatment targets based on a brain theory. *AIMS Neuroscience*, 7(3), 194-270. doi: 10.3934/Neuroscience.2020013
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emy of Sciences, 116, 5096-5101.

Membership Publications and Accomplishments

Gerardo Rodriguez-Menendez, Ph.D., ABPP, MSCP had an article published.

Rodriguez-Menendez, G., Shelton, S., Steinman, J., Barr, M., Cunningham, A., Glaser, D., Masson, T., McGrath, B., Nealon, M., Bray, J., DeLeon, P., Moore, B. A., and Rom-Ryer, B. N. (2022). Toward a new predoctoral model: Education and training in clinical psychopharmacology. Experimental and Clinical Psychopharmacology, 30 (1), 93 – 105. <u>https://doi.org/10.1037/pha0000514</u>

Two of our members had numerous publications and accomplishments that required separate pages for each.

MEMBERSHIP PUBLICATIONS AND ACCOMPLISHMENTS CONTINUED

Mark Cunnigham, Ph.D., ABPP provided information on a number of recent accomplishments.

In response to your newsletter content request, I am pleased to advise that I was notified in December of being honored with the: *American Academy of Forensic Psychology Award for Distinguished Contribution to Forensic Psychology (*I will give an invited award address at the AAFP annual conference in Chicago in November 2022.)

Regarding recent publications, I have an in-press chapter on evaluations in *Miller* cases (i.e., sentencing of murder defendant < 18 years old):

Cunningham, M. D. (in press). *Miller* evaluations. In R. Roesch (Ed.), *Routledge encyclopedia of psychology in the real world, psychology and law.* New York: Routledge, Taylor & Francis Group.

Regarding workshops, this past year I have given three workshops on differentiating delusional disorder from extreme political beliefs, utilizing a structured professional judgment tool I propose involving 17 factors (MADDD-or-RAD-17):

- Differentiating delusional disorder from extreme political beliefs: An introduction to the 17-factor model. Presenter. Law and Mental Health didactic, University of New Mexico Department of Psychiatry and Behavioral Sciences. Online, July 2021.
- Differentiating delusional disorder from extreme political beliefs: An introduction to the 17-factor model. Presenter. Southern Arizona Psychological Association. Online, May 2021.
- Differentiating delusional disorder from extreme political beliefs: An introduction to the 17-factor model. Presenter. Department of Psychiatry and Behavioral Sciences Grand Rounds, University of New Mexico Psychiatry & Behavioral Sciences. Online, April 2021.

I am scheduled to present a more in-depth virtual workshop on this topic for the American Academy of Forensic Psychology in December 2022. The associated SPJ tool was published in 2018:

Cunningham, M. D. (2018). Differentiating delusional disorder from the radicalization of extreme beliefs: A 17-Factor Model. *Journal of Threat Assessment and Management*, 5 (3), 137-154. <u>https://doi.org/10.1037/tam0000106</u>

The following page shows the multiple publications and presentations of **Carlton Gass, Ph.D.**, **ABN, ABPP**

MEMBERSHIP PUBLICATIONS AND ACCOMPLISHMENTS CONTINUED

Gass, C. S. (in press). Test Review of the Arizona Battery for Cognitive-Communication Disorders Second Edition. In J. F. Carlson, K. F. Geisinger, & J. L. Jonson (Eds.), *The twenty-second mental measurements yearbook. Lincoln, NE: Buros Center for Testing.*

Gass, C. S. (in press). Test Review of the Postconcussion Symptom Inventory -Second Edition (PCSI-2). In J. F. Carlson, K. F. Geisinger, & J. L. Jonson (Eds.), *The twenty-second mental measurements yearbook. Lincoln, NE: Buros Center for Testing.*

Gass, C. S., Patten, B., Penate, A., & Rhodes, A. (2020b). Psychometric characteristics of the Cognitive Difficulties Scale in a clinical referral sample. *Journal of the International Neuropsychological Society*, 1-14. <u>https://doi:10.1017/1355617720001058</u>

Gass, C. S., & Patten, B. (2020b). Depressive symptoms, memory complaints, and memory test performance. *Journal of Clinical and Experimental Neuropsychology*, *42*(6), 602-610. https://doi.org/10.1080/138003395.2020.1782848

Gass, C. S., Patten, B., Penate, A., & Rhodes, A. (2020a). An enhanced delayed recognition measure for the Logical Memory subtest of the Wechsler Memory Scale – IV. *Applied Neuropsychology: Adult.* https://doi.org/10.1080/23279095.2020.1748033

Gass, C.S., & Patten, B. (2020a). Depression as a factor in neuropsychological test performance: MMPI-2 and selected tests of the Halstead-Reitan/Halstead-Russell Battery. *Applied Neuropsychology: Adult.* https://doi.org/10.1080/23279095.2020.1720687

Gass, C. S., Whitt, N., & Patten, B. (2022a). *Predictive Utility of the MMSE in Screening for Neuropsychological Testing*. February 7th. Annual Meeting of the International Neuropsychological Society, New Orleans, LA.

Gass, C. S., Whitt, N., & Patten, B. (2022b). *MMSE Scores and Level of Effort in a Non-Compensation-Seeking Outpatient Clinical Sample.* February 7th. Annual Meeting of the International Neuropsychological Society, New Orleans, LA.

Gass, C. S., O'Maille, A., & Patten, B. (2022). Symptom Under-Reporting on the Beck Anxiety Inventory in an Outpatient Memory Disorders Clinic. . February 7th. Annual Meeting of the International Neuropsychological Society, New Orleans, LA.

Gass, C. S., & Patten, B. (2021a). *Memory retrieval factors in performance on the Wechsler Memory Scale-IV*. ID:476. February 4. Annual Meeting of the International Neuropsychological Society, San Diego, CA.

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Presently, the Academy has no continuing education modules or events planned. Our Continuing Education Committee continues to explore programs that meet membership needs. We are also developing a list of APA Approved Sponsors of Continuing Education programs that will offer our Members and Fellows discounts.

At present, we are pleased to let you know that we have obtained a discount for CE programs offered through *Professional Resource Press, Bookshelf to Couch,* and *TZK Seminars.* You may access the programs as follows:

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