



“WRAIR Forward”

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COMMANDER’S CORNER

It is rewarding to see long-term investments in research tools pay dividends. In the 1990’s, our program began investing time and money developing and applying new statistical modeling techniques. Years later, these tools comprise a core part of our skill set as applied researchers. This WRAIR Forward illustrates two applications. First, the techniques made it possible to analyze the complex data from the large early intervention study of psychological debriefing and Battlemind training. Second, the techniques were applied to a longitudinal study of sleep restriction and cognitive performance and are currently being applied to other long-term studies of sleep. The methodological work continues to attract interest both within and outside the military. For instance, this last quarter we presented the methodological work at the Army Science Conference and at universities in Germany and Belgium. The inclusion of these statistical techniques in addressing practical military and academic problems demonstrates the far-reaching impact of our investment in research tools.

-LTC Paul D. Bliese



ISTSS Symposium Highlights Early Interventions for Soldiers Returning from Combat

A team of WRAIR scientists presented an integrated session on post-deployment intervention research at the annual meeting of the International Society for Traumatic Stress Studies (ISTSS). COL Hoge’s session was presented by Dr. Adler, LTC (P) Castro and LTC Bliese.

The symposium addressed epidemiological studies of traumatic stress rates, and provided evidence-based results demonstrating the efficacy of psychological debriefing and Battlemind Training in helping Soldiers transition from combat to home.

- Adler, A.B., Castro, C.A., Bliese, P.D., Hoge, C.W., McGurk, D., Wright, K.M., & Milliken, C. (2006, November). *Post-Deployment Interventions to Reduce the Mental Health Impact of Combat Deployment to Iraq: Public Health Policies, Psychological Debriefing and Battlemind Training.*

NATO Leader’s Guide Complete



NATO Task Group HFM 081/RTG completed “A Leader’s Guide to Psychological Support across the Deployment Cycle” in December. After several years of research and product development by the RTG team:

- The editing committee met in Brussels (11-12 OCT 06)
- The RTG issued a first draft in 26 OCT 06
- The RTG obtained feedback from operational leaders in 14 nations
- The editing committee met again in Brussels to integrate the feedback (12-14 DEC 06).
- The Leader’s Guide was completed and is being submitted to NATO as part of the RTG’s final report.

The goal is for each nation to translate and disseminate the Guide. The Guide uses numerous real-world examples from experienced operational leaders to place specific recommendations about psychological stress and support in context. For example:

- ◆ A leader notices his sergeant’s difficulty with concentration and decision-making and ensures the sergeant gets help for dealing with stress.
- ◆ A leader actively supports his unit in the aftermath of an ambush.

Feedback about the new guide has been positive. As one experienced senior leader wrote in his review:

“...exceptionally helpful and completely consistent with my experience from two combat tours.”

LTC Bliese and Dr. Adler serve as members of the RTG and the Guide’s editing committee under the direction of Lt COL Cuvelier (BE), Chair of the Task Group.

NATO work on the Military Leaders Study was also presented at ISTSS:

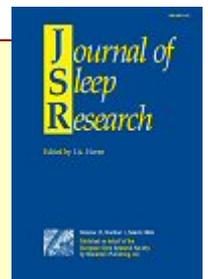
- Cawkill, P., Adler, A., van den Berg, C., Avers, P., Puente, J., & Cuvelier, Y. (2006, November). *The Military Leaders Survey: NATO Military Leaders’ Perspectives on Psychological Support on Operations.* Poster presented at the International Society for Traumatic Stress Studies. Hollywood, CA.

Sustaining Cognitive Performance: Age and Sleep Deprivation

Repeated nights of being restricted to less than 5 hours of sleep have a large, cumulative negative impact on cognitive performance. Recent advances in statistics, however, also show that there is considerable individual variability in how performance declines under conditions of sleep restriction.

In an article published this quarter, we used a discontinuous growth model to show that older individuals maintain cognitive performance better than do younger individuals across both sleep and non-sleep restricted conditions demonstrating the importance of considering individual difference variables in adjusting to transitions.

- Bliese, P.D., Wesensten, N.J., & Balkin, T.J. (2006). Age and individual variability in performance during sleep restriction. *Journal of Sleep Research*, 15, 376-385.



Battlemind Update: Developments in Post-Combat Transition Training

WRAIR's Battlemind – the inner strength to face fear and adversity in combat with courage -- has developed from a two-part post-deployment training module into a systematic program for supporting Soldiers and their families across the deployment cycle.

The series of products for pre-deployment and post-deployment for Soldiers and their families now includes:

- PowerPoint briefs with trainer notes
- a DVD for 3-6 months post-deployment training
- brochures for leaders, soldiers, health care providers and families.

Each product has been subjected to pilot testing and program evaluation and the post-deployment products have been the subject of randomized controlled trials. COL Hoge, Director, Division of Psychiatry and Neuroscience, and LTC (P) Castro, Chief, Department of Military Psychiatry, at the WRAIR, are in the lead.



Advanced Battlemind Training is the latest development in this emerging research-based resiliency program. Plans are underway to test enhanced post-deployment Battlemind Training to maximize the effectiveness of Battlemind and target specific issues that Soldiers face when transitioning from combat to home.

WRAIR's Battlemind products available for download at www.Battlemind.org

COL Hoge, LTC (P) Castro, and MAJ McGurk met with USAMRU-E science staff in Heidelberg from 4 – 7 DEC 06 to discuss the new Advanced Battlemind protocol.

Research Management: A Priority

In keeping with trends in the US and elsewhere, the Office of Research Management (ORM) at the WRAIR continued its emphasis on regulatory compliance and research protocol management with a second site visit this year (10-13 OCT 06). Three ORM contractors, Ms. Sun, Ms. Holthaus, and Ms. Ramsey, visited the unit, reviewed protocol records and data files, and provided guidance on developing unit Standard Operating Procedures (SOPs).

At the end of the visit, COL Kester, Deputy Director, WRAIR, met with science staff members and the ORM team to discuss the way ahead in terms of research management (13 OCT 06).

Consulting on Science

- LTC Bliese provided consultation and research expertise on a potential HMEDDAC project to assess the utility of influenza vaccines in high-risk populations (29 NOV 06)
- Dr. Adler provided consultation to LTC Johnson, a nurse at the Hanau Health Clinic, on writing a manuscript intended for a nursing journal (27 NOV 06 & 12 DEC 06)

Army Science Conference

Recent research efforts were featured in Army Science Conference presentations at the annual meeting held in Orlando, FL (27-30 NOV 06):

- Bliese, P.D. Advances in Generalized Linear Mixed-Effects Models. Poster presented at the Army Science Conference.
- Castro, C.A., Hoge, C.W., Milliken, C.W., McGurk, D., Adler, A., Cox, A. & Bliese, P. Battlemind Training: Transitioning Home from Combat. Paper presented at the Army Science Conference.



MSC Symposium

LTC Bliese and CPT Cabrera attended the annual Medical Service Corps Symposium in Grassau, Germany (14-17 NOV 06). LTC Bliese presented:

Bliese, P. (2006, November). *A Biased Review of Applied Psychology Research in the Army (And How it Might Impact You)*.

USAMRU-E Invited Talks

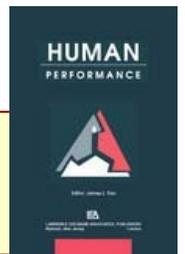
LTC Bliese (19 DEC 06) was invited by the Institute of Psychology at Rheinisch-Westfälisch-Technische Hochschule (RWTH) Aachen University. He presented a talk entitled “Applying Mixed-Effects Models in US Army Medical Research.”



Dr. Adler (20 DEC 06) presented an invited talk on Debriefing and Battlemind to the Combat and Operational Stress Control Team in Giessen, the only such garrison-based team in Europe.

LTC Bliese (15 DEC 06) was invited by the Department of Psychology at the Free University in Brussels to talk about Mixed-Effects Models and applications to sleep research.

LTC Bliese (12 DEC 06) presented a talk to staff at the Kleber Health Clinic in Kaiserslautern on post-deployment psychological health assessment research.



New Appointment
LTC Bliese was named to the Editorial Advisory Board of the scientific journal *Human Performance*.

Personnel Updates

- Dr. Adler, along with several Division of Psychiatry and Neuroscience staff members, received a citation for the Battlemind development team's participation in the US Army Greatest Invention Program – US Army Telemedicine and Advanced Technology Research Center (OCT 06).
- Dr. (Ippolito) Lang completed her doctorate in psychology at the University of Mannheim, graduating *suma cum laude* (18 DEC 06). She defended her dissertation on developing a psychological stress model for activated National Guard personnel (protocol #931).

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