

## Data supplement

Table DS1 Samples included in the meta-analysis

Sample	Country	n <sup>a</sup>	Age, years Range (mean)	Male %	Exposure	Exclusion criteria <sup>b</sup>	Time since exposure <sup>c</sup>	Informant <sup>d</sup>	Instrument
Ahmad <i>et al</i> (2000) <sup>44</sup>	Sweden	66	6–18 (12.5)	NR	War/refugee experience	A	NR	C	DICA-R
Bal <i>et al</i> (2004) <sup>45</sup>	Belgium	100	11–18 (14.3)	13	Sexual abuse	A, I	≥4 weeks	C	CAPS-CA
Bayarri Fernandez <i>et al</i> (2011) <sup>46</sup>	Spain	144	4–17 (8.4)	61	Domestic violence	NR	≤1 year	C, P	DICA-R
Bosquet Enlow <i>et al</i> (2010) <sup>47</sup>	USA	100	6–18 (13.1)	74	Injury (accidental and non-accidental)	B, C, G	3 months	C	DICA-R
Bui <i>et al</i> (2010) <sup>48,49</sup>	France	103	8–15 (11.7)	53	Road traffic accident	A, D, I	5 weeks	C	CAPS-CA
Catani <i>et al</i> (2009) <sup>50</sup>	Afghanistan	27	8–14 (11.6)	74	Cumulative exposure in Kabul	NR	Mean 29 months	C	CAPS-CA
Chemtob & Carlson (2004) <sup>51</sup>	USA	24	7–17 (11.2)	NR	Domestic violence	NR	>6 months	C	CAPS-CA
Daud <i>et al</i> (2005) <sup>52,53</sup>	Sweden	45	6–17 (11.8)	64	War/refugee experience	NR	>2 years	C	DICA-R
Daviss <i>et al</i> (2000) <sup>54</sup>	USA	48	7–17 (13.5)	65	Injury (accidental)	A, C, E	1–8 months	C	CAPS-CA
Delahanty <i>et al</i> (2005) <sup>55–58</sup>	USA	76	8–18 (13.3)	68	Injury (predominantly accidental)	D, F, I	6–10 weeks	C	CAPS-CA
Erickson <i>et al</i> (2008) <sup>59</sup>	USA	29	12–18 (15.3)	62	Life-threatening illness	I	>1 year post-treatment	C	CAPS-CA
Iselin <i>et al</i> (2010) <sup>60,61</sup>	Australia	184	6–14 (10.8)	69	Traumatic brain injury (accidental)	A, B, F, I	3 months	C	CAPS-CA
Ji <i>et al</i> (2010) <sup>62</sup>	China	358	5–17 (9.4)	56	Animal injury (primarily dog bites)	A, B, E	3 months	C	CAPS-CA
Jones-Alexander <i>et al</i> (2005) <sup>63</sup>	USA	21	8–17 (13.1)	52	Motor vehicle accident	NR	1–55 months (mean 14)	C, P	CPTSDI & DICA-R
Kenardy <i>et al</i> (2006) <sup>64</sup> (partly <sup>65–68</sup> )	Australia	139	6–16 (10.4)	65	Injury (accidental)	A, B, G, I	6 months	P	ADIS-C
Kenardy <i>et al</i> (2006) <sup>64</sup> (partly)	Australia	89	7–15 (10.4)	63	Injury (accidental)	A, B, G, I	1 month	P	ADIS-C
Kolko (1998) <sup>69,70</sup>	USA	90	7–18 (11.6)	39	Physical/sexual abuse	A, I	NR	C	CAPS-CA
Landolt <i>et al</i> (1998) <sup>71</sup>	Switzerland	23	5–16 (10.5)	48	Life-threatening illness or accidental injury	A	6–8 weeks	C	ADIS-C
Landolt <i>et al</i> (2009) <sup>72</sup>	Switzerland	43	7–16 (10.4)	65	Burn injury	A	1–7 years	C	CAPS-CA
Lemos-Miller & Kearney (2006) <sup>73</sup>	USA	90	11–17 (13.8)	60	Maltreatment	NR	Mean 20 months	C	CPTSDI
Linning & Kearney (2004) <sup>73</sup>	USA	55	8–17 (12.7)	42	Physical/sexual maltreatment	NR	≤2 years	C	CPTSDI
MacMillan <i>et al</i> (2009) <sup>74,75</sup>	USA	65	12–16 (14.2)	0	Maltreatment	A, D, E, I	NR	C	K-SADS
Mather <i>et al</i> (2003) <sup>76</sup>	Australia	43	6–15 (9.7)	47	Road traffic accident	A, B, G	6 weeks	P	ADIS-C
Max <i>et al</i> (2011) <sup>77</sup>	USA	141	5–14 (10.1)	71	Traumatic brain injury (accidental)	A, D	6 months	C, P	K-SADS
Meiser-Stedman <i>et al</i> (2005) <sup>78–82</sup>	UK	64	10–16 (14.0)	59	Injury due to assault or motor vehicle accident	A, B, I	6 months	C	ADIS-C
Meiser-Stedman <i>et al</i> (2008a) <sup>7</sup>	UK	60	2–6 (4.6)	52	Motor vehicle accident	A, B, G	6 months	P	ADIS-C
Meiser-Stedman <i>et al</i> (2008b) <sup>7</sup>	UK	48	7–10 (9.3)	53	Motor vehicle accident	A, B, G	6 months	C, P	ADIS-C
Melhem <i>et al</i> (2007) <sup>83–85</sup>	USA	182	7–17 (12.4)	54	Sudden loss of a parent	I	≤1 year (mean 8 months)	C	K-SADS
Nixon <i>et al</i> (2010) <sup>86</sup>	Australia	86	7–17 (12.2)	61	Injury (accidental and non-accidental)	G, I	3 months	C	CAPS-CA
Ostrowski <i>et al</i> (2007) <sup>87,88</sup>	USA	50	8–18 (13.3)	54	Injury (accidental)	I	6 weeks	C	CAPS-CA
Ostrowski <i>et al</i> (2011) <sup>89</sup>	USA	99	8–18 (12.2)	61	Injury (accidental and non-accidental)	A, E	6 weeks	C	CAPS-CA
Pervanidou <i>et al</i> (2007) <sup>90–92</sup>	Greece	57	7–18 (10.9)	68	Motor vehicle accident	A, B, D, E, G, I	1 month	C	K-SADS
Pfeffer <i>et al</i> (2007) <sup>93</sup>	USA	45	4–3 (8.9)	51	Loss of a parent in 9/11	NR	Mean 19 months	C, P	K-SADS
Pine <i>et al</i> (2005) <sup>94–96</sup>	USA	116	6–14 (10.2)	47	Maltreatment	NR	1–7 months	C, P, W	K-SADS
Rees <i>et al</i> (2004) <sup>97</sup>	UK	19	5–18 (10.6)	66	Life-threatening illness/injury	A, B, I	6–12 months	C, P	CAPS-CA
Rosner <i>et al</i> (2012) <sup>36</sup>	Germany	32	10–18 (14.2)	56	Various (foster care children)	A	Mean 82 months	C	CAPS-CA
Samuelson <i>et al</i> (2010) <sup>98</sup>	USA	62	7–16 (11.7)	56	Domestic violence	A, D, E, G, I	NR	C, P	CAPS-CA
Schöfer <i>et al</i> (2006) <sup>99</sup>	Germany	69	8–18 (13.6)	58	Road traffic accident	I	3 months	C	ADIS-C
Stallard <i>et al</i> (1998) <sup>100,101</sup>	UK	116	5–18 (14.0)	57	Road traffic accident	NR	6 weeks	C	CAPS-CA
Suliman <i>et al</i> (2005) <sup>38</sup>	South Africa	50	16–18 (16.5)	32	Various	NR	Mean 40 months	C	K-SADS
Vanderbilt <i>et al</i> (2008) <sup>102</sup>	USA	17	7–17 (11.6)	77	Serious asthma attacks and lifetime events (inner city)	A, B	NR	C	DICA-R
Wechsler-Zimring & Kearney (2011) <sup>25</sup>	USA	84	11–17 (14.5)	44	Serious neglect, sexual/physical maltreatment	A, I	NR	C	CPTSDI
Winston <i>et al</i> (2003) <sup>103–106</sup>	USA	204	8–17 (11.0)	74	Injury (accidental)	A, B, C	3–12 months	C	CAPS-CA

ADIS-C, Anxiety and Depression Interview Schedule for DSM-IV – Child version; C, child; CAPS-CA, Clinician Administered PTSD Scale for Children and Adolescents; CPTSDI, Children's PTSD Inventory; DICA-R, Diagnostic Interview for Children and Adolescents – Revised; K-SADS, Schedule for Affective Disorders and Schizophrenia for School-Age Children – Present and Lifetime version; NR, not reported; P, parent; W, worker.

a. Sample exposed to a traumatic event according to the DSM-IV A1 criterion. When studies had several follow-up assessments we show the first measurement that assessed PTSD at least 1 month after exposure.

b. Code for exclusion criteria: A, cognitive impairment (e.g. 'intellectual impairment', 'mental retardation', developmental disorder); B, insufficient language skills to participate in the assessment; C, living too far away from the hospital; D, prior mental disorder (in some cases specific disorders only); E, current mental disorder/current medication for a mental disorder; F, prior trauma exposure (in some cases child abuse only); G, head injury/traumatic brain injury (e.g. Glasgow Coma Scale below a specified level); H, current medication (specified); I, other.

c. For chronic trauma, this is time since the end of the exposure.

## Additional references

- 44 Ahmad A, Sundelin-Wahlsten V, Sofi MA, Qahar JA, von Knorring AL. Reliability and validity of a child-specific cross-cultural instrument for assessing posttraumatic stress disorder. *Eur Child Adolesc Psychiatry* 2000; **9**: 285–94.
- 45 Bal S, De Bourdeaudhuij I, Crombez G, Van Oost P. Differences in trauma symptoms and family functioning in intra- and extrafamilial sexually abused adolescents. *J Interpers Violence* 2004; **19**: 108–23.
- 46 Bayarri Fernandez E, Ezpeleta L, Granero R, de la Osa N, Domenech JM. Degree of exposure to domestic violence, psychopathology, and functional impairment in children and adolescents. *J Interpers Violence* 2011; **26**: 1215–31.
- 47 Bosquet Enlow M, Kassam-Adams N, Saxe G. The Child Stress Disorders Checklist-Short Form: a four-item scale of traumatic stress symptoms in children. *Gen Hosp Psychiatry* 2010; **32**: 321–7.
- 48 Bui E, Brunet A, Allenou C, Camassel C, Raynaud JP, Claudet I, et al. Peritraumatic reactions and posttraumatic stress symptoms in school-aged children victims of road traffic accident. *Gen Hosp Psychiatry* 2010; **32**: 330–3.
- 49 Bui E, Brunet A, Oliac B, Very E, Allenou C, Raynaud JP, et al. Validation of the Peritraumatic Dissociative Experiences Questionnaire and Peritraumatic Distress Inventory in school-aged victims of road traffic accidents. *Eur Psychiatry* 2011; **26**: 108–11.
- 50 Catani C, Schauer E, Elbert T, Missmahl I, Bette JP, Neuner F. War trauma, child labor, and family violence: life adversities and PTSD in a sample of school children in Kabul. *J Trauma Stress* 2009; **22**: 163–71.
- 51 Chemtob CM, Carlson JG. Psychological effects of domestic violence on children and their mothers. *Int J Stress Management* 2004; **11**: 209–26.
- 52 Daud A, Skoglund E, Rydelius PA. Children in families of torture victims: transgenerational transmission of parents' traumatic experiences to their children. *Int J Soc Welfare* 2005; **14**: 23–32.
- 53 Daud A, af Klinteberg B, Rydelius PA. Resilience and vulnerability among refugee children of traumatized and non-traumatized parents. *Child Adolesc Psychiatry Ment Health* 2008; **2**: 7.
- 54 Daviss WB, Mooney D, Racusin R, Ford JD, Fleischer A, McHugo GJ. Predicting posttraumatic stress after hospitalization for pediatric injury. *J Am Acad Child Adolesc Psychiatry* 2000; **39**: 576–83.
- 55 Delahanty DL, Nugent NR, Christopher NC, Walsh M. Initial urinary epinephrine and cortisol levels predict acute PTSD symptoms in child trauma victims. *Psychoneuroendocrinology* 2005; **30**: 121–8.
- 56 Nugent NR, Christopher NC, Delahanty DL. Emergency medical service and in-hospital vital signs as predictors of subsequent PTSD symptom severity in pediatric injury patients. *J Child Psychol Psychiatry* 2006; **47**: 919–26.
- 57 Nugent NR, Christopher NC, Delahanty DL. Initial physiological responses and perceived hyperarousal predict subsequent emotional numbing in pediatric injury patients. *J Trauma Stress* 2006; **19**: 349–59.
- 58 Nugent NR, Ostrowski S, Christopher NC, Delahanty DL. Parental posttraumatic stress symptoms as a moderator of child's acute biological response and subsequent posttraumatic stress symptoms in pediatric injury patients. *J Pediatr Psychol* 2007; **32**: 309–18.
- 59 Erickson SJ, Gerstle M, Montague EQ. Repressive adaptive style and self-reported psychological functioning in adolescent cancer survivors. *Child Psychiatry Hum Dev* 2008; **39**: 247–60.
- 60 Iselin G, Le Brocque R, Kenardy J, Anderson V, McKinlay L. Which method of posttraumatic stress disorder classification best predicts psychosocial function in children with traumatic brain injury? *J Anxiety Disord* 2010; **24**: 774–9.
- 61 Kenardy J, Le Brocque R, Hendrikz J, Iselin G, Anderson V, McKinlay L. Impact of posttraumatic stress disorder and injury severity on recovery in children with traumatic brain injury. *J Clin Child Adolesc Psychol* 2012; **41**: 5–14.
- 62 Ji L, Xiaowei Z, Chuanlin W, Wei L. Investigation of posttraumatic stress disorder in children after animal-induced injury in China. *Pediatrics* 2010; **126**: e320–4.
- 63 Jones-Alexander J, Blanchard EB, Hickling EJ. Psychophysiological assessment of youthful motor vehicle accident survivors. *Appl Psychophysiol Biofeedback* 2005; **30**: 115–23.
- 64 Kenardy JA, Spence SH, Macleod AC. Screening for posttraumatic stress disorder in children after accidental injury. *Pediatrics* 2006; **118**: 1002–9.
- 65 De Young AC, Kenardy JA, Spence SH. Elevated heart rate as a predictor of PTSD six months following accidental pediatric injury. *J Trauma Stress* 2007; **20**: 751–6.
- 66 Kenardy J, Smith A, Spence SH, Lilley PR, Newcombe P, Dob R, et al. Dissociation in children's trauma narratives: an exploratory investigation. *J Anxiety Disord* 2007; **21**: 456–66.
- 67 Murray BL, Kenardy JA, Spence SH. Brief report. Children's responses to trauma- and nontrauma-related hospital admission: a comparison study. *J Pediatr Psychol* 2008; **33**: 435–40.
- 68 Olsson KA, Kenardy JA, De Young AC, Spence SH. Predicting children's post-traumatic stress symptoms following hospitalization for accidental injury: combining the Child Trauma Screening Questionnaire and heart rate. *J Anxiety Disord* 2008; **22**: 1447–53.
- 69 Kolko DJ. CPS operations and risk assessment in child abuse cases receiving services: initial findings from the Pittsburgh service delivery study. *Child Maltreatment* 1998; **3**: 262–75.
- 70 Kolko DJ, Brown EJ, Berliner L. Children's perceptions of their abusive experience: measurement and preliminary findings. *Child Maltreatment* 2002; **7**: 41–53.
- 71 Landolt MA, Boehler U, Schwager C, Schallberger U, Nuessli R. Post-traumatic stress disorder in paediatric patients and their parents: an exploratory study. *J Paediatr Child Health* 1998; **34**: 539–43.
- 72 Landolt MA, Buehlmann C, Maag T, Schiestl C. Brief report. Quality of life is impaired in pediatric burn survivors with posttraumatic stress disorder. *J Pediatr Psychol* 2009; **34**: 14–21.
- 73 Linning LM, Kearney CA. Post-traumatic stress disorder in maltreated youth: a study of diagnostic comorbidity and child factors. *J Interpers Violence* 2004; **19**: 1087–101.
- 74 MacMillan HL, Georgiades K, Duku EK, Shea A, Steiner M, Niec A, et al. Cortisol response to stress in female youths exposed to childhood maltreatment: results of the youth mood project. *Biol Psychiatry* 2009; **66**: 62–8.
- 75 Miskovic V, Schmidt LA, Georgiades K, Boyle M, Macmillan HL. Adolescent females exposed to child maltreatment exhibit atypical EEG coherence and psychiatric impairment: linking early adversity, the brain, and psychopathology. *Dev Psychopathol* 2010; **22**: 419–32.
- 76 Mather FJ, Tate RL, Hannan TJ. Post-traumatic stress disorder in children following road traffic accidents: a comparison of those with and without mild traumatic brain injury. *Brain Inj* 2003; **17**: 1077–87.
- 77 Max JE, Keatley E, Wilde EA, Bigler ED, Levin HS, Schachar RJ, et al. Anxiety disorders in children and adolescents in the first six months after traumatic brain injury. *J Neuropsychiatry Clin Neurosci* 2011; **23**: 29–39.
- 78 Meiser-Stedman R, Dalgleish T, Glucksman E, Yule W, Smith P. Maladaptive cognitive appraisals mediate the evolution of posttraumatic stress reactions: a 6-month follow-up of child and adolescent assault and motor vehicle accident survivors. *J Abnorm Psychol* 2009; **118**: 778–87.
- 79 Meiser-Stedman R, Smith P, Glucksman E, Yule W, Dalgleish T. Parent and child agreement for acute stress disorder, post-traumatic stress disorder and other psychopathology in a prospective study of children and adolescents exposed to single-event trauma. *J Abnorm Child Psychol* 2007; **35**: 191–201.
- 80 Meiser-Stedman R, Yule W, Smith P, Glucksman E, Dalgleish T. Acute stress disorder and posttraumatic stress disorder in children and adolescents involved in assaults or motor vehicle accidents. *Am J Psychiatry* 2005; **162**: 1381–3.
- 81 Meiser-Stedman RA, Yule W, Dalgleish T, Smith P, Glucksman E. The role of the family in child and adolescent posttraumatic stress following attendance at an emergency department. *J Pediatr Psychol* 2006; **31**: 397–402.
- 82 Perrin S, Meiser-Stedman R, Smith P. The Children's Revised Impact of Event Scale (CRIES): validity as a screening instrument for PTSD. *Behav Cogn Psychother* 2005; **33**: 487.
- 83 Melhem NM, Moritz G, Walker M, Shear MK, Brent D. Phenomenology and correlates of complicated grief in children and adolescents. *J Am Acad Child Adolesc Psychiatry* 2007; **46**: 493–9.
- 84 Melhem NM, Porta G, Shamseddeen W, Walker Payne M, Brent DA. Grief in children and adolescents bereaved by sudden parental death. *Arch Gen Psychiatry* 2011; **68**: 911–9.
- 85 Melhem NM, Walker M, Moritz G, Brent DA. Antecedents and sequelae of sudden parental death in offspring and surviving caregivers. *JAMA Pediatr* 2008; **162**: 403–10.
- 86 Nixon RD, Ellis AA, Nehmy TJ, Ball SA. Screening and predicting posttraumatic stress and depression in children following single-incident trauma. *J Clin Child Adolesc Psychol* 2010; **39**: 588–96.
- 87 Ostrowski SA, Christopher NC, Delahanty DL. Brief report. The impact of maternal posttraumatic stress disorder symptoms and child gender on risk for persistent posttraumatic stress disorder symptoms in child trauma victims. *J Pediatr Psychol* 2007; **32**: 338–42.
- 88 Ostrowski SA, Christopher NC, van Dulmen MH, Delahanty DL. Acute child and mother psychophysiological responses and subsequent PTSD symptoms following a child's traumatic event. *J Trauma Stress* 2007; **20**: 677–87.

- 89 Ostrowski SA, Ciesla JA, Lee TJ, Irish L, Christopher NC, Delahanty DL. The impact of caregiver distress on the longitudinal development of child acute post-traumatic stress disorder symptoms in pediatric injury victims. *J Pediatr Psychol* 2011; **36**: 806–15.
- 90 Kolaitis G, Giannakopoulos G, Liakopoulou M, Pervanidou P, Charitaki S, Mihas C, et al. Predicting pediatric posttraumatic stress disorder after road traffic accidents: the role of parental psychopathology. *J Trauma Stress* 2011; **24**: 414–21.
- 91 Pervanidou P, Kolaitis G, Charitaki S, Lazaropoulou C, Papassotiriou I, Hindmarsh P, et al. The natural history of neuroendocrine changes in pediatric posttraumatic stress disorder (PTSD) after motor vehicle accidents: progressive divergence of noradrenaline and cortisol concentrations over time. *Biol Psychiatry* 2007; **62**: 1095–102.
- 92 Pervanidou P, Kolaitis G, Charitaki S, Margeli A, Ferentinos S, Bakoula C, et al. Elevated morning serum interleukin (IL)-6 or evening salivary cortisol concentrations predict posttraumatic stress disorder in children and adolescents six months after a motor vehicle accident. *Psychoneuroendocrinology* 2007; **32**: 991–9.
- 93 Pfeffer CR, Altemus M, Heo M, Jiang H. Salivary cortisol and psychopathology in children bereaved by the September 11, 2001 terror attacks. *Biol Psychiatry* 2007; **61**: 957–65.
- 94 Masten CL, Guyer AE, Hodgdon HB, McClure EB, Charney DS, Ernst M, et al. Recognition of facial emotions among maltreated children with high rates of post-traumatic stress disorder. *Child Abuse Negl* 2008; **32**: 139–53.
- 95 Pine DS, Mogg K, Bradley BP, Montgomery L, Monk CS, McClure E, et al. Attention bias to threat in maltreated children: implications for vulnerability to stress-related psychopathology. *Am J Psychiatry* 2005; **162**: 291–6.
- 96 Grasso D, Boonsiri J, Lipschitz D, Guyer A, Houshyar S, Douglas-Palumberi H, et al. Posttraumatic stress disorder: the missed diagnosis. *Child Welfare* 2009; **88**: 157–76.
- 97 Rees G, Gledhill J, Garralda ME, Nadel S. Psychiatric outcome following paediatric intensive care unit (PICU) admission: a cohort study. *Intens Care Med* 2004; **30**: 1607–14.
- 98 Samuelson KW, Krueger CE, Burnett C, Wilson CK. Neuropsychological functioning in children with posttraumatic stress disorder. *Child Neuropsychol* 2010; **16**: 119–33.
- 99 Schäfer I, Barkmann C, Riedesser P, Schulte-Markwort M. Posttraumatic syndromes in children and adolescents after road traffic accidents – a prospective cohort study. *Psychopathology* 2006; **39**: 159–64.
- 100 Stallard P, Velleman R, Baldwin S. Prospective study of post-traumatic stress disorder in children involved in road traffic accidents. *BMJ* 1998; **317**: 1619–23.
- 101 Stallard P, Velleman R, Baldwin S. Psychological screening of children for post-traumatic stress disorder. *J Child Psychol Psychiatry* 1999; **40**: 1075–82.
- 102 Vanderbilt D, Young R, MacDonald HZ, Grant-Knight W, Saxe G, Zuckerman B. Asthma severity and PTSD symptoms among inner city children: a pilot study. *J Trauma Dissociation* 2008; **9**: 191–207.
- 103 Kassam-Adams N, Garcia-Espana JF, Fein JA, Winston FK. Heart rate and posttraumatic stress in injured children. *Arch Gen Psychiatry* 2005; **62**: 335–40.
- 104 Kassam-Adams N, Marsac ML, Cirilli C. Posttraumatic stress disorder symptom structure in injured children: functional impairment and depression symptoms in a confirmatory factor analysis. *J Am Acad Child Adolesc Psychiatry* 2010; **49**: 616–25.
- 105 Kassam-Adams N, Winston FK. Predicting child PTSD: the relationship between acute stress disorder and PTSD in injured children. *J Am Acad Child Adolesc Psychiatry* 2004; **43**: 403–11.
- 106 Winston FK, Kassam-Adams N, Garcia-Espana F, Ittenbach R, Cnaan A. Screening for risk of persistent posttraumatic stress in injured children and their parents. *JAMA* 2003; **290**: 643–9.