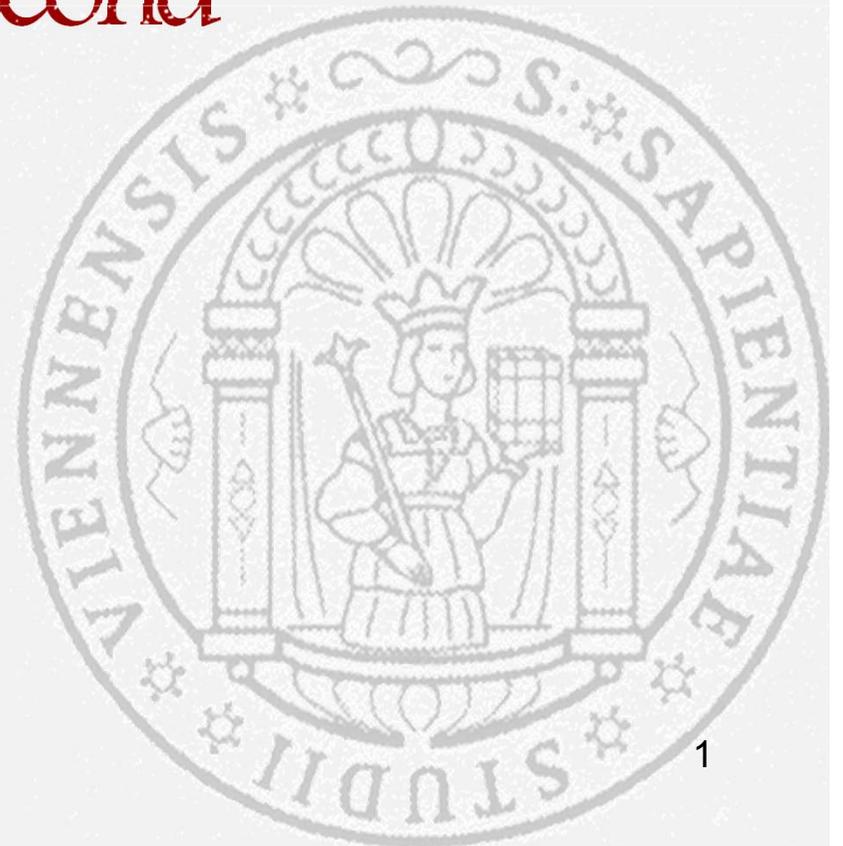


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Long-term consequences of children's trauma during World War Second

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Posttraumatic stress disorder and mental health in child-survivors of World War II in Austria

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Purpose of the study

- I. Exposure and rate of PTSD
- II. Resilience
- III. War time rape



PTSD in the Elderly - background

- 25 – 30 % of German elderlies suffer of mental problems caused by WW2 experiences
 - PTSD rates: 4.3 and 11 % in samples of German elderlies with specific history of war trauma
 - PTSD rates of 3.1 to 3.4 % among elderly Germans in community samples



- Austria was incorporated in Hitler Germany in 1938
 - Post-war period/occupation: 1945-1955



- Complex history after 1945 – guilt, shame, pretending 1st victim of Hitler
- No epidemiological data for Austria regarding trauma
- Few studies on resilience in survivors of WWII



Early experiences





Learning about the horror and terror - losers





Learning about ideology and democracy





A free country – but still occupied





Destruction and financial aspects



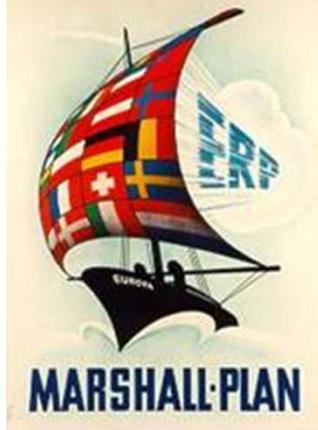
UdSSR takes reparation
money



Financial reconstruction - Wiederaufbau



Powerplant Kaprun
– a NAZI project
becomes a
fundament of the
new identity



US-Aid as well as
Canada, Sweden
and Switzerland
support the
Austrian economy
and feed the
people



Coping with fear and emotional problems



Russian soldiers - drunken



Looking out for returners (POWs)



Rebuilding families





10 years of occupation

Picture by
Erich Lessing





Culture and self-perception – Schnitzel with Noodles and sweet applestrudel ...



Picture by
Erich Lessing



A new identity



The new heros: Ernst
Hinterseer, Toni Sailer, Ander
Molterer – the red devils from
Kitz

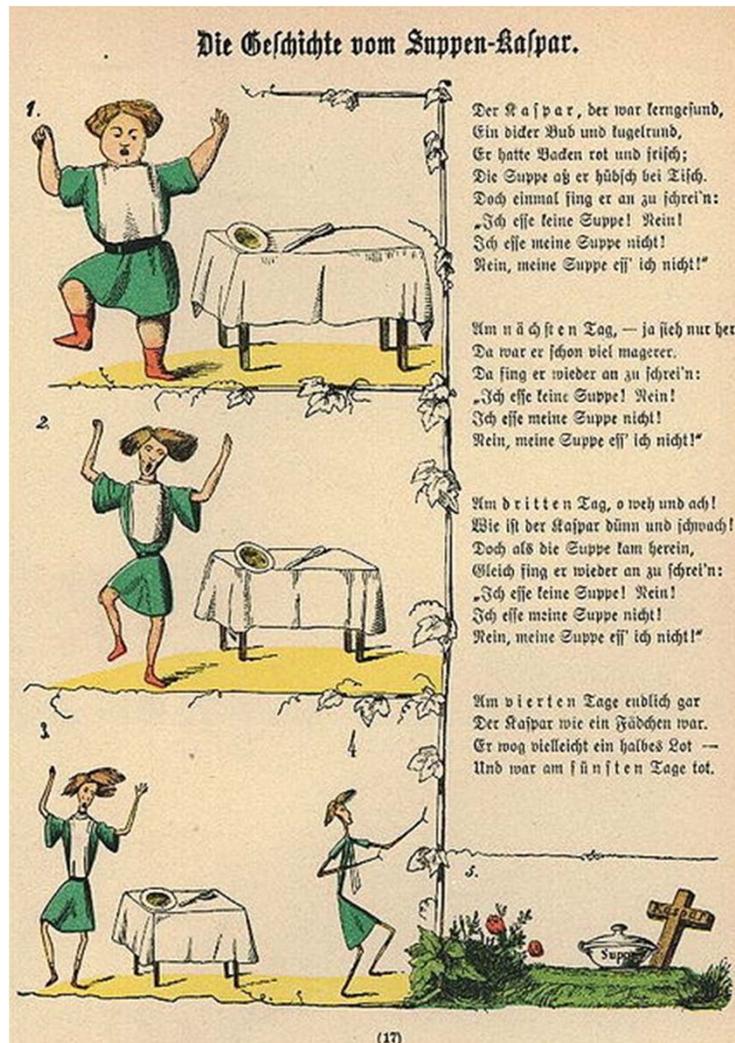


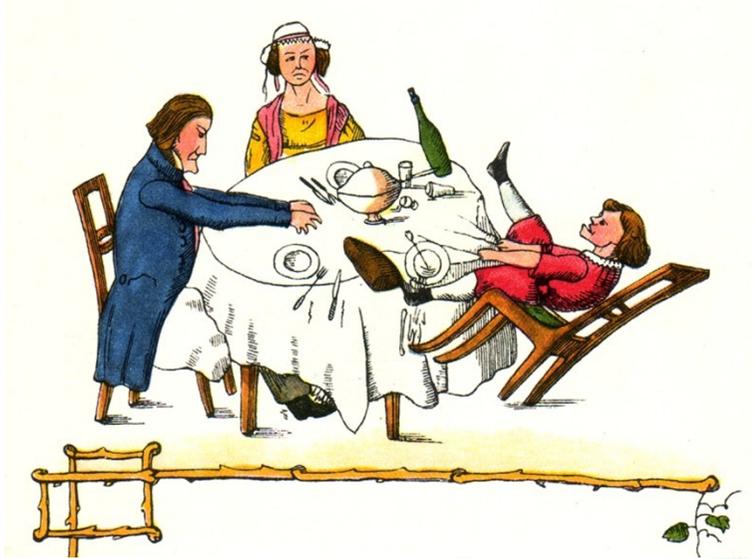


Design and Method

- Cross-sectional epidemiologic study of 1-month prevalence rates of PTSD and co-morbid symptoms
- Historians and psychologists working together
 - Mapping out trauma high impact areas
 - Interviews distributed over the four zones of occupation
- $N = 316$ Participants
 - Age ($M = 81.9$, $SD = 6.8$, Range 64 – 99)
 - 62.3 % Female ($N = 197$)
 - All lived or worked in zone of war
 - More participants recruited in Sovjet-zone ($N = 184$)

No retrospective investigations of childhood disorders







Instruments used in interview

- Expert-designed historical/biographical interview
 - War-time experiences and circumstances of daily life
- Mini Mental State Examination (Kessler et al., 1990)
- Brief Symptom Inventory (Franke, 2000)
- Traumatic Life Event Questionnaire (Teegen, 2003)
- PTSD Checklist – Civilian Version (Weathers et al., 1993)
 - Asks for DSM-IV PTSD Symptoms in Criteria B – D
 - Sub-syndromal PTSD (Either Criteria B and C or B and D)
- Connor-Davidson Resilience Scale (2003)



I. Trauma Exposure and PTSD Prevalence



- 93.0 % reported at least one life-time trauma
- **Most distressing traumata**
 - War experiences 40.8 % (eg. bombing, civilian WRTs, WRTs by occupational forces, war effort, prisoner of war)
 - Loss of a loved one 25.5 %
- 44.9 % of war-time trauma with exposure to lethal situation
- PTSD (according to DSM-IV)
 - PTSD DSM-IV 1.9 %
 - Sub-syndromal PTSD 8.7 %
 - PTSD (sub-syndromal and full) 10.6 %



Influence of Zone of Occupation

- Comparison of Soviet and Allied zone of occupation
- Distress and fear caused by occupational military power was far higher in Soviet zone ($p \leq .000$)
- No differences in PTSD prevalence
- However, differences in clinical relevant distress
 - Somatization OR Soviet/Allied ~ 1.5 (n.s.)
 - Social insecurity OR $\sim 8,7$ ($p \leq .05$)
 - Phobic fear OR ~ 2.6 ($p \leq .05$)
 - General Symptom Distress OR ~ 2.6 ($p \leq .05$)



Conclusion

- Interdisciplinary research can enhance understanding of possible impacts on PTSD
- War-Time PTSD is a relevant disorder in the elderly
 - Screening for trauma in the elderly is highly advised
- What zone of occupation makes a difference
 - The higher the distress in the past, the higher the distress in the present
 - Traumatic impact does not have to manifest itself in PTSD, but in other symptoms



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II. Differences in Mental Health in a Sample of Austrian Survivors of World War II with regard to PTSD:

Is It Resilience?



Resilience – definitions

- Absence of posttraumatic symptomatology
 - Ability to recover from extreme experiences
 - Reflection of a general symptom improvement
 - Capacity to preserve a stable personal equilibrium
- Outcome-oriented approach towards resilience
environmental variables and individual coping strategies.
- Resilience described in terms of correlates and possible consequences



Resilience – our definition

- Interaction of situational and personal characteristics
Resilience resembles “a complex repertoire of behavioral tendencies”
 - supports capturing the construct as measurable, both behavioral and situational
- Outcome-oriented approach towards resilience, with respect to environmental variables and individual coping strategies.
- We investigated correlates and possible consequences of resilience defined as the absence of posttraumatic symptomatology



Analysis comprises three parts

1. Predictors of resilience and mild-moderate trauma with regard to PTSD (Bonanno et al., 2007)
General aspects
2. Examining a matched case-control sample
Person characteristics
3. Comparing persons with same (low) distress levels from different zones of occupation (Soviet zone being a risk factor)
Functioning under adverse conditions



part - 1

- predictors of resilience and mild-moderate trauma with regard to PTSD (Bonnano et al. (2007), using multivariate logistic regression analysis, and report on differences in CD-RISC scores across the groups of resilient, mild-moderate trauma, and PTSD (using analysis of covariance [ANCOVA]), controlling for age and number of traumatic experiences).
- Specifically, the influence of social support on the successful coping of the war-related traumata was also investigated (using multivariate logistic regression analysis).



Examining a matched case-control sample - 2

- predictors of resilience and PTSD - more specifically by examining a matched case-control sample, wherein the 43 participants with (sub-threshold) PTSD were matched with 43 non-diagnosed controls of our sample*
- (re-)analyzing of differences in CD-RISC total and single item scores using *t* tests in this case-control sample to arrive at a clearer picture as to which aspects of the construct may be specifically indicative of PTSD.
- expanding analyses by cross-checking (using multiple linear regression analyses) whether differences were not only due to unspecific symptoms of PTSD

*(matching criteria: Sex, age, educational level, place of residence during WW II, numbers of reported trauma events, current MMSE score).



Aspects of resilience - 3

- Aspects of resilience, indicating successful coping?
 - Fully functioning participants (defined by a GSI T score < 51), investigation which aspects of the resilience construct as implemented in the CD-RISC may be indicative of having successfully coped with an environmental risk factor in the past: Having resided in the Soviet occupied zone past WW II, (using *t* tests).



Sex	Male	Female	
<i>N</i> (%)	113 (38.6)	180 (61.4)	
Age	<i>Mean (SD)</i>	<i>Range</i>	
Years	82.1 (6.6)	66–99	
Education^a	< 10 years ^b	10–12 years ^c	> 12 years ^d
<i>N</i> (%)	144 (49.1)	109 (37.2)	39 (13.3)
Marital status	Single	Married	Widowed or divorced
<i>N</i> (%)	24 (8.2)	123 (42.0)	146 (49.8)
Traumata	War-related ^e	Other lifetime ^f	Total lifetime
<i>Mean (SD)</i>	1.8 (1.0)	1.8 (1.4)	3.6 (1.7)
Zone^a	Western Allied	Soviet	Both
<i>N</i> (%)	117 (40.1)	170 (58.2)	5 (1.7)
Status^g	Resilient	Mild-to-moderate trauma	PTSD (full or sub-threshold)
<i>N</i> (%)	170 (58.0)	81 (27.6)	42 (14.3) ^h
With respect to status			
Symptoms of depression			
<i>N</i> (%)	6 (3.5)	5 (6.2)	8 (19.0)
Voluntary work			
<i>N</i> (%)	49 (28.8)	18 (22.2)	4 (9.5)
CD-RISC total score			
<i>Mean (SD)</i>	31.29 (6.89)	28.59 (6.71)	25.93 (6.65)

^a *N* = 292. Attained degree of education: ^b primary education or lower secondary education; ^c upper secondary education or vocational education and training; ^d university. ^e includes bombing, civilian WRTs, WRTs by occupational forces, war effort, prisoner of war,

^f As determined with the TLEQ. ^g Based on Bonanno et al.'s [1] criteria. ^h Full PTSD was present in 6 (2.0%) participants.



Sample, Exposure to Trauma & PTSD

- 308 participants (118 men, 190 women; aged 64–99 years, $M = 81.9$, $SD = 6.8$) - having experienced at least one lifetime trauma.
- 296 participants - one war-related trauma, either in the course of World War II itself or in the aftermath
- According to Bonnano et al. (2007) –
 - 181 (59%) participants resilient, 84 (27%) had a mild-moderate trauma. 43 (14%) participants had either a full ($n = 6$) or sub-threshold PTSD ($n = 37$). PTSD
 - PTSD DSM-IV 1.9 %
 - Sub-syndromal PTSD 8.7 %
 - PTSD (sub-syndromal and full) 10.6 %



Influence of Zone of Occupation 1

- Comparison of Soviet and Allied zone of occupation
 - Distress and fear caused by occupational military power was **far higher** in Soviet zone ($p \leq .000$)
 - **No differences** in PTSD prevalence
 - **Differences in clinical relevant** distress
 - Somatization OR Soviet/Allied ~ 1.5 (n.s.)
 - Social insecurity OR $\sim 8,7$ ($p \leq .05$)
 - Phobic fear OR ~ 2.6 ($p \leq .05$)
 - General Symptom Distress OR ~ 2.6 ($p \leq .05$)



Multinomial logistic regression predicting outcome (reference category = PTSD)

		Resilient vs. PTSD ^a	Mild-to-moderate trauma vs. PTSD ^a
Age		0.95 [0.94, 1.07]	1.03 [0.96, 1.10]
Female Sex		0.58 [0.23, 1.46]	0.72 [0.26, 1.99]
Education (compared to < 10 years)	10–12 years	2.46 [1.01, 6.05]	2.59 [0.98, 6.82]
	> 12 years	1.57 [0.43, 5.72]	0.93 [0.20, 4.25]
Marital status (compared to widowed or divorced)	Married	0.59 [0.22, 1.59]	0.26 [0.87, 0.80]
	Single	0.84 [0.14, 5.09]	1.74 [0.30, 10.24]
Living at own home (compared to nursing home)		1.02 [0.41, 2.49]	0.91 [0.35, 2.37]
Number of lifetime traumata		0.73 [0.59, 0.91]	0.90 [0.71, 1.14]
Symptoms of depression		0.21 [0.06, 0.71]	0.29 [0.08, 1.04]
Engaged in voluntary work		4.86 [1.42, 16.70]	4.34 [1.12, 16.79]
Social support on WRTs		0.91 [0.64, 1.29]	1.00 [0.68, 1.47]
Positive contribution of occupational forces		0.82 [0.37, 1.80]	0.49 [0.21, 1.19]

Odds ratios (ORs) and 95% confidence intervals. Significant ($p < .05$) ORs are printed boldface. ^a Full and sub-threshold PTSD. 35



Resilience – PTSD – social factors

- No differences in “marital status” ($\chi^2(3) = 3.15, p = .369$)
- Number of children comparable (1.95 (1.38) vs. 1.42 (1.47), $t(84) = 1.74, p = .085$)
- No differences in current “living situation” ($\chi^2(4) = 2.60, p = .627$)
- No differences in types of experienced trauma events (WRTs: $ps \geq .096$; non-WRTs; $ps \geq .078$)
- No difference with regard to zone of occupation ($\chi^2(1) = 0.19, p = .662$)
- **Cases have more contact with children (39 (90.7%) vs. 27 (62.8%), $\chi^2(1) = 9.38, p = .002$)**



Impact of Social Factors on Successful Coping with War-related Traumata

- Controlling also for all variables of the above presented model, the fit of the extended regression model was again significant ($\chi^2(30) = 54.70, p = .004; N = 241$ because of partially missing data).
- However, none of the added variables attained significance ($ps \geq .115$ with regard to resilience; $ps \geq .207$ with regard to mild-moderate trauma).



Results on matched controls

- differences in “marital status”
- Number of children comparable
- No differences in current “residential situation”
- No differences in types of experienced trauma events
- No difference with regard to zone of occupation
- **Cases have more contact with children (39 (90.7%) vs. 27 (62.8%), $\chi^2(1) = 9.38, p = .002$)**



Comparisons of fully functioning persons in zones of occupation

- Fully functioning persons (GSI T score < 51) in former Allied (n = 86) and Soviet zones (n = 102):
 - Soviet zone as **environmental risk factor**
 - CD-RISC: Soviet: M = 32.69, SD = 6.07; West: M = 30.48, SD = 5.89
 $t(186) = 2.52, p = .013, d = 0.37$
 - Item 3 (**see the humorous side of things**):
Soviet: M = 2.98, SD = 1.19, West: M = 2.31, SD = 1.40
 $t(186) = 3.52, p < .001, d = 0.52$
 - Item 4 (**Coping with stress strengthens**):
 - Soviet: M = 2.23, SD = 1.47 West: M = 1.55, SD = 1.48
 $t(186) = 3.14, p = .002, d = 0.4$



Conclusion

- Zone of occupation is an environmental risk factor, but humor and coping with stress strengthens
- See adversity as challenge and with humour
- Most factors, such as social engagement seem to be consequences but not factors of resilience
 - Go and look for those who don't engage and you'll find those at need.
 - Less resilient individuals seem to be more dependant on social support, thus might have more contact with their children



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3. Wartime Rape: Influence on Current Mental Health in a Sample of Elderly Austrians



- Wartime rape is an atrocity with long lasting impacts on victims (Kuwert & Freyberger, 2007)
- Due to feelings of shame, guilt and embarrassment – non reporting (Sable et al, 2006, Thoennes, 2006).
- This is also true for witnessess, especially at younger age (Lehmann, 2000)

- Rape in Wartime: an act of individual atrocity & applied as strategic weapon to demoralize a society
- Examples: Balkan wars (Loncar et al, 2006), Red Army after WW II (Messerschmidt, 2006, Kuwert, 2010)



Method

- Exclusion of 18 participants from a larger study (N=316) reporting experiences of sexual violence non related with war and occupation
- 45 persons reported experience of sexual violence or witnessing sexual violence, after yielding a sample of 298 for this study
- Age: $M = 81,9$, $SD = 6,75$



Results

- 45 participants (**23 men**) reported acts of sexual violence committed by occupational forces
- N = 12 were directly affected, **N = 33** were witnesses
- Compared to witnesses, victims were more often women.
- Compared to non-victims, witnesses were more often men
- Sexual violence tended to occur **more often in the Soviet zone** (OR = 7,29, $p = 0.060$)
- **Victims**: PTSD - full and sub-threshold PTSD **more often** than witnesses.
- These findings were more prominent in the subsample of **women** (victims vs. non-victims; full PTSD: OR = 20.00, $p = .005$, 95% CI = [2.49, 160.83]; full and sub-threshold PTSD: OR = 5.33, $p = .016$, 95% CI = [1.37, 20.71]).



- Compared to non-victims, **victims** were more often afflicted by current clinically relevant levels (T score \geq 63; gender specific adult norm) of both **depression and phobic anxiety**
- Albeit not clinically significant, **witnesses** reported significantly higher levels (T scores) of **aggression** than non-victims and by trend than victims ($p = .085$).
- **Victims** reported **higher levels of psychoticism** than both witnesses and non-victims.
- **Victims** also reported higher levels of **global distress** than non-victims.



- Compared to non-victims, **victims** more often reported that they felt they should be punished for their sins (BSI Item 34; OR = 8.23, $p = .016$, 95% CI = [1.47, 46.01]). All other comparisons failed to reach significance ($ps \geq .097$).
- 33.3% of the victims and 18.2% of the witnesses reported posttraumatic distress symptoms (PTSD full/sub-threshold)



Discussion

- Our results corroborate previous findings on high prevalence of posttraumatic distress symptoms among victims of sexual violence committed during WWII
- We found a higher prevalence of sexual violence in the former Soviet occupation zone, which has also been suggested by historical reports
- We expand on the impact of sexual violence on witnesses: **Even after 6 decades, witnesses of sexual violence reported higher levels of aggression than non-victims and victims**
- These findings may be supportive of the claim that wartime rape is a strategic weapon, used to destabilize and demoralize societies with a long lasting impact.



Limitations

- Participants were recruited—although in total representative for the regional population density distribution—by looking specifically for persons with WWII-related traumata.
- possible recall bias, prevalence rates may thus not be unbiased
- This study analyzed data from a larger epidemiological study on WWII traumatization that did not explicitly focus on sexual trauma, may also be conceived as one of the strength of the study design, as these experiences were assessed along with others.
- An additional and explicit call in the recruitment phase for female victims of rape during WWII and the occupation time remained unanswered.
- high prevalence rates of sexual violence during and after WWII have been reported ([see Kuwert and Freyberger, 2007](#)), and given that in our study 12 persons directly experienced sexual violence, compared to 33 witnesses, one might ask: [Where are the “missing” victims?](#)
- A smaller number of victims may still be alive - age when assaults occurred or as a consequence of worse health and mortality outcomes after victimization



Limitations

- Highly traumatized victims might actively avoid study participation. Emotional consequences of rape, such as feelings of shame, guilt and embarrassment could account for this
- Our results corroborate previous findings that war-time rape has lasting influences over decades on current mental health both in victims and witnesses.
- In this context possible trauma reactivation in elderly persons with a history of sexual violence has to be considered. Physical memories elicit the strongest sense of the traumatic event as it happened at the time ([Hiskey et al., 2008](#)). Gynaecological examinations or hygienic care in genital areas by nursing home personnel may thus act as trauma triggers ([Heuft, 1999](#)). With a growing proportion of elderly persons in Europe's post-WWII societies, geriatric care and the education



Next steps

- Transfer/transmission of trauma to the 3rd generation?
With regard to family support given in the PTSD-sample
 - One master thesis – no results yet
- Look into the subjective perspectives of individuals –
they do not say: I have PTSD, they say: I am nervous, I
cannot sleep, I feel bad, these nightmares...
- Look into those who suffer from dementia – is there WW-II
related content in their memories? Does exposure to
childhood trauma accelerate Dementia?
 - Upcoming network for HORIZON 2020
- Transfer results to care givers



Current research

- Longtime effects of childhood abuse within the Austrian Catholic Church
- Longtime effects of Childhood Institutional Abuse



Publication related with the project

- Tran, U. S., Glück, T. M., & Lueger-Schuster, B. (2013). Influence of personal and environmental factors on mental health in a sample of Austrian survivors of World War II with regard to PTSD: Is it resilience? *BMC Psychiatry*, 13, 47. doi:10.1186/1471-244X-13-47
- Glück, T., Tran, U., & Lueger-Schuster, B. (2012). PTSD and trauma in Austria's elderly: influence of wartime experiences, postwar zone of occupation, and life time traumatization on today's mental health status - an interdisciplinary approach. *European Journal Of Psychotraumatology*, 3. doi:10.3402/ejpt.v3i0.17263
- Lueger-Schuster, B., Glück, T., Tran, U., Zeilinger, E. (2012). Sexual violence by occupational forces during and after World War II: influence of experiencing and witnessing of sexual violence on current mental health in a sample of elderly Austrians. *International Psychogeriatrics* 24(8), 1354-1358. doi: <http://dx.doi.org/10.1017/S104161021200021X>
- Glück, T., Lueger-Schuster, B., Ruggenthaler, P., Stelzl-Marx, B. (2011). Kriegskinder, Epidemiologie der aktuellen psychischen Symptombelastung und posttraumatischer Belastungsstörungen bei alten Menschen in Österreich. Gibt es einen Einfluss der Besatzungszone? . *Trauma & Gewalt*, 4, 344-355.



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