

LANGUAGE LEARNING IN REFUGEES, AN ACCOUNT OF A SWEDISH STUDY

Tema

Flygtninge fra undertrykkende eller krigsramte samfund, er i mange tilfælde påvirkede af alvorlige traumatiske oplevelser og lider af post-traumatisk stresslidelse (PTSD). Dette indebærer vanskeligheder med hukommelse og koncentration. Traumatiske begivenheder i fortiden er konstant foruroligende, mens hukommelsen og evnen til at tilpasse sig den foreliggende situation reduceres; noget, som ikke nødvendigvis er blevet forstået tidligere. Dette har betydning for sprogindlæring, fordi mange har oplevelsen af at være ude af stand til at fokusere, forstå eller huske, hvad der sker i løbet af undervisningstimerne. Hukommelsesforstyrrelser relateret til PTSD er potentielt reversible, men forværres af stress.

During the nineties, the Swedish parliament decided to fund research aimed at torture victims among refugees. Due to that, I had the opportunity to participate in a study (Emdad *et al.*, 2006; Emdad & Søndergaard, 2005; Søndergaard, Ekblad, & Theorell, 2001, 2003; Søndergaard & Theorell, 2004) wherein refugees, after receiving permanent permission to stay, were followed every third month for one year to look at which factors in their daily life made an impact on their health. There were many interesting findings in the study, but among the main findings were that worsening health was more often found when subjects with Post Traumatic Stress Disorder (PTSD) reported overwhelming demands in school, repeated instances of housing difficulties, and concern over those relatives in peril or ill. This was not necessarily true when the participants had not developed PTSD. At the time, I had been working in an outpatient clinic specialised in torture victims, and I had often heard my patients complain about memory problems and learning difficulties. A typical remark might sound like "I sit in the classroom,

listening and understanding everything, but the next day it is completely gone". I had even noticed that some of these subjects made major leaps forward when their PTSD improved, whether it happened on its own or due to successful treatment. At the beginning of the nineties, a PTSD diagnosis was slowly becoming accepted. For me it was obvious that PTSD was one of the most important factors in refugee health, but for some in the field PTSD was considered unnecessary and stigmatizing - "a new acronym that we don't need". However, as the condition PTSD was being increasingly studied, it became obvious that besides problems with high arousal, subjects with PTSD had decreased volume in the hippocampal area in the brain. At the time, the reasons were unknown. Was loss of cells due to cell death? Or might there be other explanations? For instance, was the condition reversible? Later research has shown that the decrease of hippocampal volume in PTSD is indeed reversible; improved PTSD is accompanied by increased hippocampal volume (Levy-Gigi, Szabo, Kelemen & Keri, 2013).

Hans-Peter Søndergaard
Karolinska Institutet

Hans Peter Søndergaard is a psychiatrist who has focused on the understanding, diagnosis and treatment of the effects of extremely traumatic experiences in refugees and general psychiatric patients. PhD 2002 (Post-traumatic stress disorder and life events in recently resettled refugees in Stockholm), associate professor, department of clinical neuroscience 2007 at Karolinska Institutet.



Research conditions

In our study, 75 individuals participated in all four occasions. Thus, we had information on whether they fulfilled criteria for PTSD when they entered the study, and they reported life events during the study as well as self-reported symptoms of PTSD, anxiety, depression, and dissociation.

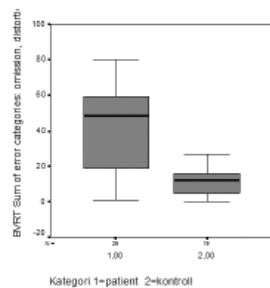
At the same time, we initiated a study of cognitive functions in refugees with PTSD and in healthy comparable subjects; from the same country, also recently resettled, of similar age and gender (male). We had problems finding enough matching healthy comparison subjects, and therefore the subjects in this study were not entirely identical.

Figure 1: Number of errors. In this figure appears an extreme high number of errors in recalling and sketching a geometric figure after 15 seconds in subjects with PTSD when compared with subjects without PTSD.



Bentons visual retention test

- Sum of error categories: omission, distortion, perseveration, rotation, misplacement, & size error.
- $p=0.000$



Söndergaard, Emsdå, Theorell 2004

Cognitive tests

The main finding from the study of hippocampal volume was that also in this group, hippocampal volume was decreased in PTSD. With regard to assessment of cognitive function, we used four different cognitive tests. They were selected on the basis of being applicable even with an interpreter. One measured general IQ, another, executive functions, two others aimed at measuring memory functions that were sensitive to hippocampal dysfunction.

The first test was "Raven's Progressive Matrices". The test is considered a measure of general IQ. This test did not show statistically significant differences between subjects with or without PTSD.

In the second test, Thurstone's picture memory test, subjects are shown pictures of different objects and asked to identify them among similar objects. They must remember the image for a while in order to identify the objects among similar looking objects. In this test, PTSD patients performed significantly worse. The third test was the Block Test from WAIS (Wechsler Adult Intelligence Scale). In this test, the subject is asked to produce a number of increasingly complicated patterns with the help of coloured cubes. This test is assumed to be a measure of executive functions. It went worse in PTSD subjects, however, when the number of school years was included, the difference was no longer significant. In other words, the results were more dependent on previous education than on PTSD diagnosis.

The last test was the Benton Visual Retention Test, wherein a geometrical figure is shown for 10 seconds, then hidden for 15 seconds, and after that the subject is asked to draw the figure. The procedure is repeated with increasingly complicated figures. The drawings produced are then analysed according to a standardised procedure. This test yielded the most pronounced changes with a host of errors in the PTSD subjects. The difference was still highly statistically significant after controlling for general IQ and educational level in analysis of co-variance (see Figure 1).

Post-traumatic stress disorder (PTSD)

A severe threatening experience, such as war or interpersonal violence, can lead to PTSD. The subject suffers from disturbing memories of the events, personality changes (severe avoidance or numbness), as well as irritability, difficulties concentrating, or other indicators of increased arousal.

Dissociation

Dissociation has been defined as a breakdown of the normal integrating function of conscience. Signs of dissociation can be excessive forgetfulness, out-of-body experiences, or loss of a sense of identity, or shifting thereof.

Language learning during the study period

With regard to language learning, we were provided access to school data on forty-nine participants who had attended a language course Swedish for Immigrants in the public sector (other participants might have participated in other language trainings that we had no access to). We received information

about dates individual participants had completed different tests on five levels. Further information was school attendance in number of hours. We could couple these data with the health information database (PTSD diagnosis, self-rating on four occasions for PTSD, depression, and dissociative symptoms). Contrary to expectations, the diagnosis of PTSD at baseline did not predict school results, but the sum score of symptom load of PTSD did. It explained about 25 per cent of the variance in language levels attained. On the contrary, the number of school hours present had a much weaker, positive association, but it was only 2,2 per cent of the variance that was explained by the school attendance (see Figures 2 and 3).

Implications of the findings

What can we make of these findings? To sum up, this study replicated earlier studies that found reduced hippocampal volume in PTSD. The general IQ and educational level in my client and control cases was not statistically different. Possible differences in executive functions were not explained by PTSD, but by educational level. Differences in Thurstone's Picture Memory Test and especially Benton Visual Retention Test were extremely pronounced in PTSD. If you have bad results in Benton Visual Retention Test, it is a sign that you have problems converting your visual impression into episodic memory and then further (during sleep) consolidating them into long-term memory. And in this respect the reduced hippocampal volume is probably a large part of the explanation.

Looking at the data from language learning, it was obvious that the PTSD symptom load over time, not the diagnosis per se, did explain slower language learning. At the time of the study, the rules were that financial support was dependent on school attendance (unless they were on sick leave). Therefore, staying at home if you had an especially bad night or felt ill was punished by reduced financial support. After three months, you were expected to cope with 8 hours a day of school. In PTSD patients, this most likely increases the stress level instead of helping to learn the language.

There are relatively few studies of PTSD among refugees in the literature, and especially few studies of cognitive functions and none of language learning, as far as I know though it would be relatively easy to replicate this study.

However, since my initial study, a Norwegian study has been published (Johnsen & Asbjornsen, 2009). In this study, refugees with and without PTSD were tested with California Verbal Learning Test (CVLT). In this test, a series of words are read to the subject, and they repeat as many as they can. This is repeated a number of times, and the subjects remember more and more words from the word series each time. The study showed that, yes, the subjects with PTSD did worse, but they too had a similar learning curve, and also improved on each trial.

Figure 2: Number of school hours and (weak positive) correlation with progress in Swedish language proficiency. As can be seen, the effect of number of hours present (on the horizontal x axis) on outcome (number of levels passed during the observation period on the vertical y axis) was relatively weak.

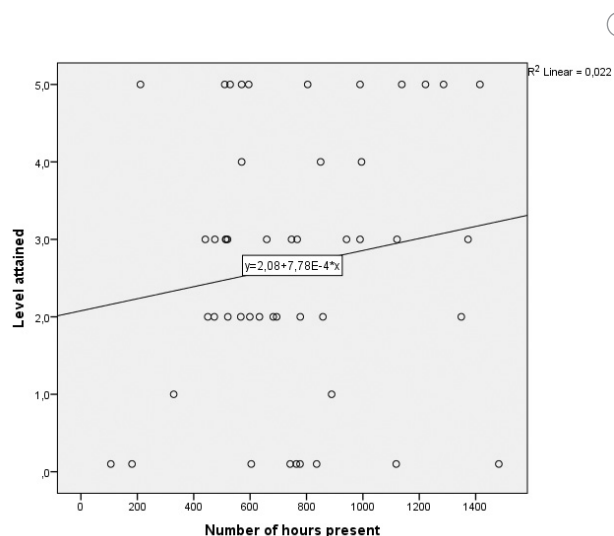
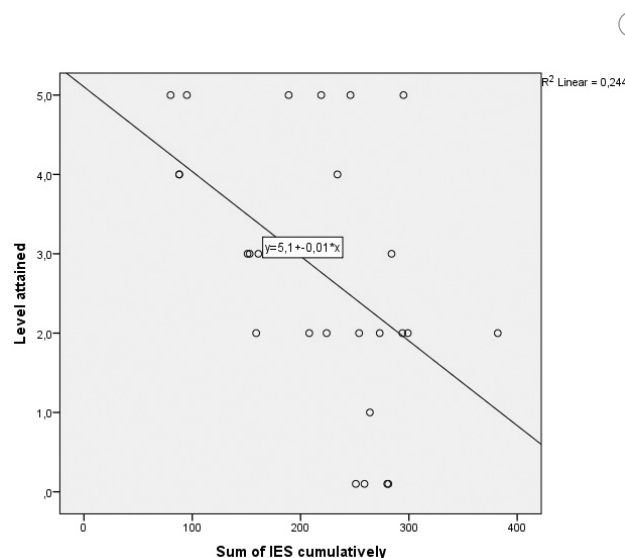


Figure 3: Sum of PTSD symptom score (impact of Event Scale, IES) and (strong negative) correlation with progress in Swedish language proficiency. The sum score of PTSD symptoms every three months had a much stronger influence than number of hours present (horizontal x axis: cumulative score of PTSD symptoms, vertical y axis: learning outcome during observation period).



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What are the implications for language courses for refugees?

When planning for language classes including refugees with PTSD, it is important that teachers are aware of possible memory problems in their learners. This means that teachers should plan with spaced repetition and possibly spiral curricular models in mind. Furthermore, teachers should motivate learners by helping them to understand that though they have perhaps had a subjective experience of learning nothing, they will eventually make progress, as long as they

do not give up and that repetition is the key to success. Moreover, it might be helpful to mention that these symptoms of memory loss are shown to be reversible because they are caused by stress. On that note, it is important to avoid stress as it is easier to learn when the you are relaxed. For teachers this means that the situation and activities in the classroom should be as predictable as possible since subjects with PTSD can be distressed easily, which is not necessarily readily observable, but might well result in withdrawal or dissociation, implying drifting away from the here-and-now. Thus task-repetition and organizational scaffolds such as routines are of utmost importance and an awareness of possible behaviors can help to make teachers sympathetic to their learners and to create an atmosphere conducive to learning.

References

- Emdad, R., Bonekamp, D., Sondergaard, H. P., Bjorklund, T., Agartz, I., Ingvar, M., & Theorell, T. (2006). Morphometric and psychometric comparisons between non-substance-abusing patients with posttraumatic stress disorder and normal controls. *Psychother Psychosom*, 75(2), 122-132. doi:10.1159/000090897
- Emdad, R., & Sondergaard, H. P. (2005). Impaired memory and general intelligence related to severity and duration of patients' disease in Type A posttraumatic stress disorder. *Behav Med*, 31(2), 73-84. doi:10.3200/BMED.31.2.73-86
- Johnsen, G. E., & Asbjornsen, A. E. (2009). Verbal learning and memory impairments in posttraumatic stress disorder: the role of encoding strategies. *Psychiatry Res*, 165(1-2), 68-77. doi:10.1016/j.psychres.2008.01.001
- Levy-Gigi, E., Szabo, C., Kelemen, O., & Keri, S. (2013). Association among clinical response, hippocampal volume, and FKBP5 gene expression in individuals with posttraumatic stress disorder receiving cognitive behavioral therapy. *Biol Psychiatry*, 74(11), 793-800. doi:10.1016/j.biopsych.2013.05.017
- Sondergaard, H. P., Ekblad, S., & Theorell, T. (2001). Self-reported life event patterns and their relation to health among recently resettled Iraqi and Kurdish refugees in Sweden. *J Nerv Ment Dis*, 189(12), 838-845.
- Sondergaard, H. P., Ekblad, S., & Theorell, T. (2003). Screening for post-traumatic stress disorder among refugees in Stockholm. *Nord J Psychiatry*, 57(3), 185-189. doi:10.1080/8039480310001328
- Sondergaard, H. P., & Theorell, T. (2004). Language acquisition in relation to cumulative posttraumatic stress disorder symptom load over time in a sample of re-settled refugees. *Psychother Psychosom*, 73(5), 320-323. doi:10.1159/000078849