

## **Making Sense of Disorganised Attachment Behaviour in Pre-school Children**

**David Shemmings OBE PhD**

*Professor of Child Protection Research, University of Kent and Visiting Professor, Royal Holloway, University of London*

### *What is disorganised attachment behaviour?*

The concept of 'disorganised attachment' arose from the famous experiment in social psychology designed by John Bowlby's colleague Mary Ainsworth called the 'Strange Situation Procedure' (SSP: Ainsworth & Wittig, 1969; see Duschinsky, 2015, for a detailed review of the history and development of the 'disorganised/disoriented attachment classification'). The SSP requires trained and reliable coders to analyse how a toddler responds to a series of short separation and reunion experiences with his or her primary caregiver; two of these short experiences involve a 'stranger' entering the room. (The SSP is only reliable with non-maltreated children from 12-18 months and different methods are used for older children).

Bowlby's interest was in how toddlers would handle the separation from the caregiver at the age when attachment behaviours commence in earnest. Virtually all the children observed did similar things when separated: they stopped playing, went to the door and usually cried; when the stranger entered, either with or without the caregiver in the room, they did not go to them, either for comfort or exploration. It was what happened at the reunion that led to the discovery of three distinctive patterns of attachment (attachment 'styles' is a term used rarely by contemporary researchers, as it suggests an immutable 'trait'). The three patterns were termed 'secure', 'insecure: anxious-avoidant' and 'insecure: anxious-ambivalent'. (The term 'anxious' nowadays is usually left out, which is a pity because it was used by the early pioneers to signify that attachment insecurity contains at its core apprehension and uncertainty about a carer's willingness or ability to meet emotional needs). The same attachment behaviours were seen over and over again in the many hundreds of child-carer dyadic interactions that were conducted (now these numbers have expanded to include many tens of thousands - but the same patterns are still observed). In large representative samples the ratio between secure and insecure organised attachment is around 65:35 respectively. Because the prevalence of insecure attachment is very high in the general population professionals need to guard against reading too much into it when assessing, for example, parenting capacity, or a parent's experience of their own childhood.

### *Children who didn't fit the three patterns*

Bowlby and Ainsworth noticed that some children - around 14-15%, a figure which features later in this discussion - didn't 'fit' the three patterns. Thank goodness they didn't try to shoehorn them in because what they had alighted upon led, according to Professor Sir Michael Rutter, to 'one of the five great advances in psychology contributed by research in attachment ...' (Duschinsky, 2015, p.32) ... But Rutter also added that he thought the precise meaning of the construct was unclear. (I return to this later.)

What differentiated these children was that they displayed odd, occasionally contradictory, behaviours when reunited with their primary caregiver. Like the other toddlers, they would usually cry when their carer left, and they couldn't be consoled or comforted by the stranger, but when their carer returned they would sometimes walk towards them but with their head turned the other way; or they might walk round in circles, or move like a robot but not in any sense playfully. They seemed 'stuck', as if conflicted about what to do. Some even showed a marked level of fear ... but, again, in an almost dissociated way, as if time were standing still for them. The child seemed locked in a time capsule, albeit only for a few seconds. As early attachment researchers didn't know quite what to make of these behaviours, so they coded them 'Unclassified' (U). That might seem like a bit of a cop out but the term was, in my view, precisely the right one, because they didn't know what the behaviours meant or signified.

After having studied many of these 'U' children one of Ainsworth's doctoral students, Mary Main, coined a powerful term to capture what she thought was going on: 'fright without solution'. Initially, it seemed to make sense to understand the child's experience as being between Scylla and Charybdis: a rock and a hard place. They didn't want to be separated from their carer ... but neither did they want to be reunited with them. So what could have led to such paradoxical behaviour? For many writers on attachment at the time the most obvious explanation was abuse by the caregiver. The toddler needed to gain relief from the anxiety of being left alone but they wouldn't be able to find it in the carer if chronically frightened of them. What should have been their secure base and safe haven became for such children, at one and the same time, a source of fear or, in the most extreme cases of abuse, even of terror.

What is being referred to here can be seen in the following clip of film (see <https://m.youtube.com/watch?v=BvAzdbfFJeQ>). One of the five ducklings gets separated from mummy duck when first one, and then two, crows prey on the little one (it all ends happily!). But now imagine that when the duckling is in grave danger it freezes midway between mummy and the predatory crow: 'I can't go towards the crow ... but I also can't go to mummy'.

### Attachment disorganisation and maltreatment

What lent credence to the 'abuse and the disorganisation of the attachment system are connected' argument was that in studies of abused children around 80% of them showed 'disorganised attachment *behaviour*' (DAB - the term I prefer to 'disorganised attachment' to suggest that it is not a fixed pattern, more a set of fleeting behaviours which are only observable when the attachment system has been activated). Sometimes a more conservative figure of 48% is cited as the prevalence of DAB in maltreated children, a statistic which emerged from a meta-analysis of 'precursors, concomitants, and sequelae' of DAB by the team at Leiden University in 1999 (van IJzendoorn *et al*, 1999). But we need to consider that the variance between the five studies (N=323) available at the time of this research depended on which of two measures of D behaviours was used: Crittenden's 1988 'A/C' measure, which is known to underestimate D, or the Main and Solomon 1990 operational conceptualisation.

But these findings beg two important questions: firstly, would all abused children show DAB? (clearly not, as this would depend on, among other things, the severity and circumstances of the abuse, and who else is available to provide comfort and protection for the child); and, secondly, would all children showing DAB have been abused? In other words, could there be circumstances when the duckling might freeze on return to its mummy duck - other than being frightened of her - when there are crows around?

### Have all children who show DAB been maltreated?

To examine this question in more detail research was conducted amongst so called 'low risk' populations. I say 'so called' because, even now, these samples tend to be selected from 'middle class' populations. But sample design on this basis inadvertently could be masking an assumption that 'middle class' is congruent with 'low risk'. Nevertheless, around 14-15% of such children showed DAB (as they did in Bowlby and Ainsworth's original samples). So what might have caused this (but it cannot be assumed that none of them was being abused)? What emerged as likely causes were some parenting behaviours that, probably unwittingly, frightening the children. These behaviours were termed 'FR behaviours' by Lyons-Ruth *et al* (1999). Something about the task of caregiving appeared to be rekindling past traumas or losses which then 'switched off' the carer's sensitivity and responsiveness. Some carers seemed to go 'off line', what Yvonne and I later termed 'unpresent' (Shemmings & Shemmings, 2014). These children weren't frightened *of* their carer: they were frightened *for* them. But it seemed to have the same effect on their children as more direct forms of abuse: they couldn't rely on their carer to be a safe haven and secure base when they needed them to be responsive and available. The child was left emotionally, or even physically, 'abandoned', precisely when they most needed comfort, protection or reassurance.

So DAB was extended to reflect fear of the carer, as well as fear for the carer. An example of this distinction is when there is chronic and regular domestic abuse. The child may not be frightened of his mother, or even his father; but s/he could become very fearful *for* (say) the mother when his father is drunk or visibly jealous of something he perceives his partner to have done (I appreciate that the 'duckling' analogy can't be applied in these examples: humans are far more complex!)

### Two meanings of 'maltreatment'

In 2011 Yvonne and I combined these two features of abuse and neglect by using the term 'maltreatment', to distinguish between its 'intentional' aspects i.e. deliberate abuse, from *unintentionally* harmful caregiving behaviour towards the child (Shemmings & Shemmings, 2011). To the child, however, such a distinction may not be so clear or apparent. This is important in the UK because a large number of serious case reviews into child deaths have criticised professionals involved in child protection for not keeping their focus *on the child* during investigations and assessments. And, in this country, it is the concept of 'significant harm' that determines whether a child requires a formal protection plan. Consequently definitions of 'maltreatment' should only include the more extreme and pernicious forms of physical, sexual and emotional *abuse*, as well as physical and emotional *neglect*.

### Other writers on disorganised attachment and 'maltreatment'

Whilst writers in the field of attachment research have not always distinguished between intentional and unintentional maltreatment, nevertheless they have tended to speak for quite some time with one voice when linking them with DAB. Here are two examples:

*'Disorganised behaviour is likely [to] occur when an infant is maltreated by the parent, and studies conducted by Carlson, Cicchetti and colleagues (Carlson et al. 1989) ... have indicated that almost eighty percent of infants in maltreatment samples are disorganised'. (Hesse and Main, 2000, p.1105).*

*'Child maltreatment has a strong impact on attachment. It creates fear without solution for a child because the attachment figure, whom the child would approach for protection in times of stress and anxiety, is at the same time the source of fright, whether this attachment figure is the perpetrator, a potential perpetrator (in cases of sibling abuse), or failing to protect the child against the perpetrator'. (Cyr et al. 2010, p.100)*

Finally, here is David Howe, an author well known to social workers and others involved professionally with children and families, writing about the connection between disorganised attachment behaviour and maltreatment:

*'In ... non-clinical samples, around 14 per cent of children might be expected to be classified as disorganized ... When children experience abuse, neglect, maltreatment ... rates of disorganization rise to 80 or 90 per cent ...' (Howe, 2013, p.153)."*

### Alternative 'pathways to D'

More recently some caution has, rightly, been injected into the debate about whether the only pathway to DAB is maltreatment (intentional or unintentional). It has always been known that there are other 'pathways to D' (Granqvist et al, 2016) than maltreatment but it is now possible to be more precise about what they are and how they might operate.

An influential paper on the articulation of alternative 'pathways to D' was by Chantal Cyr and her colleagues at Leiden University. In 2010 they undertook an important meta-analysis into 'the differential impact of maltreatment and socioeconomic risks'. They concluded that *'Overall, these meta-analyses show the destructive impact of maltreatment for attachment security as well as disorganization, but the accumulation of socioeconomic risks appears to have a similar impact on attachment disorganization.'* In our 2014 book we commented on this meta-analysis as follows:

*'Interestingly, in their most recent meta-analysis, Cyr et al. (2010) found that disorganised attachment behaviour was related to maltreatment at a level slightly higher than that of the combined (emphasis added) effect of five socio-economic status (SES) high-risk factors in a non-maltreated sample. (It is acknowledged by the authors that some of the children living in high-risk SES conditions may also have been abused, i.e. there could have been undetected or unsubstantiated cases.) We agree with these authors that this finding depends in large part on the definitions of 'maltreatment' given in the studies which tend to equate it with the*

*more 'active' forms of abuse (i.e. physical, sexual and emotional). But when more 'passive' forms of severe emotional neglect are considered, that information may partly explain some aspects of the findings. As the authors state, "in the absence of direct maltreatment, parental frightening behaviour might be proposed to be a key mechanism through which parents at high levels of socioeconomic risk and exposed to more traumatic experiences prompt the development of attachment disorganization" (Cyr et al., p.88).'* (Shemmings & Shemmings, 2014, p.27).

So, children exposed to five risks are *almost* (emphasis added) as likely as maltreated children to become disorganised ... but ... that's quite a few risks! The interesting question, however, is what might the mechanism for transmission be? After all, 'low income' (one of the five SES risk factors included) *on its own* surely couldn't lead *directly* to the disorganisation of the attachment system? Similarly, how could 'substance abuse', 'low education', or 'single parenthood' (three more of SES factors included in the meta-analysis) lead *directly* to DAB? The most obvious conduit to explain the transmission route is via the parenting ... but 'parenting' takes place within social and political milieux. SES risk factors such as these place tremendous demands upon caregivers. In combination, such demands must at times become almost unbearable, severely compromising or depleting the adult's ability to remain sensitive to their child's needs. But such a knee-jerk explanation could unwittingly castigate the many parents and carers who, despite similar challenges and hardships, manage to bring up their children securely (or, at least, in an *organised* insecure manner).

### Outer and Inner worlds

To appreciate more clearly what might be going on, we can turn to the work of Elizabeth Meins and Annie Bernier (Bernier & Meins, 2008) who adopt a more nuanced way of understanding what happens when 'outer' and 'inner' worlds collide. Gedaly and Leerkes (2016) explain their 'threshold model' as follows:

*'Additionally ... (their findings) are consistent with the threshold model (Bernier & Meins, 2008) in which contextual characteristics, such as higher sociodemographic risk, may lower an individual's threshold, making it easier for negative parenting behaviours, such as global insensitivity, to breach the threshold and lead to disorganization ...'* (Gedaly & Leerkes, 2016, p.13).

Wendy Smith in her book *Youth Leaving Foster Care* in 2011 also uses this 'threshold model' in the following practice-related example: *'a parent with a traumatic history who experiences unemployment and a lack of social support has a colicky, hard-to-soothe child. The parent is frightened, angry and overwhelmed; or the parent has a substance-abuse problem and, while high or in search of drugs, ignores the needs of the child'* (Smith, 2011, p.59).

But are there other reasons why a child might show DAB when there is no maltreatment (whether intentional or not)? Research has begun to reveal at least three possibilities. Firstly, there is some evidence that 'neuro-diverse' children e.g. with autism, can show elevated levels of D compared to 'neuro-typical' children. The effect sizes are not high but,

given that children on the autistic spectrum tend not to cope well with unpredictable events, the whole basis of the strange situation procedure may be too stressful for them.

Secondly, is it possible that genes play a part? In the first molecular genetic study Lakatos and colleagues found an association between attachment disorganization and the dopamine D4 receptor (DRD4) gene polymorphism, but a replication of their study by Bakermans-Kranenburg and van IJzendoorn (2004) in a larger sample of 132 infants - which theoretically should have magnified any connection - did not confirm the earlier results. It was argued by the authors of the replication study that Lakatos *et al* (2000, 2002) hadn't fully taken account of gene-environment interaction. Subsequently, the Leiden researchers at the time drew the conclusion that disorganised attachment is 'best viewed as a relationship-specific phenomenon' (van IJzendoorn *et al.* 1999, p.235). Nevertheless, attempts should continue to explore gene-environment interaction, as studies have tentatively suggested that this might be a productive area for future research (Bakermans-Kranenburg & van IJzendoorn, 2007, 2008).

Thirdly, there could be something in the *situation* itself that might be preventing our duckling from seeking comfort from the mummy duck. For example, s/he might have experienced a similarly frightening experience with a crow a few days ago, and is simply too petrified to move. Pehr Granqvist and his colleagues - who included Mary Main - found that toddlers who had been subjected to the SSP recently, and/or for too long, showed elevated levels of attachment disorganisation during the SSP reunions.

To complicate matters further Robbie Duschinsky points out in his comprehensive review of the history of the development of the D category that some of the more 'extreme' forms of insecure-avoidant and insecure-ambivalent attachment patterns can resemble D behaviour (Duschinsky, 2015).

So was Rutter right to be concerned? The consensus is that he was, but I think we are now in a better position to understand what these odd behaviours might mean ... as well as what they might *not* mean. To iron out some of the creases I propose the following conceptualisation of the different 'pathways to D':

- *Abusive Parental Behaviour* experiences, such as physical or sexual abuse and some extreme forms of intentional emotional abuse or neglect.
- *Unintentional Parental Maltreatment*, comprising caregiving which is inadvertently frightening to the child, extensive unplanned care (see Main *et al*, 2011), frequent over-night separations (see Main *et al*, 2011), the combined effect of socio-economic risk factors (Cyr *et al*, 2010; Gedaly & Leerkes, 2016) as well as gene-environment interaction (but more research is needed here).
- *Pathways Involving No Maltreatment*, such as some children with autism (but as yet it isn't clear precisely what the mechanism might be that produces D behaviours) and the possibility of a more direct genetic influence (again, more research is needed).

### Consequences of attachment disorganisation

Whatever the different pathways to D, attachment researchers appear to agree that prolonged exposure to whatever situations and circumstances produce these behaviours they often lead to problematic outcomes later on. For example, Gedaly and Leerkes (2016) point out that '*Disorganized attachment in infancy and early childhood is linked to many negative outcomes from infancy through adulthood*'. They went on to add that '*the stability of disorganized classifications in early childhood (van IJzendoorn, Schuengel & Bakermans-Kranenburg, 1999), and the negative outcomes associated with them, indicate a need for identifying the factors that predict attachment disorganization in order to best understand how to prevent it. Parenting behaviours have been identified as being predictive of disorganized infant attachment, with fearful, frightening, and atypical behaviours playing the largest role (Madigan et al., 2006).*'

And so here is the crux of the argument about 'alternative pathways to D': whatever their cause, if a child cannot find comfort, reassurance or protection from a caring adult when severely stressed, then this can lead to developmental problems later on; but if the 'caring adult' is the cause of the fear then this can be more damaging.

Again, whatever its cause, the child and the carer/s need help and support. In this vein, Femmie Juffer and colleagues at Leiden University concluded in 2005 that '*as infant disorganised attachment is a risk factor for later child psychopathology, it is important to examine whether attachment disorganization can be prevented or reduced*', (Juffer et al, 2005, p.263). At the time of writing, extremely promising results (see for example, Toth et al, 2006) have been obtained from a number of specific interventions, each with different sub-aims but all with the overall objective of raising the sensitivity and mentalising capacity of carers (see Video-based Intervention for Positive Parenting: VIPP, Juffer et al, 2008; Video Interaction Guidance: VIG, Kennedy et al, 2010; Attachment and Bio-behavioural Catch-up: ABC, Dozier & Roben, 2014; and Circle of Security: CoS, Powell et al, 2013). Additionally, because one of the reasons carers' emotional availability can become depleted is due to the resurrection of memories of unresolved loss or trauma when parenting, this becomes another focus of help and support for carers struggling to meet the needs of their children (see Gribneau Baum et al, 2016).

Finally, to provide the kind of support needed to impede or divert 'pathways to D' it is also clear that professionals must not simply incorporate into their relationships with families Rogerian qualities of empathy, attentiveness, active listening and 'unconditional positive regard', they also need to display what we referred to in 2014 as 'intelligent kindness, unsentimental compassion and gentle curiosity' (see Shemmings & Shemmings, 2014, Ch.2). But for them to be emotionally capable of doing so regularly and consistently demands that their managers demonstrate precisely the same skills with them.

3515 words

## References

Ainsworth, M., & Wittig, B. (1969) 'Attachment and exploratory behaviour of one-year-olds in a strange situation', in B. Foss (Ed.), *Determinants of infant behaviour, IV* (pp. 113–136). London, UK: Methuen.

Bakermans-Kranenburg, M.J. & van IJzendoorn, M.H. (2004) 'No association of the dopamine D4 receptor (DRD4) and -521 C/T promoter polymorphisms with infant attachment disorganization', *Attachment and Human Development* 6, 211-218.

Bakermans-Kranenburg, M.J. & van IJzendoorn, M.H. (2007) 'Genetic vulnerability or differential susceptibility in child development: The case of attachment' *Journal of Child Psychology and Psychiatry and Allied Disciplines* 48, 1160-1173.

Bakermans-Kranenburg, M.J. & van IJzendoorn, M.H. (2008) 'Oxytocin receptor (OXTR) and serotonin transporter (5-HTT) genes associated with observed parenting.' *Social Cognition and Affective Neuroscience* 3, 128-134.

Bernier, A., & Meins, E. (2008) 'A threshold approach to understanding the origins of attachment disorganization', *Developmental Psychology*, 44, 969–982.

Cyr, C., Euser, E.M., Bakermans-Kranenburg, M.J. & Van IJzendoorn, M.H. (2010) 'Attachment security and disorganization in maltreating and high-risk families: A series of meta-analyses.' *Development and Psychopathology* 22 , 1, 87–108.

Dozier, M., & Roben, C. (2014) 'Attachment related preventive interventions', in J. Simpson & W. S. Rholes (Eds.), *Attachment theory and research: New directions and emerging themes* (pp: 374-392). New York: Guilford.

Duschinsky, R. (2015) 'The emergence of the disorganized/disoriented (D) attachment classification, 1979–1982', *History of Psychology*, 18, 32–46.

Gedaly, L. R., & Leerkes, E.M. (2016) 'The role of sociodemographic risk and maternal behavior in the prediction of infant attachment disorganization', *Attachment and Human Development* doi: 10.1080/14616734.2016.1213306.

Granqvist, P., Hesse, E., Fransson, M., Main, M., Hagekull, B., & Bohlin, G. (2016) 'Prior participation in the strange situation and overstress jointly facilitate disorganized behaviours: Implications for theory, research and practice', *Attachment & Human Development*, 18, 235–249. DOI:10.1080/ 14616734.2016.1151061

Gribneau Bahm. N. I., Duschinsky, R. & Hesse, E. (2016) 'Parental loss of family members within two years of offspring birth predicts elevated absorption scores in college', *Attachment & Human Development*, DOI: 10.1080/14616734.2016.1181096

Howe, D. (2013) *Empathy: What It Is and Why It Matters*. Basingstoke: Palgrave Books.



Juffer, F., Bakermans-Kranenburg, M.J. & Van IJzenboorn, M.H. (2005) 'The importance of parenting in the development of disorganised attachment: evidence from a preventive intervention study in adoptive families', *Journal of Child Psychology and Psychiatry*, 46(3), pp. 263-74.

Juffer, F., Bakermans-Kranenburg, M.J. & Van IJzenboorn, M.H. (eds.) (2008) *Promoting Positive Parenting: An Attachment-Based Intervention*. New York: Lawrence Erlbaum/Taylor and Francis.

Kennedy, H., Landor, M. & Todd, L. (2010) Video Interaction Guidance as a method to promote secure attachment *Educational and Child Psychology* Vol. 27 No. 3.

Lakatos, K., Nemoda, Z., Toth, I., Ronai, Z. (2002) 'Further evidence for the role of the dopamine D4 receptor (DRD4) gene in attachment disorganization: interaction of the exon III 48-bp repeat and the 511 C/T promotor polymorphisms.' *Molecular Psychiatry* 7, 27–31.

Lakatos, K., Toth, I., Nemoda, Z., Ney, K., Sasvari-Szekely, M. & Gervai, J. (2000) 'Dopamine D4 receptor (DRD4) gene polymorphism is associated with attachment disorganization in infants.' *Molecular Psychiatry* 5, 633-637.

Lyons-Ruth, K., Bronfman, E. & Parsons, E. (1999) 'Maternal frightened, frightening, or atypical behavior and disorganized infant attachment patterns.' *Monographs of the Society for Research in Child Development* 64, 67-96.

Hesse, E. & Main, M. (2000) 'Disorganised infant, child and adult attachment: collapse in behavioural and attentional strategies.' *Journal of the American Psychoanalytic Association* 48, 4, 1097–1127

Madigan, S., Bakermans-Kranenburg, M.J., Van IJzendoorn, M.H., Moran, G., Pederson, D.R. and Benoit, D. (2006) 'Unresolved states of mind, anomalous parenting behaviour, and disorganized attachment: a review and meta-analysis of a transmission gap.' *Attachment and Human Development* 8, 89–111.

Main, M., Hesse, E., & Hesse, S. (2011) 'Attachment theory and research: Overview with suggested applications to child custody', *Family Court Review*, 49, 426–463.

Main, M. & Solomon, J. (1990) 'Procedures for Identifying Infants as Disorganized/Disoriented During the Ainsworth Strange Situation.' In: M. T. Greenberg, D. Cicchetti and E. M. Cummings (eds.) *Attachment in the Preschool Years: Theory, Research and Intervention* (pp.121–160). Chicago, IL: University of Chicago Press.

Powell, B., Cooper, G., Hoffman, K., & Marvin, B. (2013) *The Circle of Security Intervention: Enhancing attachment in early parent-child relationships*, New York, NY: Guilford Press.

Shemmings, D., & Shemmings, Y. (2014). *Assessing disorganized attachment behaviour in children*. London, UK: Jessica Kingsley.

Smith, W. (2011). *Youth Leaving Foster Care: A Developmental, Relationship-Based Approach to Practice*. Oxford University Press.

Toth, S.L., Rogosch, F.A., Manly, J.T., & Cicchetti, D. (2006). 'The efficacy of toddler-parent psychotherapy to reorganize attachment in the young offspring of mothers with major depressive disorder: A randomized preventive trial,' *Journal of Consulting and Clinical Psychology*, 74, 1006–1016.

van IJzendoorn, M.H., Schuengel, C., & Bakermans-Kranenburg, M.J. (1999), 'Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae', *Development and Psychopathology*, 11, pp.225–249.