

July 2015 Medline Topic Alert

(2014). "Largest ever study of awareness during general anaesthesia identifies risk factors and consequences for patients, including long-term psychological harm." *J Perioper Pract* 24(10): 218.

Birn, R. M., R. Patriat, et al. (2014). "Childhood maltreatment and combat posttraumatic stress differentially predict fear-related fronto-subcortical connectivity." *Depress Anxiety* 31(10): 880-892.

BACKGROUND: Adult posttraumatic stress disorder (PTSD) has been characterized by altered fear-network connectivity. Childhood trauma is a major risk factor for adult PTSD, yet its contribution to fear-network connectivity in PTSD remains unexplored. We examined, within a single model, the contribution of childhood maltreatment, combat exposure, and combat-related posttraumatic stress symptoms (PTSS) to resting-state connectivity (rs-FC) of the amygdala and hippocampus in military veterans. **METHODS:** Medication-free male veterans (n = 27, average 26.6 years) with a range of PTSS completed resting-state fMRI. Measures including the Clinician-Administered PTSD Scale (CAPS), Childhood Trauma Questionnaire (CTQ), and Combat Exposure Scale (CES) were used to predict rs-FC using multilinear regression. Fear-network seeds included the amygdala and hippocampus. **RESULTS:** Amygdala: CTQ predicted lower connectivity to ventromedial prefrontal cortex (vmPFC), but greater anticorrelation with dorsal/lateral PFC. CAPS positively predicted connectivity to insula, and loss of anticorrelation with dorsomedial/dorsolateral (dm/dl)PFC. Hippocampus: CTQ predicted lower connectivity to vmPFC, but greater anticorrelation with dm/dlPFC. CES predicted greater anticorrelation, whereas CAPS predicted less anticorrelation with dmPFC. **CONCLUSIONS:** Childhood trauma, combat exposure, and PTSS differentially predict fear-network rs-FC. Childhood maltreatment may weaken ventral prefrontal-subcortical circuitry important in automatic fear regulation, but, in a compensatory manner, may also strengthen dorsal prefrontal-subcortical pathways involved in more effortful emotion regulation. PTSD symptoms, in turn, appear to emerge with the loss of connectivity in the latter pathway. These findings suggest potential mechanisms by which developmental trauma exposure leads to adult PTSD, and which brain mechanisms are associated with the emergence of PTSD symptoms.

Bolton, P., C. Lee, et al. (2014). "A transdiagnostic community-based mental health treatment for comorbid disorders: development and outcomes of a randomized controlled trial among Burmese refugees in Thailand." *PLoS Med* 11(11): e1001757.

BACKGROUND: Existing studies of mental health interventions in low-resource settings have employed highly structured interventions delivered by non-professionals that typically do not vary by client. Given high comorbidity among mental health problems and implementation challenges with

scaling up multiple structured evidence-based treatments (EBTs), a transdiagnostic treatment could provide an additional option for approaching community-based treatment of mental health problems. Our objective was to test such an approach specifically designed for flexible treatments of varying and comorbid disorders among trauma survivors in a low-resource setting. **METHODS AND FINDINGS:** We conducted a single-blinded, wait-list randomized controlled trial of a newly developed transdiagnostic psychotherapy, Common Elements Treatment Approach (CETA), for low-resource settings, compared with wait-list control (WLC). CETA was delivered by lay workers to Burmese survivors of imprisonment, torture, and related traumas, with flexibility based on client presentation. Eligible participants reported trauma exposure and met severity criteria for depression and/or posttraumatic stress (PTS). Participants were randomly assigned to CETA (n = 182) or WLC (n = 165). Outcomes were assessed by interviewers blinded to participant allocation using locally adapted standard measures of depression and PTS (primary outcomes) and functional impairment, anxiety symptoms, aggression, and alcohol use (secondary outcomes). Primary analysis was intent-to-treat (n = 347), including 73 participants lost to follow-up. CETA participants experienced significantly greater reductions of baseline symptoms across all outcomes with the exception of alcohol use (alcohol use analysis was confined to problem drinkers). The difference in mean change from pre-intervention to post-intervention between intervention and control groups was -0.49 (95% CI: -0.59, -0.40) for depression, -0.43 (95% CI: -0.51, -0.35) for PTS, -0.42 (95% CI: -0.58, -0.27) for functional impairment, -0.48 (95% CI: -0.61, -0.34) for anxiety, -0.24 (95% CI: -0.34, -0.15) for aggression, and -0.03 (95% CI: -0.44, 0.50) for alcohol use. This corresponds to a 77% reduction in mean baseline depression score among CETA participants compared to a 40% reduction among controls, with respective values for the other outcomes of 76% and 41% for anxiety, 75% and 37% for PTS, 67% and 22% for functional impairment, and 71% and 32% for aggression. Effect sizes (Cohen's d) were large for depression (d = 1.16) and PTS (d = 1.19); moderate for impaired function (d = 0.63), anxiety (d = 0.79), and aggression (d = 0.58); and none for alcohol use. There were no adverse events. Limitations of the study include the lack of long-term follow-up, non-blinding of service providers and participants, and no placebo or active comparison intervention. **CONCLUSIONS:** CETA provided by lay counselors was highly effective across disorders among trauma survivors compared to WLCs. These results support the further development and testing of transdiagnostic approaches as possible treatment options alongside existing EBTs. **TRIAL REGISTRATION:** ClinicalTrials.gov NCT01459068 Please see later in the article for the Editors' Summary.

Bourke, M. L. and S. W. Craun (2014). "Secondary traumatic stress among Internet Crimes Against Children task force personnel: impact, risk factors, and coping strategies." *Sex Abuse* 26(6): 586-609.

Internet Crimes Against Children (ICAC) task force personnel face various forms of child exploitation on a daily basis; their jobs require them to view child pornography, participate in undercover chats, interact with offenders in person, and interview abuse survivors. Although exposure to child exploitation and sexual violence has been shown to cause secondary traumatic stress (STS) in certain professions, this is the first large-scale study to investigate risk for STS among ICAC personnel. We circulated an Internet-based survey to ICAC personnel throughout the country

and more than 600 individuals responded. Results provide insight into how STS impacts personal and professional well-being. In addition, they highlight which coping mechanisms were inversely related to STS scores. Implications and limitations of the results are discussed.

Boyes, M. E., L. Bowes, et al. (2014). "Bullying victimisation, internalising symptoms, and conduct problems in South African children and adolescents: a longitudinal investigation." *J Abnorm Child Psychol* 42(8): 1313-1324.

Bullying victimisation has been prospectively linked with mental health problems among children and adolescents in longitudinal studies in the developed world. However, research from the developing world, where adolescents face multiple risks to social and emotional development, has been limited by cross-sectional designs. This is the first longitudinal study of the psychological impacts of bullying victimisation in South Africa. The primary aim was to examine prospective relationships between bullying victimisation and internalising and externalising symptoms in South African youth. Secondary aims were to examine gender and age-related differences in experiences of bullying victimisation. Children and adolescents (10-17 years, 57 % female, n = 3,515) from high HIV-prevalent (>30 %) communities in South Africa were interviewed and followed-up 1 year later (97 % retention). Census enumeration areas were randomly selected from urban and rural sites in two provinces and door-to-door sampling included all households with a resident child/adolescent. Exposure to multiple experiences of bullying victimisation at baseline predicted internalising symptoms and conduct problems 1 year later. Additionally, baseline mental health scores predicted later bullying victimisation, demonstrating bi-directionality of relationships between bullying victimisation and mental health outcomes in this sample. Expected gender differences in physical, verbal, and relational bullying victimisation were evident and predicted declines in bullying victimisation over time were observed. In the developed world, school-based anti-bullying programmes have been shown to be effective in reducing bullying and victimisation. Anti-bullying programmes should be implemented and rigorously evaluated in South Africa, as this may promote improved mental health among South African children and adolescents.

Brewer-Smyth, K. and H. G. Koenig (2014). "Could spirituality and religion promote stress resilience in survivors of childhood trauma?" *Issues Ment Health Nurs* 35(4): 251-256.

Trauma is a precursor to many mental health conditions that greatly impact victims, their loved ones, and society. Studies indicate that neurobiological associations with adverse childhood experiences are mediated by interpersonal relationships and play a role in adult behavior, often leading to cycles of intergenerational trauma. There is a critical need to identify cost effective community resources that optimize stress resilience. Faith-based communities may promote forgiveness rather than retaliation, opportunities for cathartic emotional release, and social support, all of which have been related to neurobiology, behavior, and health outcomes. While spirituality and religion can be related to guilt, neurotic, and psychotic disorders, they also can be powerful sources of hope, meaning, peace, comfort, and forgiveness for the self and others. This article provides an

overview of religion and spirituality as they relate to the neurobiology of resilience in victims of childhood trauma.

Bryant, R. A., M. Creamer, et al. (2015). "A comparison of the capacity of DSM-IV and DSM-5 acute stress disorder definitions to predict posttraumatic stress disorder and related disorders." *J Clin Psychiatry* 76(4): 391-397.

OBJECTIVE: This study addresses the extent to which DSM-IV and DSM-5 definitions of acute stress disorder (ASD) predict subsequent posttraumatic stress disorder (PTSD) and related psychiatric disorders following trauma. **METHOD:** Patients with randomized admissions to 5 hospitals across Australia (N = 596) were assessed in hospital and reassessed for PTSD at 3 (n = 508), 12 (n = 426), 24 (n = 439), and 72 (n = 314) months using the Clinician-Administered PTSD Scale; DSM-IV definition of PTSD was used at each assessment, and DSM-5 definition was used at 72 months. The Mini-International Neuropsychiatric Interview (MINI) was used at each assessment to assess anxiety, mood, and substance use disorders. **RESULTS:** Forty-five patients (8%) met DSM-IV criteria, and 80 patients (14%) met DSM-5 criteria for ASD. PTSD was diagnosed in 93 patients (9%) at 3, 82 patients (10%) at 12, 100 patients (12%) at 24, and 26 patients (8%) at 72 months; 19 patients (6%) met DSM-5 criteria for PTSD at 72 months. Comparable proportions of those diagnosed with ASD developed PTSD using DSM-IV (3 months = 46%, 12 months = 39%, 24 months = 32%, and 72 months = 25%) and DSM-5 (43%, 42%, 33%, and 24%) ASD definitions. Sensitivity was improved for DSM-5 relative to DSM-IV for depression (0.18 vs 0.30), panic disorder (0.19 vs 0.41), agoraphobia (0.14 vs 0.40), social phobia (0.12 vs 0.44), specific phobia (0.24 vs 0.58), obsessive-compulsive disorder (0.17 vs 0.47), and generalized anxiety disorder (0.20 vs 0.47). More than half of participants with DSM-5-defined ASD had a subsequent disorder. **CONCLUSIONS:** The DSM-5 criteria for ASD results in better identification of people who will subsequently develop PTSD or another psychiatric disorder relative to the DSM-IV criteria. Although prediction is modest, it suggests that the new ASD diagnosis can serve a useful function in acute trauma settings for triaging those who can benefit from either early intervention or subsequent monitoring.

Craun, S. W. and M. L. Bourke (2014). "The use of humor to cope with secondary traumatic stress." *J Child Sex Abus* 23(7): 840-852.

Professionals in the area of sexual violence often use humor, both lighthearted and gallows humor, in an attempt to counteract the effects of the work on their well-being. There is little research, however, on whether the use of humor is effective in reducing symptoms of secondary traumatic stress. In the current study, more than 500 Internet Crimes Against Children task force personnel were surveyed about their level of secondary traumatic stress and the coping techniques utilized to mitigate work-related stressors. The use of gallows and light-hearted humor were independently related to secondary traumatic stress scores, even controlling for other coping strategies. The two types of humor were not related to secondary traumatic stress in the same direction, nor at the same magnitude.

Culver, K. A., K. Whetten, et al. (2015). "Yoga to Reduce Trauma-Related Distress and Emotional and Behavioral Difficulties Among Children Living in Orphanages in Haiti: A Pilot Study." *J Altern Complement Med*.

OBJECTIVES: To measure trauma-related distress and evaluate the feasibility, acceptability, and preliminary efficacy of an 8-week yoga intervention (YI) in reducing trauma-related symptoms and emotional and behavioral difficulties (EBD) among children living in orphanages in Haiti. **DESIGN:** Case comparison with random assignment to YI or aerobic dance control (DC) plus a nonrandomized wait-list control (WLC) group. **SETTING:** Two orphanages for children in Haiti. **PARTICIPANTS:** 76 children age 7 to 17 years. **INTERVENTION:** The YI included yoga postures, breathing exercises, and meditation. The DC group learned a series of dance routines. The WLC group received services as usual in the institutional setting. After completion of data collection, the WLC group received both yoga and dance classes for 8 weeks. **OUTCOME MEASURES:** The UCLA PTSD Reaction Index and the Strengths and Difficulties Questionnaire were used to indicate trauma-related symptoms and EBD, respectively. A within-subject analysis was conducted to compare pre- and post-treatment scores. A post-treatment yoga experience questionnaire evaluated acceptability of the YI. **RESULTS:** Analyses of variance revealed a significant effect ($F[2,28]=3.30$; $p=0.05$) of the YI on the trauma-related symptom scores. Regression analyses showed that participation in either 8 weeks of yoga or dance classes suggested a reduction in trauma-related symptoms and EBD, although this finding was not statistically significant ($p>0.05$). Respondents reported satisfaction with the yoga program and improved well-being. **CONCLUSIONS:** Children with trauma-related distress showed improvements in symptoms after participation in an 8-week yoga program compared to controls. Yoga is a feasible and acceptable activity with self-reported benefits to child mental and physical health. Additional research is needed to further evaluate the effect of yoga to relieve trauma-related distress and promote well-being among children.

de la Espriella, R., E. S. Pingel, et al. (2010). "The (de)construction of a psychiatric diagnosis: PTSD among former guerrilla and paramilitary soldiers in Colombia." *Glob Public Health* 5(3): 221-232.

The demobilisation of guerrillas and paramilitaries in Colombia, also known as irregular armed groups, has raised the question among mental health professionals as to whether ex-combatants who have had repeated exposure to stressful events might meet the requirements for posttraumatic stress disorder (PTSD). Upon arrival at a psychiatric clinic in Bogota, 76 patients were evaluated by a group of mental health professionals with experience in this diagnosis. Contrary to clinicians' expectations, there was a conspicuous lack of PTSD among this population. Subsequently, the clinical team administered the Clinician Administered PTSD Scale with 21 of these patients; PTSD was found in 57% of the men. The authors consider various arguments that might explain this discrepancy. Differences between the clinical presentation of PTSD among the ex-combatants and the classic descriptions contained in the DSM-IV-TR may be explained by organisational characteristics of the irregular armed groups. Further research is necessary which focuses on the mental health of populations in the context of political violence, such as those encountered in Colombia.

Dennis, P. A., L. L. Watkins, et al. (2014). "Posttraumatic stress, heart rate variability, and the mediating role of behavioral health risks." *Psychosom Med* 76(8): 629-637.

OBJECTIVE: Posttraumatic stress disorder (PTSD) has been linked to reduced heart rate variability (HRV), which is in turn a risk factor for cardiovascular disease and death. Although hyperarousal and anxiety are thought to underlie this association, behavioral health risks, including smoking, alcohol dependence, obesity, and sleep disturbance, represent potential mechanisms linking PTSD and HRV. **METHODS:** To test this hypothesis, short-term laboratory-based and 24-hour ambulatory measures of HRV were collected from 227 young adults (18-39 years), 107 of whom were diagnosed as having PTSD. Latent variable modeling was used to assess the relationship of PTSD symptoms with HRV along with potential behavioral health mediators. **RESULTS:** PTSD symptoms were associated with reduced HRV (beta = -0.21, p = .002). However, this association was reduced in models that adjusted for cigarette consumption and history of alcohol dependence and was rendered nonsignificant in a model adjusting for sleep disturbance. Independent mediation effects were deemed significant via bootstrapping analysis. Together, the three behavioral health factors (cigarette consumption, history of alcohol dependence, and sleep disturbance) accounted for 94% of the shared variance between PTSD symptoms and HRV. Abdominal obesity was not a significant mediator. **CONCLUSIONS:** These results indicate that behavioral factors-specifically smoking, alcohol overuse, and sleep disturbance-mediate the association between PTSD and HRV-based indices of autonomic nervous system dysregulation. Benefits from psychiatric and psychological interventions in PTSD may therefore be enhanced by including modification of health behaviors.

Dick, A. M., B. L. Niles, et al. (2014). "Examining mechanisms of change in a yoga intervention for women: the influence of mindfulness, psychological flexibility, and emotion regulation on PTSD symptoms." *J Clin Psychol* 70(12): 1170-1182.

OBJECTIVE: This study explored possible mechanisms through which symptoms of posttraumatic stress disorder (PTSD) were reduced in a randomized controlled trial comparing the effect of a yoga intervention with an assessment control. **METHOD:** We examined whether changes in psychological flexibility, mindfulness, and emotion regulation strategies (expressive suppression and reappraisal) were associated with posttreatment PTSD symptoms for 38 women with Diagnostic and Statistical Manual of Mental Disorders Fourth Edition full or subthreshold PTSD. **RESULTS:** Hierarchical linear regression models revealed that expressive suppression significantly decreased for the yoga group relative to the assessment control. Psychological flexibility increased significantly for the control but not yoga group. However, increases in psychological flexibility were associated with decreases in PTSD symptoms for the yoga but not control group. **CONCLUSION:** Preliminary findings suggest that yoga may reduce expressive suppression and may improve PTSD symptoms by increasing psychological flexibility. More research is needed to replicate and extend these findings.

Dorrington, S., H. Zavos, et al. (2014). "Trauma, post-traumatic stress disorder and psychiatric disorders in a middle-income setting: prevalence and comorbidity." *Br J Psychiatry* 205(5): 383-389.

BACKGROUND: Most studies of post-traumatic stress disorder (PTSD) in low- and middle-income countries (LMICs) have focused on 'high-risk' populations defined by exposure to trauma. **AIMS:** To estimate the prevalence of post-traumatic stress disorder (PTSD) in a LMIC, the conditional probability of PTSD given a traumatic event and the strength of associations between traumatic events and other psychiatric disorders. **METHOD:** Our sample contained a mix of 3995 twins and 2019 non-twins. We asked participants about nine different traumatic exposures, including the category 'other', but excluding sexual trauma. **RESULTS:** Traumatic events were reported by 36.3% of participants and lifetime PTSD was present in 2.0%. Prevalence of non-PTSD lifetime diagnosis was 19.1%. Of people who had experienced three or more traumatic events, 13.3% had lifetime PTSD and 40.4% had a non-PTSD psychiatric diagnosis. **CONCLUSIONS:** Despite high rates of exposure to trauma, this population had lower rates of PTSD than high-income populations, although the prevalence might have been slightly affected by the exclusion of sexual trauma. There are high rates of non-PTSD diagnoses associated with trauma exposure that could be considered in interventions for trauma-exposed populations. Our findings suggest that there is no unique relationship between traumatic experiences and the specific symptomatology of PTSD.

Hebert, M., F. Lavoie, et al. (2014). "Post Traumatic Stress Disorder/PTSD in adolescent victims of sexual abuse: resilience and social support as protection factors." *Cien Saude Colet* 19(3): 685-694.

This analysis examined the contribution of personal, family (maternal and paternal support; sibling support) and extra-familial (peer support; other adults) resilience to the prediction of clinical levels of PTSD symptoms in adolescents reporting sexual abuse. Controls were established for abuse-related variables (type of abuse, severity and multiple abuse) in a representative sample of high schools students in the province of Quebec. A total of 15.2% of adolescent females and 4.4% adolescent males in high school reported a history of sexual abuse in childhood. Sexually abused adolescent females (27.8%) were more likely than adolescent males (14.9%) to achieve scores with high clinical levels of PTSD. Hierarchical logistic regression revealed that over and above the characteristics of the sexual abuse experienced, resilience factors (maternal and peer support) contributed to the prediction of symptoms of PTSD attaining the clinical threshold. Alternative intervention and prevention practices geared to adolescent victims of sexual assault are discussed.

Hong, S. B., G. J. Youssef, et al. (2014). "Different clinical courses of children exposed to a single incident of psychological trauma: a 30-month prospective follow-up study." *J Child Psychol Psychiatry* 55(11): 1226-1233.

BACKGROUND: We investigated the distinct longitudinal trajectories of posttraumatic stress symptoms in a sample of 167 children, who witnessed death of two mothers of their schoolmates. **METHODS:** The cohort was followed-up at 2 days (T1), 2 months (T2), 6 months (T3), and 30 months (T4) after the traumatic event. The children's posttraumatic stress symptoms (T1-T4), depression (T1,

T3 and T4), state anxiety (T1, T3 and T4), and quality of life (T4) were assessed, along with parental stress related to child rearing (T4). Different trajectory patterns of the children's posttraumatic stress symptoms were identified using growth mixture modeling (GMM). RESULTS: Four different patterns of symptom change were identified, which were consistent with the prototypical model, and were named Recovery (19.9%), Resilience (72.7%), Chronic Dysfunction (1.8%), and Delayed Reactions (5.6%). Significant differences were found in depression and anxiety scores, children's quality of life, and parental rearing stress according to the distinct longitudinal trajectories of posttraumatic stress symptoms. CONCLUSIONS: The present study suggests that individual differences should be taken into account in the clinical course and outcome of children exposed to psychological trauma. The two most common trajectories were the Resilience and the Recovery types, together suggesting that over 90% of children were evidenced with a favorable 30-month outcome. The latent classes were associated with significant mean differences in depression and anxiety scores, supporting the clinical validity of the distinct trajectories.

Humphreys, K. L., M. S. Scheeringa, et al. (2014). "Race moderates the association of Catechol-O-methyltransferase genotype and posttraumatic stress disorder in preschool children." *J Child Adolesc Psychopharmacol* 24(8): 454-457.

OBJECTIVE: The present study sought to replicate previous findings of an association between the Catechol-O-methyltransferase (COMT) val158met polymorphism with posttraumatic stress disorder (PTSD) and symptomatology in a novel age group, preschool children. METHODS: COMT genotype was determined in a sample of 171 3-6-year-old trauma-exposed children. PTSD was assessed with a semistructured interview. Accounting for sex, trauma type, and age, genotype was examined in relation to categorical and continuous measures of PTSD both controlling for race and within the two largest racial categories (African American [AA] and European American [EA]). RESULTS: Race significantly moderated the association between genotype and PTSD. Specifically, the genotype associated with increased PTSD symptoms in one racial group had the opposite association in the other racial group. For AA children the met/met genotype was associated with more PTSD symptoms. However, for EA children, val allele carriers had more PTSD symptoms. Whereas every AA child with the met/met genotype met criteria for PTSD, none of the EA children with the met/met genotype did. This genetic association with COMT genotype, in both races but in opposite directions, was most associated with increased arousal symptoms. CONCLUSIONS: These findings replicate previous findings in participants of African descent, highlight the moderating effect of race on the association between COMT genotype and PTSD, and provide direct evidence that consideration of population stratification within gene-by-environment studies is valuable to prevent false negative findings.

Jepsen, E. K., W. Langeland, et al. (2014). "Early traumatized inpatients high in psychoform and somatoform dissociation: characteristics and treatment response." *J Trauma Dissociation* 15(5): 572-587.

This study examined the clinical relevance of differences in psychoform and somatoform dissociative symptoms in 55 early traumatized inpatients. The high psychoform and somatoform dissociative group (n = 18), somatoform dissociative group (n = 22), and nondissociative group (n = 15) did not differ on abuse severity, depressive symptoms, interpersonal problems, Axis I or II comorbidity, or deterioration rates. Compared to the other 2 groups, the highly dissociative group was characterized by younger age, living alone, higher levels of posttraumatic and general distress, more frequent reports of suicidality, self-mutilation, eating problems, and less favorable treatment response. The results highlight the clinical relevance of using dissociation measures for identifying subgroups of patients with severe psychopathology who may be more treatment resistant.

Jeter, W. K. and L. A. Brannon (2014). "Moving beyond "sticks and stones": chronic psychological trauma predicts posttraumatic stress symptoms." *J Trauma Dissociation* 15(5): 548-556.

To date, trauma research has focused on the impact of physical trauma on posttraumatic stress (PTS) symptoms. Sometimes psychological trauma is measured with instances of physical trauma; however, less is known about solely psychological trauma. The current study addresses this by examining psychological trauma and PTS symptoms using the chronic relational trauma (CRT) model. The CRT model examines physical and possible concurrent psychological childhood, peer, and intimate partner trauma; however, psychological trauma alone has yet to be tested. A total of 232 female undergraduates (M age = 18.32, SD = 1.60) completed a series of questionnaires. Structural equation modeling indicated that childhood, peer, and intimate partner psychological trauma predict current PTS symptoms. Contributions of these findings are discussed.

Jones, A. M., K. M. Shealy, et al. (2014). "Guidelines for establishing a telemental health program to provide evidence-based therapy for trauma-exposed children and families." *Psychol Serv* 11(4): 398-409.

Although similar rates of traumatic experiences exist in both rural and urban settings, mental health resources available to those living in rural areas are often scarce. Limited resources pose a problem for children and families living in rural areas, and several barriers to service access and utilization exist including reduced anonymity, few "after hours" services, decreased availability of evidence-based treatments, few specialty clinics, and expenses associated with travel, taking time off work, and provision of childcare. As a solution, the authors discuss the utility, use, and set-up of a telemental health program within an existing community outreach program. Suggestions for establishing a telemental health clinic are presented along with guidelines for the delivery of trauma-focused, cognitive-behavioral therapy (TF-CBT) via telemental health videoconferencing technology. Specific guidelines discussed include (1) establishing and using community partnerships, (2) Memoranda of Understanding (MOU), (3) equipment setup and technological resources, (4) videoconferencing software, (5) physical setup, (6) clinic administration, (7) service reimbursement and start-up costs, (8) therapy delivery modifications, and (9) delivering culturally competent services to rural and remote areas.

Kadra, G., K. Dean, et al. (2014). "Investigating exposure to violence and mental health in a diverse urban community sample: data from the South East London Community Health (SELCoH) survey." *PLoS One* 9(4): e93660.

BACKGROUND: General population surveys have seldom examined violence as a multidimensional concept and in relation to an array of mental disorders. **METHODS:** Data from the South East London Community Health Study was used to examine the prevalence, overlap and distribution of proximal witnessed, victimised and perpetrated violence and their association with current mental disorders. We further investigated the cumulative effect of lifetime exposure to violence on current mental disorders. Unadjusted and adjusted (for confounders and violence) models were examined. **RESULTS:** In the last twelve months, 7.4% reported witnessing violence, 6.3% victimisation and 3.2% perpetration of violence. There was a significant overlap across violence types, with some shared correlates across the groups such as being younger and male. Witnessing violence in the past year was associated with current common mental disorders (CMD) and post-traumatic stress disorder (PTSD) symptoms. Proximal perpetration was associated with current CMD, PTSD symptoms and past 12 months drug use; whereas proximal victimisation was associated with lifetime and past 12 months drug use. Lifetime exposure to two or more types of violence was associated with increased risk for all mental health outcomes, suggesting a cumulative effect. **CONCLUSION:** Exposure to violence needs to be examined in a multi-faceted manner: i) as discrete distal and proximal events, which may have distinct patterns of association with mental health and ii) as a concept with different but overlapping dimensions, thus also accounting for possible cumulative effects.

Kaske, S., R. Lefering, et al. (2014). "Quality of life two years after severe trauma: a single-centre evaluation." *Injury* 45 Suppl 3: S100-105.

INTRODUCTION: Trauma related injuries are a main cause for long-lasting morbidity and disability especially in younger patients with their productive years ahead. On a routine basis, we assessed health related quality of life two years after trauma of severely injured patients at our level-I trauma centre via posted survey. **PATIENTS AND METHODS:** The posted survey included (1) POLO-Chart questionnaire with European Quality of Life (EuroQoL), Short Form Health Survey-36 (SF 36) and the recently developed and validated Trauma Outcome Profile (TOP) combined with (2) single centre data according to TraumaRegister DGU((R)) data sets including trauma mechanism, injuries and initial treatment. Inclusion criteria were severely injured patients ≥ 18 years, treated between 2008 and 2010. Exclusion criteria were death, cognitive impairment, lack of German language and denial of participation. **RESULTS:** 129 datasets were eligible for analysis reflecting a typical trauma collective with mean age 44 years, predominantly male (67%), mean ISS 22 and 98% blunt trauma. Two years after trauma, 62% of the patients reported of relevant remaining pain and 64% of severe functional deficit in at least one body region. Sixty-four percent of the patients suffered from decreased overall quality of life (EuroQoL ≤ 0.8). Additionally, all domains of SF-36 were impaired compared to an age and gender adjusted cohort of healthy individuals, especially domains of pain and activity of daily living. These impairments were associated with decreased 'social functioning'

and 'emotional role functioning'. TOP results confirmed these findings: Quality of life was decreased in almost every dimension. TOP additionally identified sequels especially in domains of "Mental Functioning" and impairments in psychological recovery including post-traumatic stress disorder, depression and anxiety. Socioeconomic impairments were frequent including further hospitalisations (62%), duration of inability to work \geq 6 month (54%), financial disadvantages (45%) and work loss (26%). CONCLUSION: Our results demonstrate that multiple trauma patients two years after injury suffer from impairments including persisting pain, functional deficits, mental and socioeconomic deficits. The 'Trauma Outcome Profile' instrument seems a proper tool to discover impairments in trauma patients early on and guide proper rehabilitation resources to the best of the patient.

Kassam-Adams, N., M. L. Marsac, et al. (2015). "Pilot Randomized Controlled Trial of a Novel Web-Based Intervention to Prevent Posttraumatic Stress in Children Following Medical Events." *J Pediatr Psychol*.

OBJECTIVE: To assess feasibility and estimate effect size of a self-directed online intervention designed to prevent persistent posttraumatic stress after acute trauma. **METHODS:** Children aged 8-12 years with a recent acute medical event were randomized to the intervention (N = 36) or a 12-week wait list (N = 36). Posttraumatic stress, health-related quality of life, appraisals, and coping were assessed at baseline, 6, 12, and 18 weeks. **RESULTS:** Most children used the intervention; half completed it. Medium between-group effect sizes were observed for change in posttraumatic stress severity from baseline to 6 weeks ($d = -.68$) or 12 weeks ($d = -.55$). Exploratory analyses suggest greatest impact for at-risk children, and a small effect for intervention initiated after 12 weeks. Analysis of covariance did not indicate statistically significant group differences in 12-week outcomes. **CONCLUSIONS:** This pilot randomized controlled trial provides preliminary evidence that a self-directed online preventive intervention is feasible to deliver, and could have an effect in preventing persistent posttraumatic stress.

Kelly, J. M., E. Jakubovski, et al. (2015). "Prognostic subgroups for remission and response in the Coordinated Anxiety Learning and Management (CALM) trial." *J Clin Psychiatry* 76(3): 267-278.

OBJECTIVE: Most patients with anxiety disorders receive treatment in primary care settings. Limited moderator data are available to inform clinicians of likely prognostic outcomes for individual patients. We identify baseline characteristics associated with outcome in adults seeking treatment for anxiety disorders. **METHOD:** We conducted an exploratory moderator analysis from the Coordinated Anxiety Learning and Management (CALM) trial. In the CALM trial, 1,004 adults who met DSM-IV criteria for generalized anxiety disorder (GAD), panic disorder, social anxiety disorder, and/or posttraumatic stress disorder (PTSD) were randomized to usual care (UC) or a collaborative care intervention (ITV) of cognitive-behavioral therapy and/or pharmacotherapy between June 2006 and April 2008. Logistic regression was used to examine baseline characteristics associated with remission and response overall and by treatment condition. Receiver operating curve (ROC) analyses identified subgroups associated with similar likelihood of response and remission of global anxiety symptoms. Remission was defined as score < 6 on the 12-item Brief Symptom Inventory (BSI-12)

anxiety and somatization subscales. Response was defined as at least 50% reduction on BSI-12, or meeting remission criteria. RESULTS: Randomization to ITV over UC was often the strongest predictor of outcome. Several baseline patient characteristics were associated with poor treatment outcome including comorbid depression, increased severity of underlying anxiety disorder(s) ($P < .001$), low socioeconomic status (perceived [$P < .001$] and actual [$P < .05$]), and limited social support ($P < .001$). Patient characteristics associated with particular benefit from ITV were being female ($P < .05$), increased depression ($P < .01$)/GAD severity ($P < .05$), and low socioeconomic status ($P < .05$). ROC analysis demonstrated prognostic subgroups with large differences in response likelihood. CONCLUSIONS: Further research should focus on the effectiveness of implementing the ITV intervention of CALM in community treatment centers where patients typically are of low socioeconomic status and may particularly benefit from ITV. TRIAL REGISTRATION: ClinicalTrials.gov identifier: NCT00347269.

Klosky, J. L., K. R. Krull, et al. (2014). "Relations between posttraumatic stress and posttraumatic growth in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study." *Health Psychol* 33(8): 878-882.

OBJECTIVE: Contemporary models of trauma suggest that posttraumatic stress and growth should be related and that symptoms of stress resulting from a perceived trauma (e.g., childhood cancer) are prerequisite for posttraumatic growth (PTG) to occur. However, empirical data regarding the relationship of posttraumatic stress and growth have been equivocal. The purpose of this study is to examine the relationship between posttraumatic stress symptoms (PTSS) and PTG among adult survivors of childhood cancer. METHODS: Survey methods were used to collect data from 6,162 survivors participating in the Childhood Cancer Survivor Study (CCSS). Nonparametric correlation was examined pairwise between PTG and PTSS using Spearman's correlation coefficient with 95% confidence intervals, with nonlinear canonical correlation analysis being conducted to examine relationships between subscales. A multivariable partial proportional odds model was also fit for PTG total quartiles focusing on associations with PTSS total quartiles while adjusting for sociodemographic and medical variables. RESULTS: Examination of unadjusted PTSS and PTG total scores revealed a Spearman correlation of 0.11 ($p < .001$), with coefficients ranging from 0.03 to 0.17 between total and subscale scores. The nonlinear canonical correlation analyses resulted in two dimensions with eigenvalues of 0.15 and 0.14, resulting in a fit value of 0.30 and evidence that little variability in the data (15%) was explained by the weighted combinations of the variables. CONCLUSIONS: Although statistically significant, these results do not indicate a robust relationship between PTSS and PTG among adult survivors of childhood cancer. Theories suggesting that PTSS is a prerequisite for PTG should be reconsidered.

Kohrt, B. A., C. M. Worthman, et al. (2015). "Cross-cultural gene- environment interactions in depression, post-traumatic stress disorder, and the cortisol awakening response: FKBP5 polymorphisms and childhood trauma in South Asia GxE interactions in South Asia." *Int Rev Psychiatry*: 1-17.

Despite increased attention to global mental health, psychiatric genetic research has been dominated by studies in high-income countries, especially with populations of European descent. The objective of this study was to assess single nucleotide polymorphisms (SNPs) in the FKBP5 gene in a population living in South Asia. Among adults in Nepal, depression was assessed with the Beck Depression Inventory (BDI), post-traumatic stress disorder (PTSD) with the PTSD Checklist-Civilian Version (PCL-C), and childhood maltreatment with the Childhood Trauma Questionnaire (CTQ). FKBP5 SNPs were genotyped for 682 participants. Cortisol awakening response (CAR) was assessed in a subsample of 118 participants over 3 days. The FKBP5 tag-SNP rs9296158 showed a main effect on depressive symptoms ($p = 0.03$). Interaction of rs9296158 and childhood maltreatment predicted adult depressive symptoms ($p = 0.02$) but not PTSD. Childhood maltreatment associated with endocrine response in individuals homozygous for the A allele, demonstrated by a negative CAR and overall hypocortisolaemia in the rs9296158 AA genotype and childhood maltreatment group ($p < 0.001$). This study replicated findings related to FKBP5 and depression but not PTSD. Gene-environment studies should take differences in prevalence and cultural significance of phenotypes and exposures into account when interpreting cross-cultural findings.

Lee, D. J., G. I. Liverant, et al. (2014). "PTSD and reasons for living: associations with depressive symptoms and alcohol use." *Psychiatry Res* 219(3): 550-555.

Posttraumatic stress disorder (PTSD) is associated with suicidal ideation and behavior, and is found to frequently co-occur with other conditions that exacerbate the risk for suicidal behavior. Despite these findings, few individuals with PTSD engage in suicidal acts, and there has been little research to examine those factors that protect against such behaviors. The current study used path analysis to examine the association among PTSD, depression, hazardous alcohol consumption, and beliefs about suicide (i.e., reasons for living) in a community sample with motor vehicle accident related-PTSD ($N=50$). Reasons for living were inversely associated with PTSD, depression, and alcohol use. Further, depression symptom severity accounted for the association between PTSD symptom severity and reasons for living. In contrast, hazardous alcohol consumption only demonstrated a trend for accounting for the association between PTSD and reasons for living. Our findings highlight the importance of clinicians assessing co-occurring depression symptoms and suggest the potential use of interventions that promote adaptive cognitions about suicide among people with PTSD.

Lewis, G. C., T. F. Platts-Mills, et al. (2014). "Incidence and predictors of acute psychological distress and dissociation after motor vehicle collision: a cross-sectional study." *J Trauma Dissociation* 15(5): 527-547.

OBJECTIVE: We examined the incidence and predictors of peritraumatic distress and dissociation after one of the most common forms of civilian trauma exposure: motor vehicle collision (MVC). **METHOD:** In this study, patients presenting to the emergency department after MVCs who were without serious injury and discharged to home after evaluation ($n = 935$) completed an emergency department interview evaluating sociodemographic, collision-related, and psychological

characteristics. RESULTS: The incidence and predictors of distress (Peritraumatic Distress Inventory score ≥ 23) and dissociation (Michigan Critical Events Perception Scale score >3) were assessed. Distress was present in 355 of 935 patients (38%), and dissociation was present in 260 of 942 patients (28%). These outcomes showed only moderate correlation ($r = .45$) and had both shared and distinct predictors. Female gender, anxiety symptoms prior to the MVC, and vehicle damage severity predicted both distress and dissociation. Higher socioeconomic status (higher education, higher income, full-time employment) had a protective effect against distress but not dissociative symptoms. Better physical health and worse overall mental health were associated with increased risk of dissociation but not distress. Distress but not dissociation was associated with lower patient confidence in recovery and a longer expected duration of recovery. CONCLUSION: There are unique predictors of peritraumatic distress and dissociation. Further work is needed to better understand the neurobiology of peritraumatic distress and dissociation and the influence of these peritraumatic outcomes on persistent psychological sequelae.

Lin, K. H., P. C. Chu, et al. (2014). "Psychiatric disorders after occupational injury among National Health Insurance enrollees in Taiwan." *Psychiatry Res* 219(3): 645-650.

This study aimed to determine the incidence rates of psychiatric disorders within 1 year after occupational injury and to examine the association between occupational injury and the incidence of psychiatric disorders using National Health Insurance Research Database (NHIRD). We used cohort approach in this investigation. All eligible subjects were from the NHIRD, and aged 18-65 years old. A total of 542,208 patients were enrolled in this study. Among them, 1038 patients sustained occupational injury, 6891 patients sustained non-occupational injury. The reference group in this study was 534,279 patients who ever used the NHI for any medical condition in 2001. The incidence rates of any psychiatric disorders within 1 year after occupational injury (inpatient), occupational injury (outpatient), non-occupational injury (inpatient), non-occupational injury (outpatient), and any disease were 9.5%, 2.5%, 7.4%, 1.5%, and 1.1%, respectively. Occupational injury was found as a significant factor for developing psychiatric disorders within 1 year after the target injury. The incidence rate of any psychiatric disorders was higher in patients after occupational injury than those after non-occupational injury and any medical condition.

Lindauer, R. J., S. N. Brilleslijper-Kater, et al. (2014). "The Amsterdam Sexual Abuse Case (ASAC)-study in day care centers: longitudinal effects of sexual abuse on infants and very young children and their parents, and the consequences of the persistence of abusive images on the internet." *BMC Psychiatry* 14: 295.

BACKGROUND: Little research has been done on the signs of child sexual abuse (CSA) in infants and very young children, or on the consequences that such abuse - including the persistence of the abusive pornographic images on the internet - might have for the children and their parents. The effects of CSA can be severe, and a variety of risk- and protective factors, may influence those effects. CSA may affect the psychosocial-, emotional-, cognitive-, and physical development of children, their relationships with their parent(s), and the relations between parents. In the so called

'the Amsterdam sexual abuse case' (ASAC), infants and very young children were victimized by a day-care employee and most of the victims were boys. Research involving the children and their parents would enable recognition of the signs of CSA in very young children and understanding the consequences the abuse might have on the long term. METHODS/DESIGN: The proposed research project consists of three components: (I) An initial assessment to identify physical- or psychological signs of CSA in infants and very young children who are thought to have been sexually abused (n = 130); (II) A cross-sequential longitudinal study of children who have experienced sexual abuse, or for whom there are strong suspicions; (III) A qualitative study in which interviews are conducted with parents (n = 25) and with therapists treating children from the ASAC. Parents will be interviewed on the perceived condition of their child and family situation, their experiences with the service responses to the abuse, the effects of legal proceedings and media attention, and the impact of knowing that pornographic material has been disseminated on the internet. Therapists will be interviewed on their clinical experiences in treating children and parents. The assessments will extend over a period of several years. The outcome measures will be symptoms of posttraumatic stress disorder (PTSD), dissociative symptoms, age-inappropriate sexual behaviors and knowledge, behavioral problems, attachment disturbances, the quality of parent-child interaction, parental PTSD, parental partner relation, and biological outcomes (BMI and DNA). DISCUSSION: The ASAC-project would facilitate early detection of symptoms and prompt therapeutic intervention when CSA is suspected in very young children.

Matanov, A., D. Giacco, et al. (2013). "Subjective quality of life in war-affected populations." *BMC Public Health* 13: 624.

BACKGROUND: Exposure to traumatic war events may lead to a reduction in quality of life for many years. Research suggests that these impairments may be associated with posttraumatic stress symptoms; however, wars also have a profound impact on social conditions. Systematic studies utilising subjective quality of life (SQOL) measures are particularly rare and research in post-conflict settings is scarce. Whether social factors independently affect SQOL after war in addition to symptoms has not been explored in large scale studies. **METHOD:** War-affected community samples were recruited through a random-walk technique in five Balkan countries and through registers and networking in three Western European countries. The interviews were carried out on average 8 years after the war in the Balkans. SQOL was assessed on Manchester Short Assessment of Quality of Life-MANSA. We explored the impact of war events, posttraumatic stress symptoms and post-war environment on SQOL. **RESULTS:** We interviewed 3313 Balkan residents and 854 refugees in Western Europe. The MANSA mean score was 4.8 (SD = 0.9) for the Balkan sample and 4.7 (SD = 0.9) for refugees. In both samples participants were explicitly dissatisfied with their employment and financial situation. Posttraumatic stress symptoms had a strong negative impact on SQOL. Traumatic war events were directly linked with lower SQOL in Balkan residents. The post-war environment influenced SQOL in both groups: unemployment was associated with lower SQOL and recent contacts with friends with higher SQOL. Experiencing more migration-related stressors was linked to poorer SQOL in refugees. **CONCLUSION:** Both posttraumatic stress symptoms and aspects of the post-war environment independently influence SQOL in war-affected populations. Aid programmes to

improve wellbeing following the traumatic war events should include both treatment of posttraumatic symptoms and social interventions.

McLaughlin, K. A., D. S. Busso, et al. (2014). "Amygdala response to negative stimuli predicts PTSD symptom onset following a terrorist attack." *Depress Anxiety* 31(10): 834-842.

OBJECTIVE: Individuals with posttraumatic stress disorder (PTSD) exhibit heightened amygdala reactivity and atypical activation patterns in the medial prefrontal cortex (mPFC) in response to negative emotional information. It is unknown whether these aspects of neural function are risk factors for PTSD or consequences of either trauma exposure or onset of the disorder. We had a unique opportunity to investigate this issue following the terrorist attacks at the 2013 Boston Marathon and the ensuing manhunt and shelter in place order. We examined associations of neural function measured prior to the attack with PTSD symptom onset related to these events. **METHODS:** A sample of 15 adolescents (mean age = 16.5 years) who previously participated in a neuroimaging study completed a survey assessing posttraumatic symptoms related to the terrorist attack. We examined blood oxygen level dependent (BOLD) response to viewing and actively down-regulating emotional responses to negative stimuli in regions previously associated with PTSD, including the amygdala, hippocampus, and mPFC, as prospective predictors of posttraumatic symptom onset. **RESULTS:** Increased BOLD signal to negative emotional stimuli in the left amygdala was strongly associated with posttraumatic symptoms following the attack. Reduced bilateral hippocampal activation during effortful attempts to down-regulate emotional responses to negative stimuli was also associated with greater posttraumatic symptoms. Associations of amygdala reactivity with posttraumatic symptoms were robust to controls for pre-existing depression, anxiety, and PTSD symptoms and prior exposure to violence. **CONCLUSIONS:** Amygdala reactivity to negative emotional information might represent a neurobiological marker of vulnerability to traumatic stress and, potentially, a risk factor for PTSD.

Meisel, F. L. (2012). "Iatrogenic trauma masquerading as autistic spectrum disorder. The use of psychodynamic psychotherapy in overcoming a persistent developmental interference in a four-year-old boy." *Psychoanal Study Child* 66: 125-139.

Morath, J., M. Moreno-Villanueva, et al. (2014). "Effects of psychotherapy on DNA strand break accumulation originating from traumatic stress." *Psychother Psychosom* 83(5): 289-297.

BACKGROUND: Previous research reveals an association between traumatic stress and an increased risk for numerous diseases, including cancer. At the molecular level, stress may increase carcinogenesis via increased DNA damage and impaired DNA repair mechanisms. We assessed DNA breakage in peripheral blood mononuclear cells from individuals with post-traumatic stress disorder (PTSD) and measured the cellular capacity to repair single-strand breaks after exposure to ionizing X-radiation. We also investigated the effect of psychotherapy on both DNA breakage and DNA repair. **METHODS:** In a first study we investigated DNA breakage and repair in 34 individuals with PTSD and 31 controls. Controls were subdivided into 11 trauma-exposed subjects and 20 individuals without

trauma exposure. In a second study, we analysed the effect of psychotherapy (Narrative Exposure Therapy) on DNA breakage and repair. Thirty-eight individuals with PTSD were randomly assigned to either a treatment or a waitlist control condition. Follow-up was performed 4 months and 1 year after therapy. **RESULTS:** In study 1 we found higher levels of basal DNA breakage in individuals with PTSD and trauma-exposed subjects than in controls, indicating that traumatic stress is associated with DNA breakage. However, single-strand break repair was unimpaired in individuals with PTSD. In study 2, we found that psychotherapy reversed not only PTSD symptoms, but also DNA strand break accumulation. **CONCLUSION:** Our results show - for the first time in vivo - an association between traumatic stress and DNA breakage; they also demonstrate changes at the molecular level, i.e., the integrity of DNA, after psychotherapeutic interventions.

Nothling, J., K. Lammers, et al. (2015). "Traumatic dissociation as a predictor of posttraumatic stress disorder in South African female rape survivors." *Medicine (Baltimore)* 94(16): e744.

Women survivors of rape are at an increased risk for posttraumatic stress disorder (PTSD). Traumatic dissociation has been identified as a precursor of PTSD. This study assessed the predictive potential of traumatic dissociation in PTSD and depression development. The study followed a longitudinal, prospective design. Ninety-seven female rape survivors were recruited from 2 clinics in Cape Town, South Africa. Clinical interviews and symptom status assessments of the participants were completed to measure dissociation, childhood traumas, resilience, depression, and PTSD. Traumatic dissociation was a significant predictor of PTSD and depression. The linear combination of prior dissociation, current dissociation, and resilience significantly explained 20.7% of the variance in PTSD. Dissociation mediated the relationship between resilience and PTSD. As traumatic dissociation significantly predicts PTSD, its early identification and management may reduce the risk of developing PTSD. Interventions focused on promoting resilience may also be successful in reducing the risk of dissociation following rape.

Park, S., J. P. Hong, et al. (2014). "Impact of childhood exposure to psychological trauma on the risk of psychiatric disorders and somatic discomfort: single vs. multiple types of psychological trauma." *Psychiatry Res* 219(3): 443-449.

We examined whether childhood exposure to multiple types of potentially traumatic events (PTEs) relative to a single type of PTE is associated with a higher prevalence of psychiatric disorders and greater somatic discomfort in Korean adults. The Composite International Diagnostic Interview 2.1 (K-CIDI 2.1) was administered to 6027 subjects aged 18-74 years. Subjects who experienced a traumatic event before the age of 18 years, the childhood trauma exposure group, were compared with controls without childhood exposure to PTEs. In the childhood trauma exposure group, subjects who experienced only a single type of PTE and subjects who experienced two or more types of PTEs were compared further. Childhood exposure to PTEs was linked to a wide range of psychiatric comorbidities, with a higher risk for exposure to multiple types of PTEs than for exposure to a single type of PTE. Obsessive-compulsive disorder, generalized anxiety disorder, and somatoform disorder were significantly associated with exposure to multiple types of PTEs but not with exposure to a

single type of PTE. Exposure to multiple types of PTEs was associated with reports of marked fatigue and pain. Future research should examine the psychiatric sequelae associated with various types of childhood PTEs.

Pietrzak, R. H., J. A. Sumner, et al. (2015). "Association of the rs2242446 polymorphism in the norepinephrine transporter gene SLC6A2 and anxious arousal symptoms of posttraumatic stress disorder." *J Clin Psychiatry* 76(4): e537-538.

Racin, P. R., C. Bellonci, et al. (2014). "Expanded usage of prazosin in pre-pubertal children with nightmares resulting from posttraumatic stress disorder." *J Child Adolesc Psychopharmacol* 24(8): 458-461.

Rahim, M. (2014). "Developmental trauma disorder: an attachment-based perspective." *Clin Child Psychol Psychiatry* 19(4): 548-560.

Despite the evidence linking chronic early trauma with psychological distress, the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5) has excluded developmental trauma disorder from its taxonomy. This article considers developmental trauma from an attachment-based perspective and raises some of the difficulties professionals may experience conceptualising the trauma-attachment relationship. It explores the impact of the decision to exclude the diagnosis from DSM-5 on professionals, those who have had traumatic early experiences and their carers. Finally, it presents formulation as an alternative proposition which may better suit those who present to mental health services with attachment- and trauma-linked difficulties.

Renneberg, B., S. Ripper, et al. (2014). "Quality of life and predictors of long-term outcome after severe burn injury." *J Behav Med* 37(5): 967-976.

The aim of this study was to identify the long-term quality of life after severe burn injury. In a prospective longitudinal design, N = 265 burn patients were examined 6, 12, 24, and 36 months after burn injury. A multilevel approach was used to measure stability and change in self-reported health status. Besides injury-related variables, self-report instruments included measures of quality of life, psychological distress, personality, and specific burn outcome measures. Fitting of unconditional growth models indicated that there was significant intra- and inter-individual variation in self-reported physical and mental health short form-12. Over the course of 3 years, participants reported on average a slight improvement of physical quality of life. Physical health was mainly predicted by mobility and level of burn severity. Variance in mental health status was mainly predicted by gender, mobility, neuroticism, level of depression and posttraumatic stress disorder (PTSD)-related avoidance. Thus mobility (i.e., simple abilities) seems a crucial variable for overall quality of life. An early identification and treatment of patients with high levels of depression and PTSD-related avoidance may contribute to better mental health.

Riva, R., U. Forinder, et al. (2014). "Patterns of psychological responses in parents of children that underwent stem cell transplantation." *Psychooncology* 23(11): 1307-1313.

OBJECTIVE: Hematopoietic stem cell transplantation (HSCT) is curative in several life-threatening pediatric diseases but may affect children and their families inducing depression, anxiety, burnout symptoms, and post-traumatic stress symptoms, as well as post-traumatic growth (PTG). The aim of this study was to investigate the co-occurrence of different aspects of such responses in parents of children that had undergone HSCT. **METHODS:** Questionnaires were completed by 260 parents (146 mothers and 114 fathers) 11-198 months after HSCT: the Hospital Anxiety and Depression Scale, the Shirom-Melamed Burnout Questionnaire, the post-traumatic stress disorders checklist, civilian version, and the PTG inventory. Additional variables were also investigated: perceived support, time elapsed since HSCT, job stress, partner-relationship satisfaction, trauma appraisal, and the child's health problems. A hierarchical cluster analysis and a k-means cluster analysis were used to identify patterns of psychological responses. **RESULTS:** Four clusters of parents with different psychological responses were identified. One cluster (n = 40) significantly differed from the other groups and reported levels of depression, anxiety, burnout symptoms, and post-traumatic stress symptoms above the cut-off. In contrast, another cluster (n = 66) reported higher levels of PTG than the other groups did. **CONCLUSIONS:** This study shows a subgroup of parents maintaining high levels of several aspects of distress years after HSCT. Differences between clusters might be explained by differences in perceived support, the child's health problems, job stress, and partner-relationship satisfaction.

Ruglass, L. M., D. A. Hien, et al. (2014). "Racial/ethnic match and treatment outcomes for women with PTSD and substance use disorders receiving community-based treatment." *Community Ment Health J* 50(7): 811-822.

This study examined the relationship between racial/ethnic match and treatment outcomes for 224 women who participated in a clinical trial of group treatments for posttraumatic stress disorder (PTSD) and substance use disorders. Generalized estimating equations were used to examine the effect of client-therapist racial/ethnic match on outcomes. Results revealed racial/ethnic match was not significantly associated with session attendance. There was a significant three-way interaction between client race/ethnicity, baseline level of PTSD symptoms, and racial/ethnic match on PTSD outcomes. White clients, with severe PTSD symptoms at baseline, who attended treatment groups where they were matched with their therapist, had greater reductions in PTSD symptoms at follow-up than their counterparts who were racially/ethnically mismatched with their group therapist. Racial/ethnic match did not confer additional benefits for Black clients in terms of PTSD outcomes. Racial/ethnic match interacted with baseline substance use to differentially influence substance use outcomes at follow-up for all women. Clinical implications are discussed.

Schechter, D. S., D. A. Moser, et al. (2015). "Methylation of NR3C1 is related to maternal PTSD, parenting stress and maternal medial prefrontal cortical activity in response to child separation among mothers with histories of violence exposure." *Front Psychol* 6: 690.

Prior research has shown that mothers with Interpersonal violence-related posttraumatic stress disorder (IPV-PTSD) report greater difficulty in parenting their toddlers. Relative to their frequent early exposure to violence and maltreatment, these mothers display dysregulation of their hypothalamic pituitary adrenal axis (HPA-axis), characterized by hypocortisolism. Considering methylation of the promoter region of the glucocorticoid receptor gene NR3C1 as a marker for HPA-axis functioning, with less methylation likely being associated with less circulating cortisol, the present study tested the hypothesis that the degree of methylation of this gene would be negatively correlated with maternal IPV-PTSD severity and parenting stress, and positively correlated with medial prefrontal cortical (mPFC) activity in response to video-stimuli of stressful versus non-stressful mother-child interactions. Following a mental health assessment, 45 mothers and their children (ages 12-42 months) participated in a behavioral protocol involving free-play and laboratory stressors such as mother-child separation. Maternal DNA was extracted from saliva. Interactive behavior was rated on the CARE-Index. During subsequent fMRI scanning, mothers were shown films of free-play and separation drawn from this protocol. Maternal PTSD severity and parenting stress were negatively correlated with the mean percentage of methylation of NR3C1. Maternal mPFC activity in response to video-stimuli of mother-child separation versus play correlated positively to NR3C1 methylation, and negatively to maternal IPV-PTSD and parenting stress. Among interactive behavior variables, child cooperativeness in play was positively correlated with NR3C1 methylation. Thus, the present study is the first published report to our knowledge, suggesting convergence of behavioral, epigenetic, and neuroimaging data that form a psychobiological signature of parenting-risk in the context of early life stress and PTSD.

Shaw, R. J., E. A. Lilo, et al. (2014). "Screening for symptoms of postpartum traumatic stress in a sample of mothers with preterm infants." *Issues Ment Health Nurs* 35(3): 198-207.

There are no established screening criteria to help identify mothers of premature infants who are at risk for symptoms of emotional distress. The current study, using data obtained from recruitment and screening in preparation for a randomized controlled trial, aimed to identify potential risk factors associated with symptoms of depression, anxiety and posttraumatic stress in a sample of mothers with premature infants hospitalized in a neonatal intensive care unit. One hundred, thirty-five mothers of preterm infants born at 26-34 weeks of gestation completed three self-report measures: the Stanford Acute Stress Reaction Questionnaire, the Beck Depression Inventory (2nd ed.), and the Beck Anxiety Inventory to determine their eligibility for inclusion in a treatment intervention study based on clinical cut-off scores for each measure. Maternal sociodemographic measures, including race, ethnicity, age, maternal pregnancy history, and measures of infant medical severity were not helpful in differentiating mothers who screened positive on one or more of the measures from those who screened negative. Programs to screen parents of premature infants for the presence of symptoms of posttraumatic stress, anxiety, and

depression will need to adopt universal screening rather than profiling of potential high risk parents based on their sociodemographic characteristics or measures of their infant's medical severity.

Shin, G. and S. J. Lee (2015). "Mental health and PTSD in female North Korean refugees." *Health Care Women Int* 36(4): 409-423.

This study was conducted to identify mental health status, post-traumatic stress disorder (PTSD), and psychophysiological change in female North Korean refugees. Data were collected using questionnaires and symptom checklists that measured PTSD and the psychosomatic state of the subjects. As many as 97 subjects, who had settled in and around Seoul, South Korea, were selected by snowball sampling. Mental health and PTSD levels of the participants were above a moderate level. We conclude that health care professionals need to provide female North Korean defectors with services to improve mental health and make the sociocultural transition successfully.

Sigurdardottir, S., N. Andelic, et al. (2014). "Identifying longitudinal trajectories of emotional distress symptoms 5 years after traumatic brain injury." *Brain Inj* 28(12): 1542-1550.

PRIMARY OBJECTIVE: To evaluate longitudinal trajectories of emotional distress symptoms after traumatic brain injury (TBI). **RESEARCH DESIGN:** Longitudinal study. **METHODS AND PROCEDURES:** Patients with mild-to-severe TBI, 118 patients participated at 3 months, 109 attended at 1-year and 89 attended the 5-year follow-up. Emotional distress was measured with the Impact of Event Scale-Revised. Patients were also assessed for coping style, anxiety, depression, substance abuse and trauma severity. **MAIN OUTCOMES AND RESULTS:** Based on growth mixture modelling, four trajectories of emotional distress symptoms were identified: 73.5% of patients were characterized by a pattern of resilience, 6.8% by a pattern of delayed distress, 14.6% by recovery and 5.1% by chronic distress. Relative to the resilience trajectory, avoidant-coping style and psychiatric problems were related to recovery and chronic trajectories. The delayed trajectory was similar to the resilience trajectory, except for elevated depressive and anxiety symptoms at 1- and 5-years. Demographics and injury-related variables were not significantly associated with emotional distress trajectories. **CONCLUSIONS:** Resilience was the most common trajectory following TBI. Patients characterized by recovery and chronic trajectories required attention and long-term clinical monitoring of their symptoms. Future research would benefit from longitudinal studies to analyse emotional distress symptoms and the strength of resilience over time.

Siriwardhana, C., G. Pannala, et al. (2013). "Impact of exposure to conflict, tsunami and mental disorders on school absenteeism: findings from a national sample of Sri Lankan children aged 12-17 years." *BMC Public Health* 13: 560.

BACKGROUND: Armed conflicts and natural disasters are common. Millions of people, including children are killed, injured, disabled and displaced as a result. The effects of conflict and natural disaster on mental health, especially of children are well established but effects on education have received less attention. This study investigated associations between conflict and/or tsunami exposure in Sri Lanka and their associations with absenteeism in a national sample of

school children. **METHODS:** A cross-sectional survey was conducted in 2006-7 among 1,505 randomly selected school children aged 12-17 years attending government schools in 17 districts. The hypotheses were that absenteeism would be more common in children previously affected by conflict or the 2004 tsunami and that at least part of this effect would be accounted for by mental disorders. Survey information included socio-demographic, conflict and tsunami exposure, mental health status (Strengths and Difficulties Questionnaire) and information on absenteeism (defined as 20% or greater non-attendance over one year). **RESULTS:** The total sample consisted of 1,505 students aged 12-17 years with a mean age of 13.7 years. 120 children reported at least one conflict exposure and 65 reported at least one tsunami exposure while only 15 reported exposure to both conflict and tsunami. Prevalence of emotional disorder caseness was 2.7%, conduct disorder caseness 5.8%, hyperactivity disorder caseness 0.6%, and 8.5% were identified as having any psychiatric disorder. Absenteeism was present in 26.8%. Overall, previous exposure to tsunami (OR 2.29 95% CI 1.36-3.84) was significantly associated with absenteeism whereas exposure to conflict was not (OR 1.32 95% CI 0.88-1.97), although some specific conflict-related exposures were significant risk factors. Mental disorder was strongly associated with absenteeism but did not account for its association with tsunami or conflict exposure. **CONCLUSIONS:** Exposure to traumatic events may have a detrimental effect on subsequent school attendance. This may give rise to perpetuating socioeconomic inequality and needs further research to inform policy and intervention.

Smith, A. D., G. Jull, et al. (2014). "Cervical radiofrequency neurotomy reduces psychological features in individuals with chronic whiplash symptoms." *Pain Physician* 17(3): 265-274.

BACKGROUND: Individuals with chronic whiplash associated disorder (WAD) demonstrate various psychological features. It has previously been demonstrated that cervical radiofrequency neurotomy (cRFN) resolves psychological distress and anxiety. It is unknown if cRFN also improves or reduces a broader spectrum of psychological substrates now commonly identified in chronic whiplash, such as post-traumatic stress disorder (PTSD) and pain catastrophizing. **OBJECTIVES:** To determine if reducing pain in the cervical spine (following cRFN) significantly reduces psychological features (distress, pain catastrophizing and post-traumatic stress symptoms) in individuals with chronic WAD. **SETTING:** Tertiary spinal intervention centre in Calgary, Alberta, Canada. **STUDY DESIGN:** Prospective observational study of consecutive patients. **METHODS:** **PATIENTS:** Fifty-three individuals with chronic whiplash associated disorder symptoms (Grade 2). **INTERVENTION:** Cervical RFN following successful response to cervical facet joint blockade. Measures were made at 4 time points: 2 prior to RFN, and 1-month and 3-months post-RFN. Psychological measures included the General Health Questionnaire (GHQ-28); Pain Catastrophizing Scale (PCS) and the Post Traumatic Stress Diagnostic Scale (PDS). Self-reported pain (VAS) and disability (NDI) measures were also collected. **RESULTS:** Pain, disability, psychological distress and pain catastrophization significantly decreased at both 1-month and 3 months following cervical RFN. There was no significant change in post-traumatic stress symptom severity ($P = 0.39$). Reducing pain via cRFN was associated with significant improvement in psychological distress and pain catastrophizing, but not posttraumatic stress symptoms. **LIMITATIONS:** Individual administering questionnaires was not blinded to aim(s) of the study. Other psychological features possibly present in WAD were not measured. **CONCLUSION:**

Effective pain relief would seem a crucial element in the management of psychological features associated with chronic WAD. IRB Approval: University of Calgary Conjoint Health Research Ethics Board ID#: E-22082.

Soler, L., M. Forns, et al. (2015). "Relationship between particular areas of victimization and mental health in the context of multiple victimizations in Spanish adolescents." *Eur Child Adolesc Psychiatry* 24(4): 417-425.

The main objective of this paper is to study the relationship between different areas of victimization (e.g., sexual victimization) and psychological symptoms taking into account the full range of victimizations adolescents suffer. The final aim is to contribute further evidence regarding the bias that those studies which focus on just one area of victimization may be introducing into our psychological knowledge. A total of 923 adolescents (62.4% girls) between 14 and 18 years old were recruited from seven secondary schools in Catalonia, Spain. The Youth Self-report and the Juvenile Victimization Questionnaire were employed to assess psychological problems (internalizing and externalizing symptoms) and victimization, respectively. The large majority of adolescents reported having experienced more than one area of victimization. However, Conventional Crime area was the one that was more reported in isolation. Overall, the explicative power of a particular area of victimization was greatly reduced or even lost its significance when the other areas were taken into account. However, some areas remained significant and were different by gender. Clinicians and researchers should take into account the whole range of victimizations adolescents suffer when intending to understand the psychological aftermaths of victimization. Some areas of victimization appear to be more important at explaining particular psychological symptoms, those being Peer and Sibling Victimization in the case of boys, and both Conventional Crime and Internet Victimization in the case of girls.

Soto, C., L. Baezconde-Garbanati, et al. (2015). "Stressful life events, ethnic identity, historical trauma, and participation in cultural activities: Associations with smoking behaviors among American Indian adolescents in California." *Addict Behav* 50: 64-69.

INTRODUCTION: American Indian (AI) adolescents have the highest prevalence of commercial tobacco use of any ethnic group in the United States. This study examines ethnic identity (EI), participation in cultural activities, and stressful life events (SLEs) as correlates of smoking and examines historical trauma (HT) as a mediator of these associations. **METHODS:** California AI youth (N=969, ages 13-19, recruited from 49 tribal youth organizations and cultural activities in urban and reservation areas in California) completed a tobacco survey. Structural equation modeling was used to test a model examining HT as a potential mediator of the associations of EI, participation in cultural activities, and SLEs with cigarette smoking. **RESULTS:** Model fit was adequate. EI, participation in cultural activities, and SLEs predicted HT. HT mediated the associations of participation in cultural activities and SLEs with past-month smoking. Stronger EI predicted greater past-month smoking and this effect was mediated by greater HT. The direct effects from HT to both smoking outcomes were positive and the direct effect from EI to past-month smoking was negative.

CONCLUSIONS: HT is a risk factor for cigarette smoking both directly and in mediating the links of EI, cultural activities, and SLEs. More efforts are needed to help AI youth to process these thoughts and empower themselves to contribute to their own lives and those of their families and communities without resorting to unhealthy addictive behaviors such as commercial tobacco use.

Srinivas, T., A. P. DePrince, et al. (2015). "Links between posttrauma appraisals and trauma-related distress in adolescent females from the child welfare system." *Child Abuse Negl.*

Research on predictors of trauma-related distress in youth has tended to focus on trauma exposure and individual difference characteristics. This study extends previous research by examining the role of posttrauma appraisals in predicting trauma-related distress in a sample of female adolescents with current or prior involvement in the child welfare system and a history of maltreatment. Participants' posttrauma appraisals accounted for unique variance in trauma-related distress, above and beyond key trauma exposure and individual difference variables. Further, posttrauma appraisals of alienation accounted for unique variance in posttraumatic stress, dissociation, and depression symptom severity, and posttrauma appraisals of shame accounted for unique variance in posttraumatic stress symptom severity. These results suggest that posttrauma appraisals may represent an important predictor of trauma-related distress for youth with current or prior involvement in the child welfare system. They also replicate findings in youth and adult literature on interpersonal trauma, lending further support to the existence of specific pathways between certain appraisals and various forms of trauma-related distress. We discuss the implications of our study for trauma-informed practice within the child welfare system.

Tol, W. A., I. H. Komproe, et al. (2014). "School-based mental health intervention for children in war-affected Burundi: a cluster randomized trial." *BMC Med* 12: 56.

BACKGROUND: Armed conflicts are associated with a wide range of impacts on the mental health of children and adolescents. We evaluated the effectiveness of a school-based intervention aimed at reducing symptoms of posttraumatic stress disorder, depression, and anxiety (treatment aim); and improving a sense of hope and functioning (preventive aim). **METHODS:** We conducted a cluster randomized trial with 329 children in war-affected Burundi (aged 8 to 17 (mean 12.29 years, standard deviation 1.61); 48% girls). One group of children (n = 153) participated in a 15-session school-based intervention implemented by para-professionals, and the remaining 176 children formed a waitlist control condition. Outcomes were measured before, one week after, and three months after the intervention. **RESULTS:** No main effects of the intervention were identified. However, longitudinal growth curve analyses showed six favorable and two unfavorable differences in trajectories between study conditions in interaction with several moderators. Children in the intervention condition living in larger households showed decreases on depressive symptoms and function impairment, and those living with both parents showed decreases on posttraumatic stress disorder and depressive symptoms. The groups of children in the waitlist condition showed increases in depressive symptoms. In addition, younger children and those with low levels of exposure to traumatic events in the intervention condition showed improvements on hope. Children in the waitlist

condition who lived on their original or newly bought land showed improvements in hope and function impairment, whereas children in the intervention condition showed deterioration on these outcomes. CONCLUSIONS: Given inconsistent effects across studies, findings do not support this school-based intervention as a treatment for posttraumatic stress disorder and depressive symptoms in conflict-affected children. The intervention appears to have more consistent preventive benefits, but these effects are contingent upon individual (for example, age, gender) and contextual (for example, family functioning, state of conflict, displacement) variables. Results suggest the potential benefit of school-based preventive interventions particularly in post-conflict settings. TRIAL REGISTRATION: The study was registered as ISRCTN42284825.

Weems, C. F., J. D. Russell, et al. (2014). "Memories of traumatic events in childhood fade after experiencing similar less stressful events: results from two natural experiments." *J Exp Psychol Gen* 143(5): 2046-2055.

The long-term stability of youth reports of traumatic events is largely unknown. Translational animal research suggests that there may be an alteration of memories for traumatic events via memory reconsolidation processes, whereas clinical research suggests memory alteration may occur through augmentation by negative emotions. In this report, 2 natural experiments test reconsolidation model and augmentation model predictions about the course of traumatic memories in youth. Data are from 2 prospective studies that assessed reports of an initial traumatic event (Hurricane Katrina) and tested recall both pre and post a similar event (Hurricane Gustav). In the 1st (Sample 1; n = 94, initial Grade 9 followed to 11), youth were assessed at 4 time points: Times 1-3 were 13, 20, and 26 months post-Katrina and then Time 4 was 5 months post-Hurricane Gustav. In the 2nd (Sample 2; n = 141, Grades 4 through 8), youth were assessed at 12 months pre-Gustav (Time 1; 24 months post-Katrina) and then again at 1 month (Time 2) and 8 months (Time 3) post-Gustav. Those with relatively high Gustav exposure showed more stability in their reports of Katrina exposure events, whereas in those with low Gustav exposure, reports of Katrina events decreased. Time spans between recall, age, gender, symptoms of posttraumatic stress disorder, or cognitive/learning ability did not explain changes in the reports. The study provides the 1st long-term data on the consistency of youth reports of disaster-related experiences and provides initial evidence for the ecological validity of memory reconsolidation theory applied to traumatic events in youth.

Zhang, J., S. Zhu, et al. (2015). "Posttraumatic stress disorder and somatic symptoms among child and adolescent survivors following the Lushan earthquake in China: A six-month longitudinal study." *J Psychosom Res* 79(2): 100-106.

OBJECTIVE: To explore somatic conditions in a sample of 2299 child and adolescent survivors of an earthquake and their relationship to posttraumatic stress disorder (PTSD) symptoms. METHODS: The Children's Revised Impact of Event Scale, the Patient Health Questionnaire (PHQ)-13 scale, a short version of PHQ-15 scale that omits two items involving sexual pain/problems and menstrual problems, and a project-developed questionnaire were administered to participants three and six months after the earthquake. RESULTS: Among child and adolescent survivors, the

prevalence rates of probable PTSD were 37.4 and 24.2% three and six months, respectively, after the earthquake. The most common somatic symptoms were trouble sleeping (58.4 and 48.4%), feeling tired or having low energy (52.0 and 46.1%), and stomach pain (45.8 and 45.4%) after three and six months, respectively. Several specific somatic symptoms evaluated three months after the earthquake including trouble sleeping, headache, and shortness of breath were predictors of the overall PTSD symptoms evaluated six months after the earthquake. Additionally, the symptom of hyperarousal evaluated after three months could predict the overall somatic symptoms evaluated after six months. CONCLUSIONS: PTSD and somatic symptoms were common after the earthquake, and a longitudinal association between PTSD and somatic symptoms was detected among child and adolescent survivors. These findings have implications in China and possibly elsewhere.