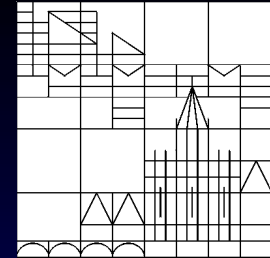


vivo 
www.vivo.org

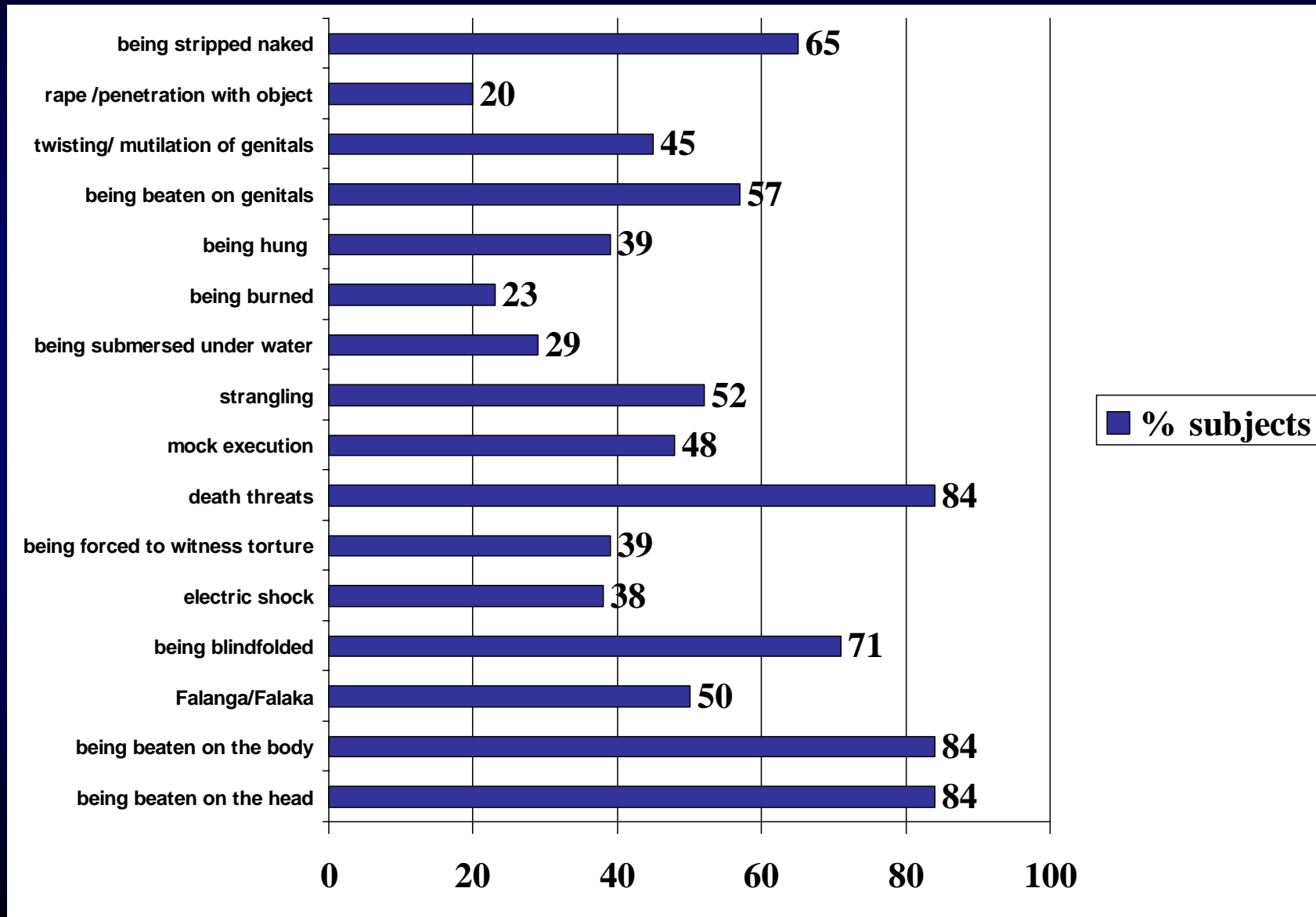
vivo – victims' voice



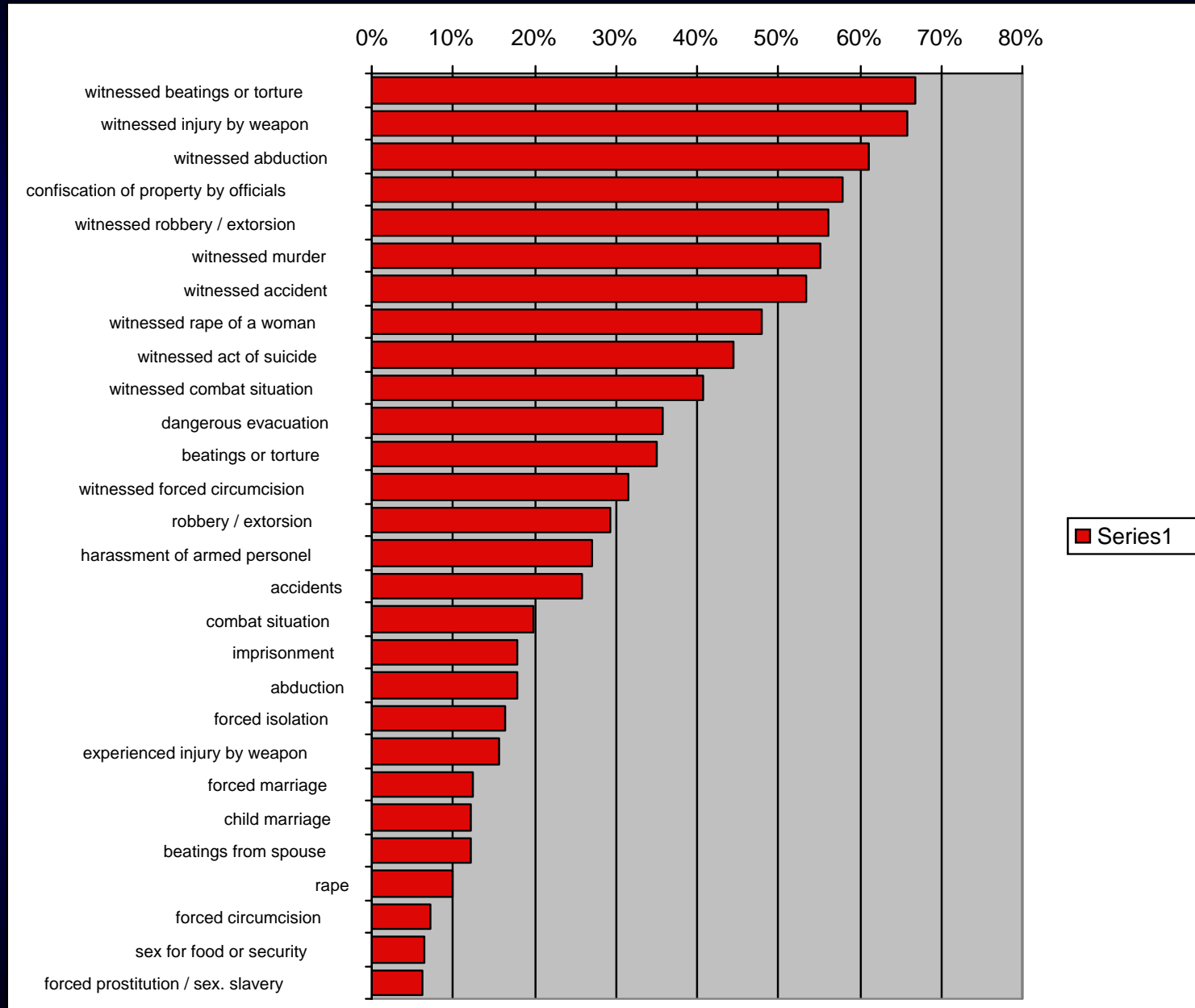
University of
Konstanz

TORTURED BRAINS

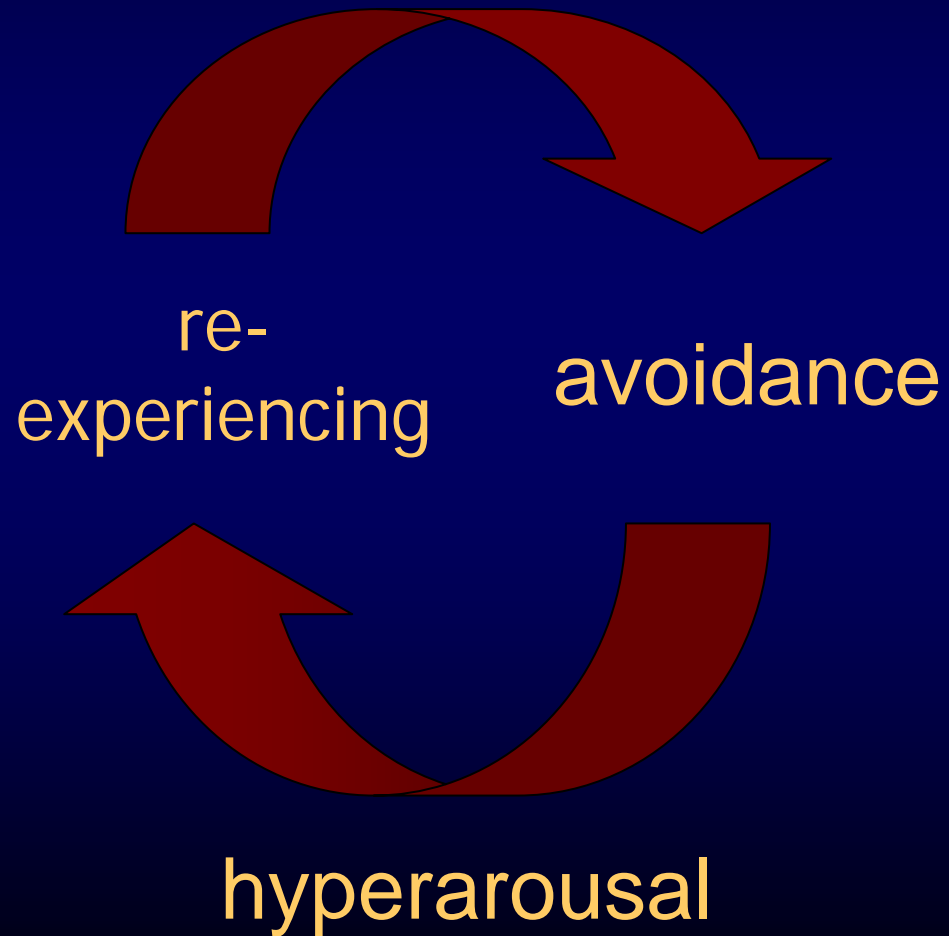
Torture experiences in a sample of survivors of organized violence seeking asylum in Germany



Torture experiences of refugees in a Ugandan refugee camp



POST-TRAUMATIC STRESS DISORDER (PTSD)



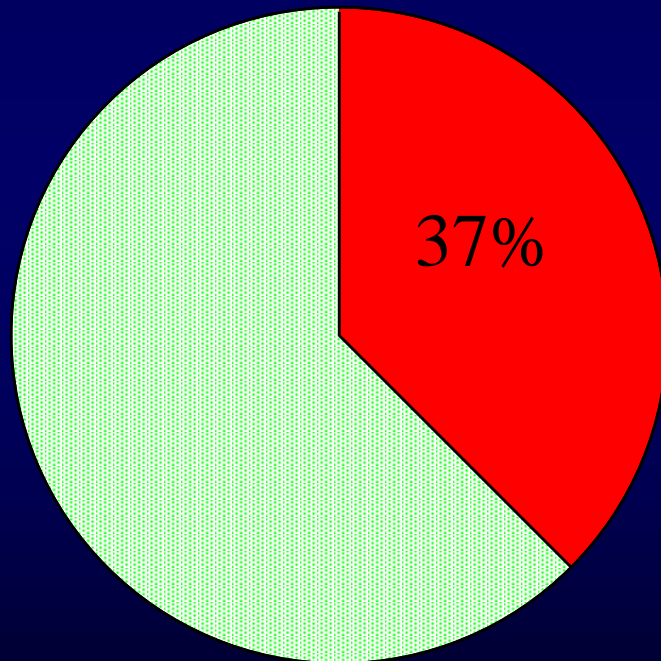


vivo outpatient clinic for refugees University of Konstanz, Germany

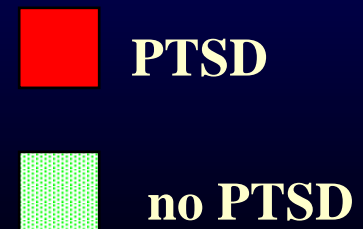
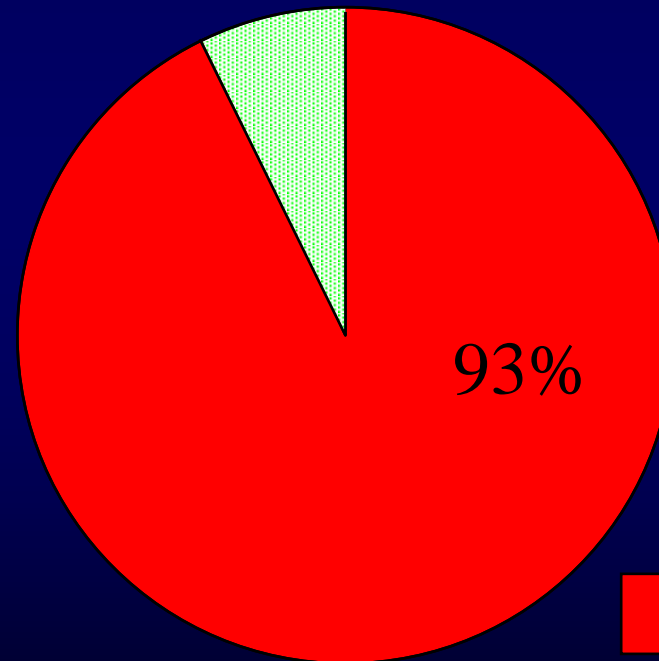


Prevalence of Post-traumatic Stress Disorder (PTSD)

Refugees

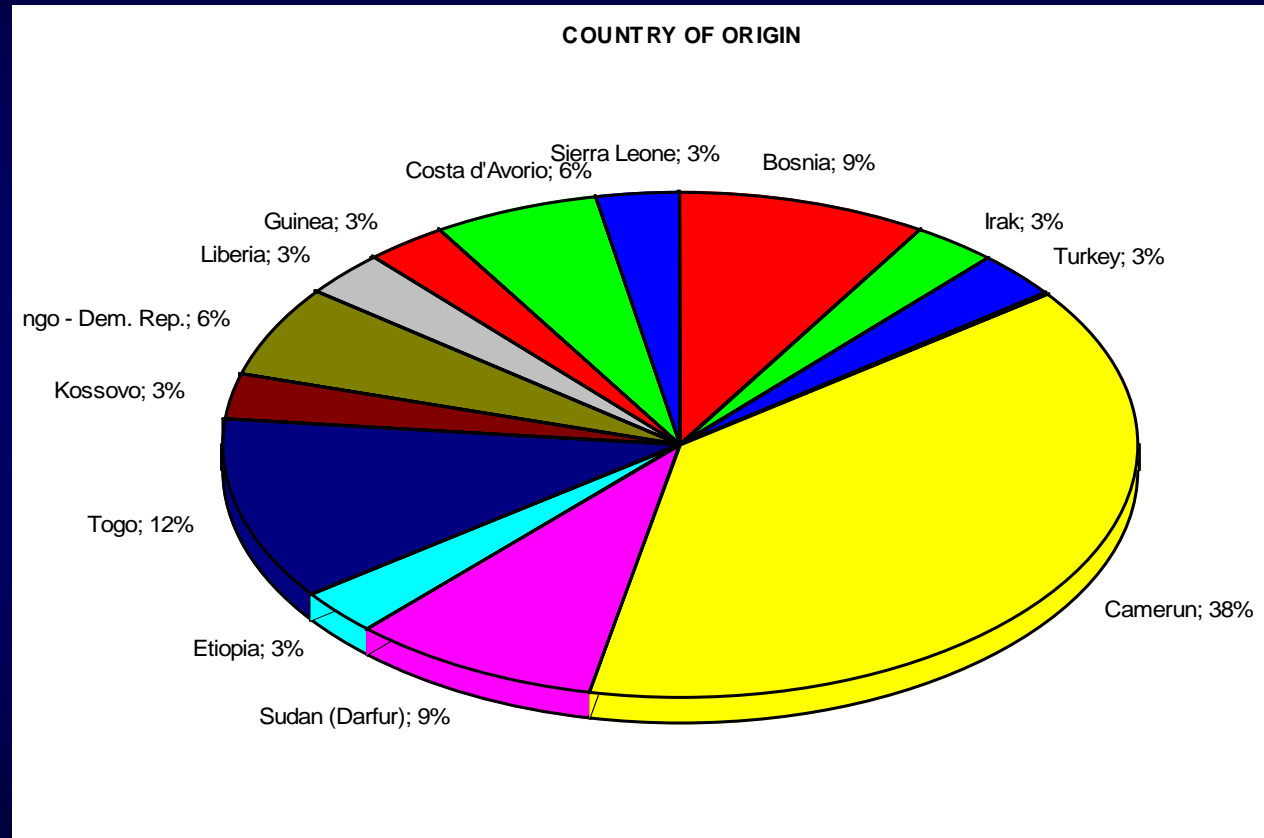
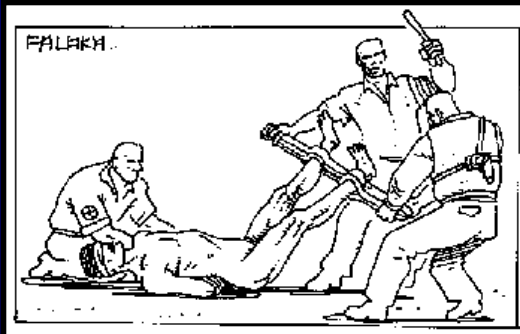


Torture survivors



vivo outpatient clinic for refugees, Germany

Ongoing epidemiological survey on traumatic life experiences and mental health of refugees & asylum seekers in Northern Italy



→ PTSD was more frequently diagnosed in torture survivors compared to other refugees/ asylum seekers.

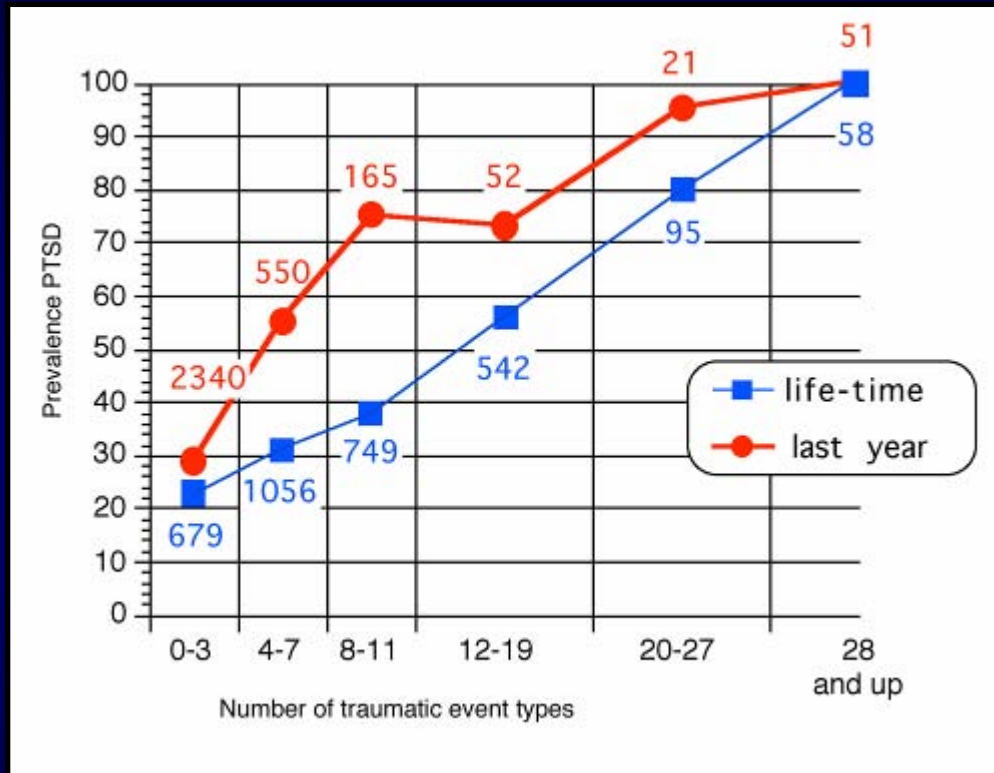
Predictors of PTSD Symptom Severity in torture survivors

	BETA	St. Err.	p
Constant			0,7
age	0,07	0,16	0,66
Sex (female)	0,43	0,16	< 0,05
Years of education	0,01	0,16	0,93
Number of arrests	-0,21	0,17	0,25
Months since event	0,31	1,16	0,06
Tot. number of war- and torture related event types ever experienced	0,59	0,17	< 0,005

Linear Regression on 'PTSD symptom score' (R^2 corr. = .33; $p < .01$)

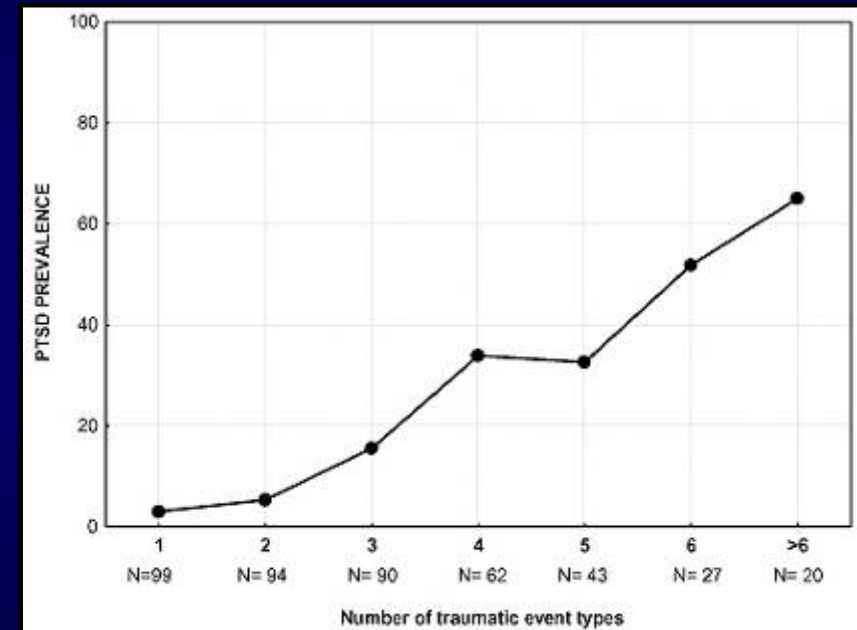
→ Strongest predictors of PTSD symptom severity were female sex and number of war and torture event types

Dose – Effect of traumatic stress



Sudanese refugees, Imvepi
refugee camp, Uganda

(Neuner et al. 2004, BMC Psychiatry)



Tamil school children,
North-East Sri Lanka

(Catani et al., 2005, ESTSS)

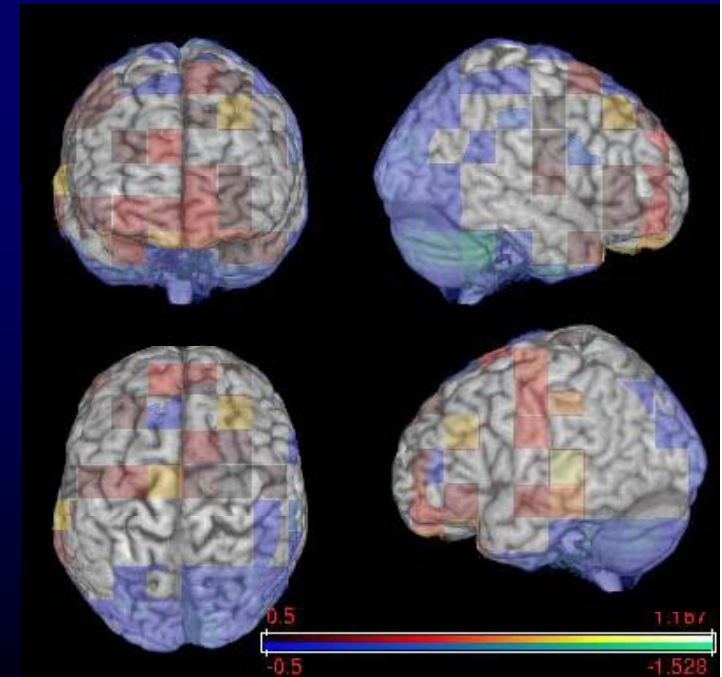
ABNORMAL SLOW WAVE ACTIVITY (ASWA) IN TORTURE VICTIMS WITH PTSD

Abnormal slow-wave rhythms (delta range 1.5 – 4 Hz) in the brain have been found to be related to brain pathology or dysfunctional neural tissue.

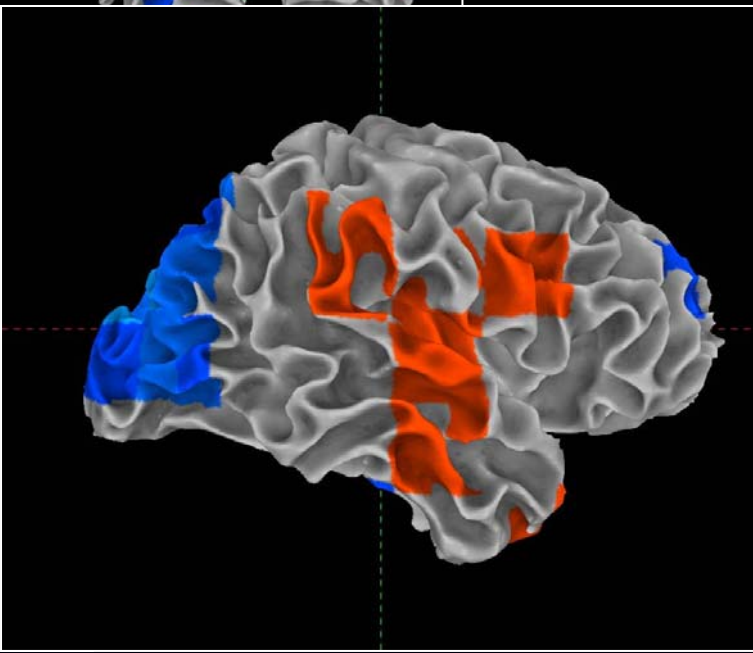
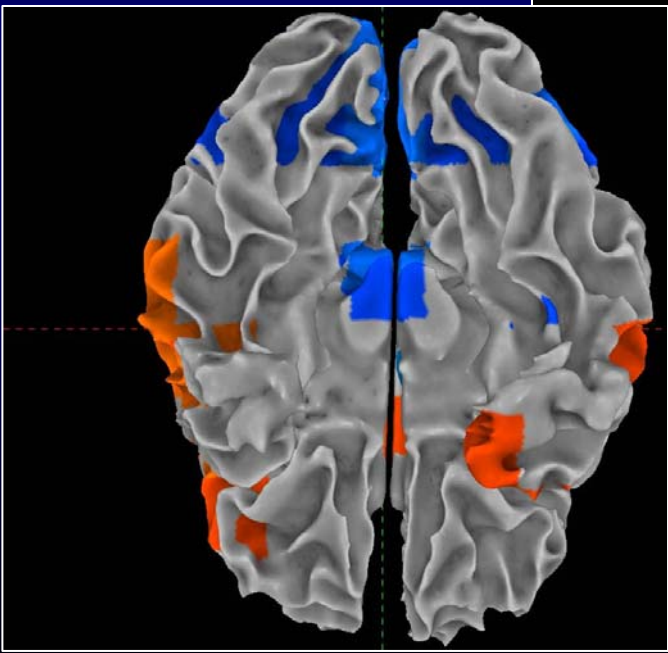
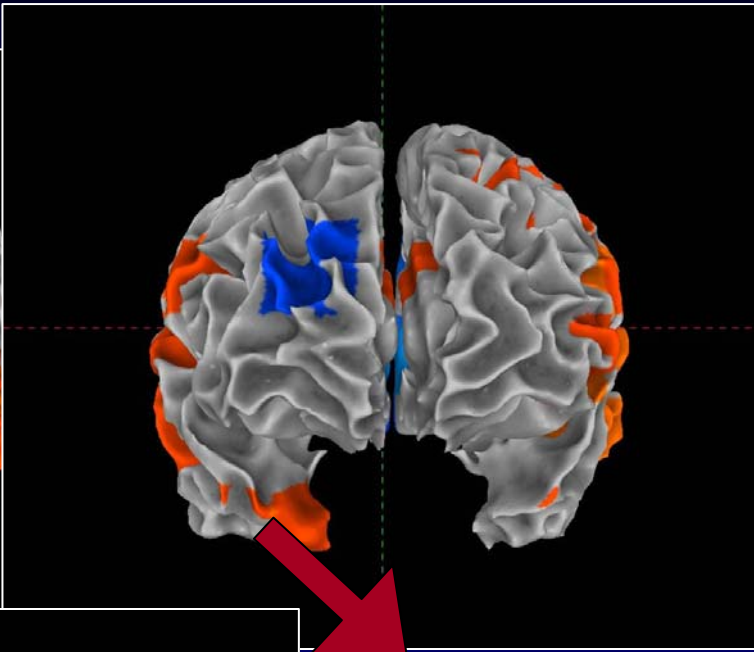
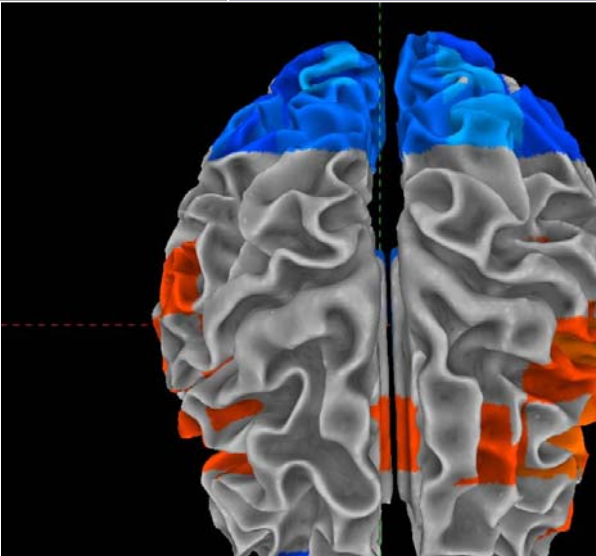
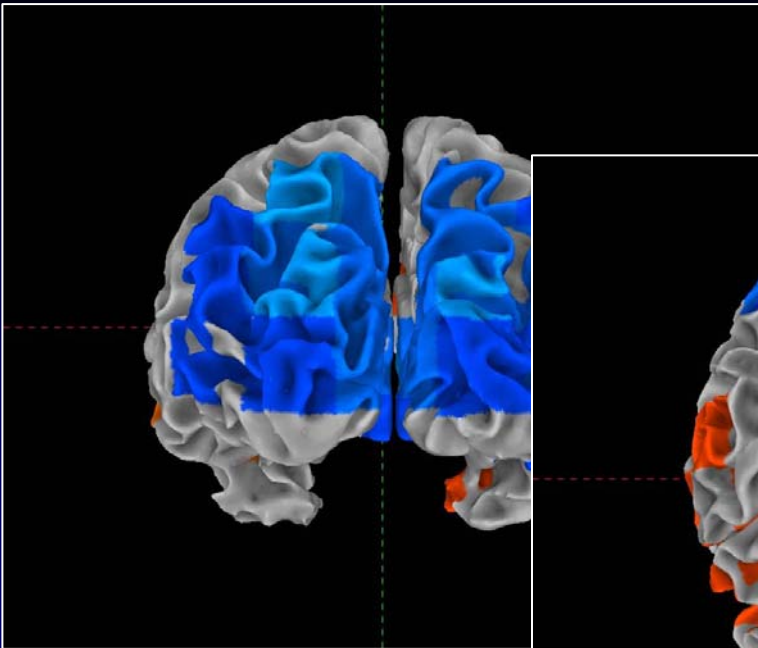
Also, ASWA was found in conditions of psychopathology, such as depression and schizophrenia.

⇒ ASWA can be produced by both structural and functional neural networks that are deprived of their inputs.

⇒ Neural generators of slow-wave rhythms can be identified through magnetic source imaging by using dipole density measurements from MEG.



(Rockstroh, B. et al.. submitted)



Prefrontal & temporal ASWA focus in torture victims with PTSD

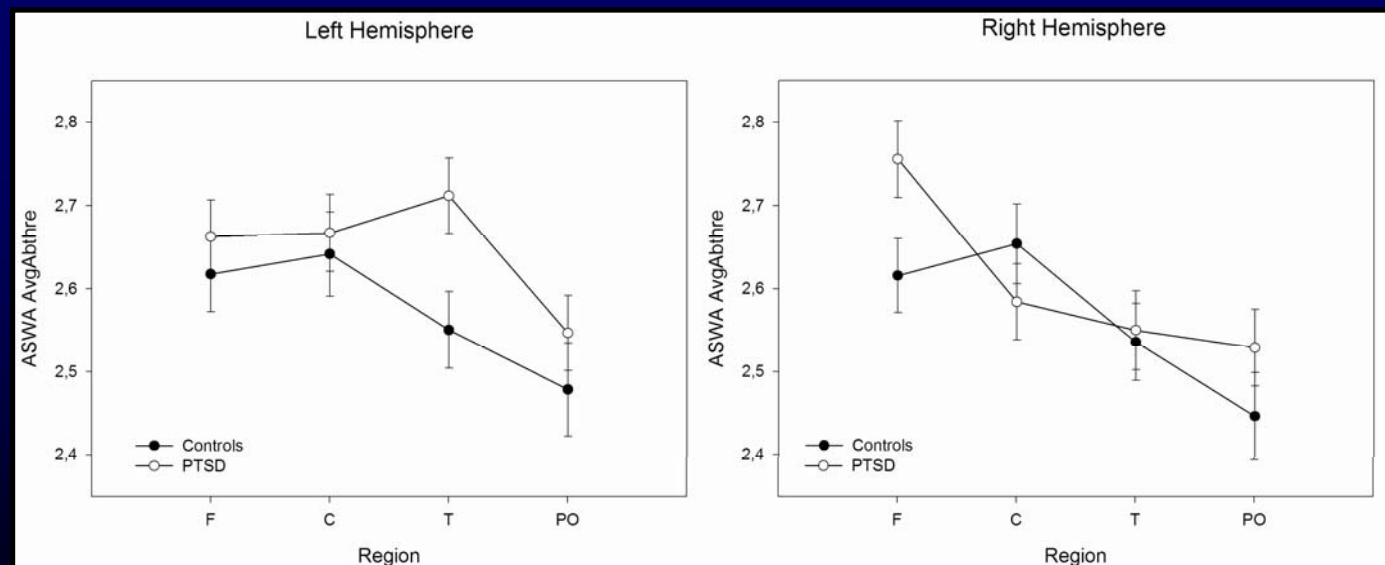
SPEECHLESS TERROR - Indicators of decoupling of frontal affective processors from left cortical language areas in torture victims

Psychological dissociation in torture victims and its manifestation within neural networks in the brain

⇒ Dissociative experiences associated with ASWA generated in the left ventrolateral frontal cortex.

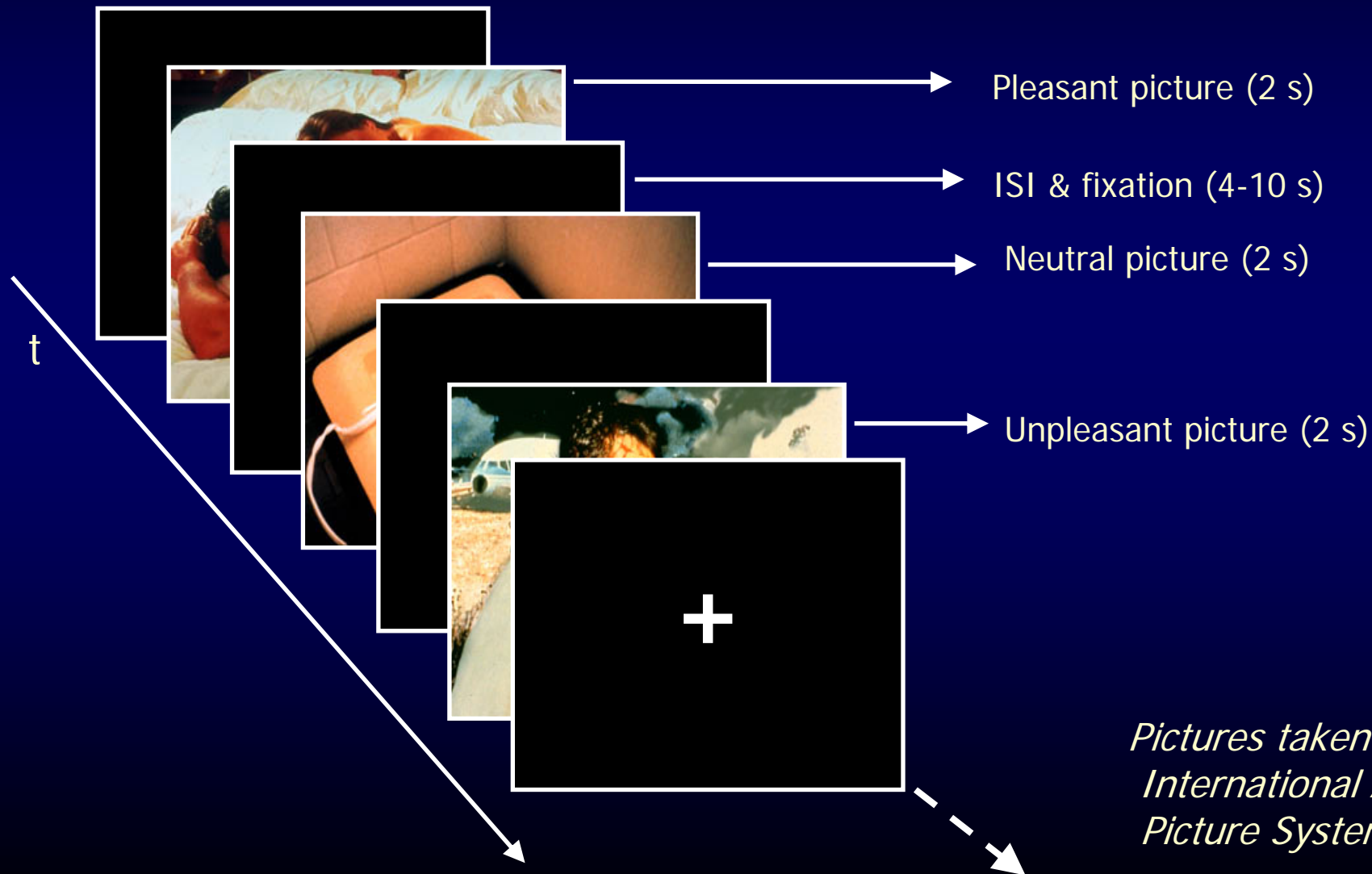
(Ray, Odenwald et al., 2006)

Torture victims showed elevated production of focally generated slow waves, particularly in left temporal brain regions (peak in the insular cortex).

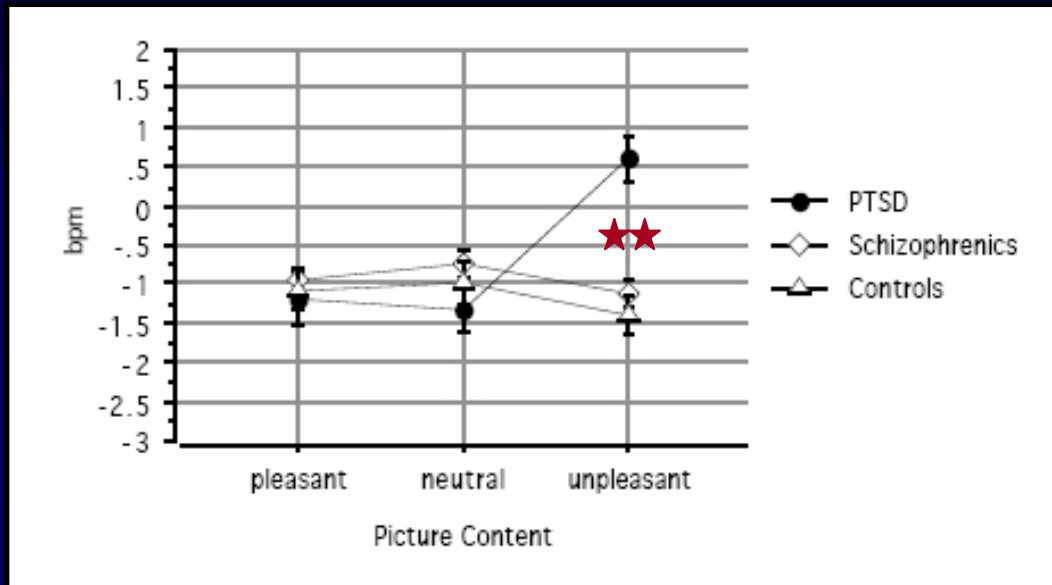


(Kolassa, Wienbruch, Neuner et al., submitted)

AFFECTIVE STIMULUS PROCESSING IN TORTURE SURVIVORS WITH PTSD



Subjective affective ratings and heart rate responses to emotional visual stimuli



→ sustained heart rate acceleration for high arousing unpleasant pictures in PTSD patients

→ unpleasant pictures rated significantly more arousing by PTSD patients

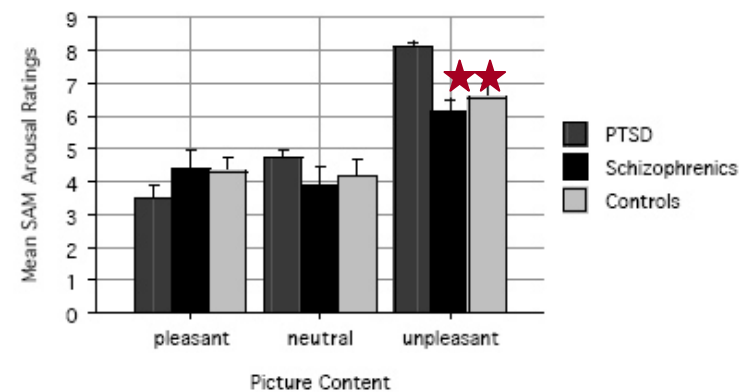
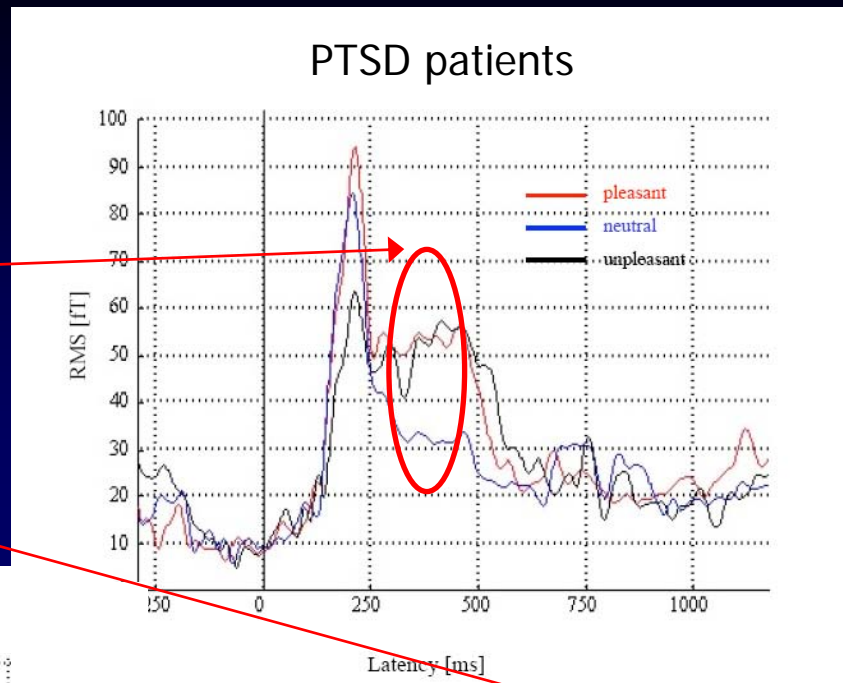


Figure 3.5: Mean SAM arousal ratings (and standard errors) for each picture content (pleasant, neutral, unpleasant) over groups.

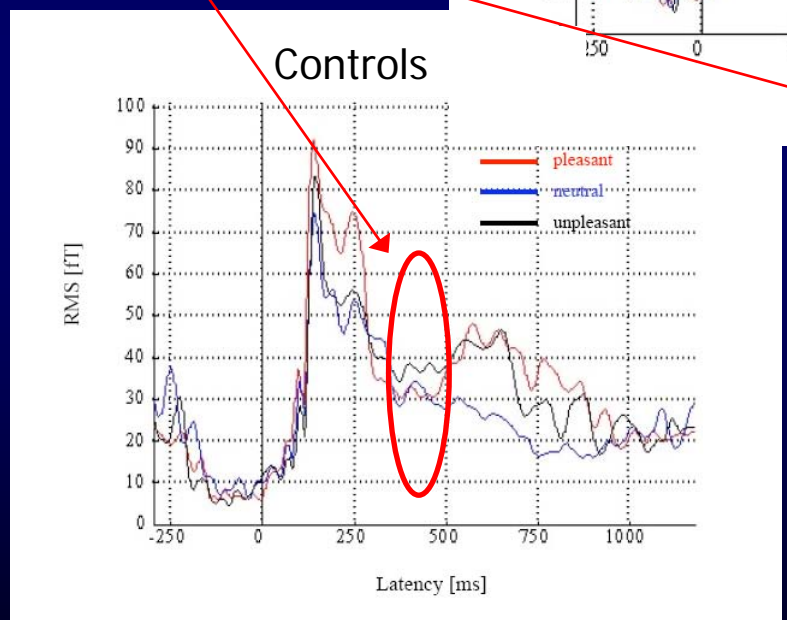
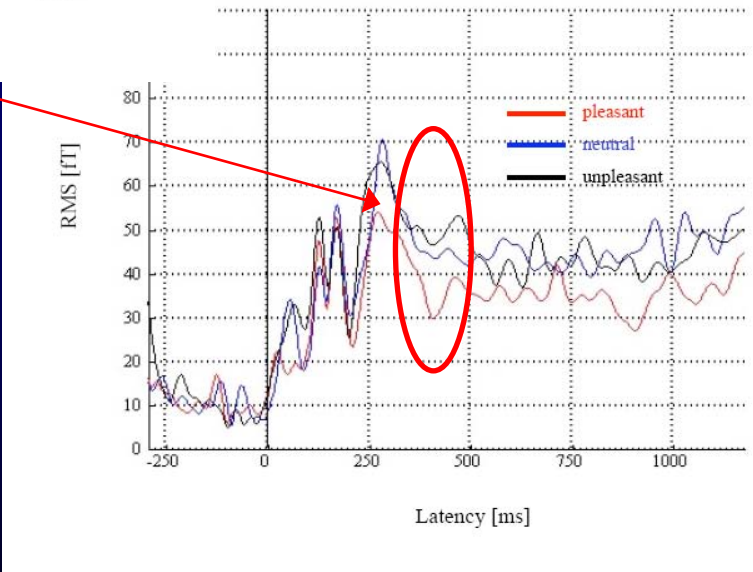
MEG data:

Grand Mean Activity (rms) for each affective category

Significantly enhanced late P3 component for arousing pictures in PTSD patients.

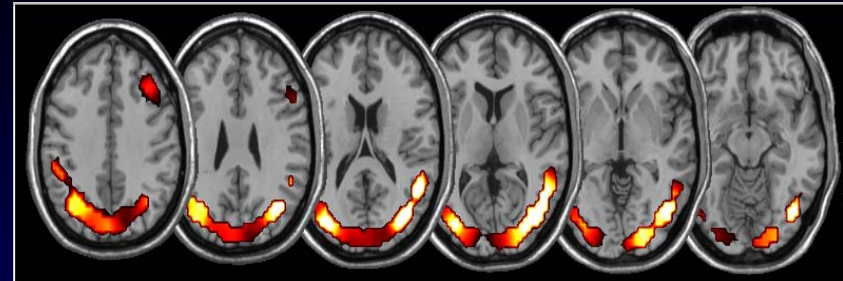


Schizophrenia patients

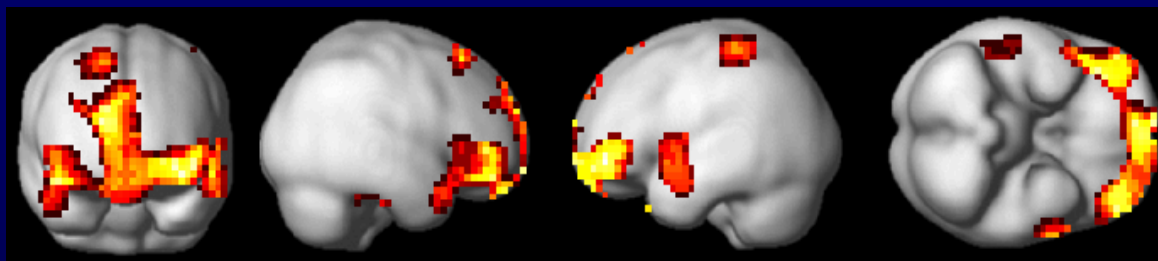
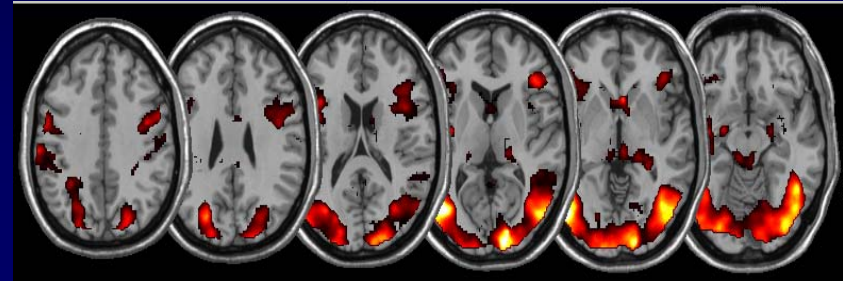


FAST PICTURE PROCESSING IN TORTURE SURVIVORS WITH PTSD

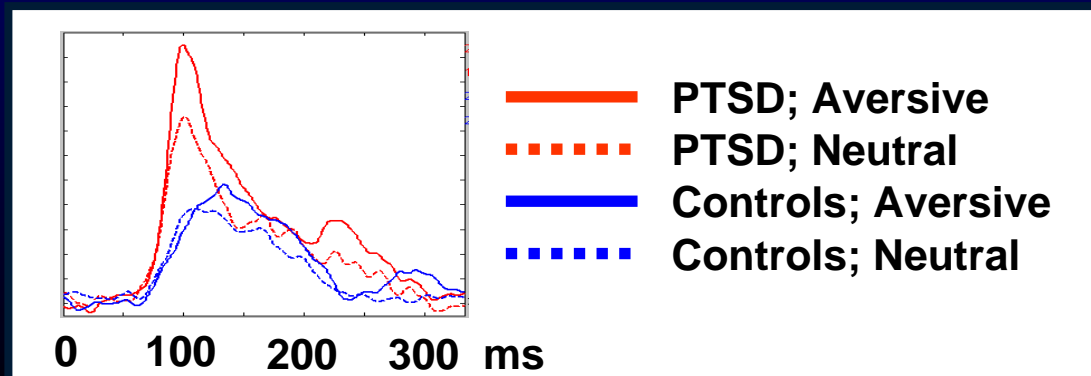
MEG in the EPN-M time interval



fMRI



Areas of significant
group effect
in the 60-110ms time interval



Junghöfer et al., 2001
Neuner, Junghöfer et al., in prep.