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Child protection and disorganized attachment: A critical commentary

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ABSTRACT

The concept of 'disorganized attachment' has been influential in child protection practice, often taken as a marker of abusive parenting and purportedly linked to a wide range of deleterious outcomes for children. However, there is considerable controversy about the origins and meanings of the classification. This paper examines the assertions and controversies within the primary science, and poses fundamental questions about the robustness, legitimacy and utility of 'disorganized attachment' as a concept in child protection assessment and decision-making. It shows that, despite a purported association between disorganized attachment and the quality of the parental care the child is provided, there is little agreement in the scientific community on the transmission mechanism and the link between disorganized attachment and later deleterious outcomes for children is weak. It concludes that whilst attachment theory itself provides a valuable contribution to child protection practice, 'disorganized attachment' should be handled with care.

1. Introduction

Attachment theory was popularized during the 1940s and 1950s, and is generally attributed to the work of John Bowlby, James Robertson and Mary Ainsworth. It was, from the start, a transatlantic research and clinical collaboration, and it has been influential in the UK and the United States (for a summary see Vicedo, 2013). Attachment theory is a complex synthesis of a range of diverse ideas arising originally from attempts to make sense of clinical observations of children experiencing distressing separations from their parents. It shares with object relations psychology an emphasis on the infant's relationship with the 'primary object' (usually the mother) but these ideas are combined with those from cognitive psychology, cybernetics (control systems theory), ethology and evolutionary biology. The theory argues that children adapt to the care they are afforded, developing and changing how they express their needs for safety and security accordingly. If a carer meets a child's needs for care and comfort in a sensitive and responsive manner, the child develops a 'secure' attachment, while unresponsive and insensitive parenting may create 'insecure' attachment behaviors in children. The theory has been particularly influential in social work and child protection. For theorists looking for a practical application of their theories, social work offered fertile ground, while for practitioners looking for theories to support their decision making, attachment theory provided a useful tool.

This paper examines one aspect of the theory that has entered the everyday lexicon of child welfare practitioners and is also often invoked in expert opinions in the family courts in the United Kingdom. This is the idea that children can develop 'disorganized attachments' to their caregivers. It has further been argued that disorganized attachment behaviors can be considered a proxy for child abuse and abusive parenting (inter alia Shemmings & Shemmings, 2011 and Wilkins, 2012). This has reinforced its use in child protection work, but simultaneously has caused controversy in the research community (see Duschinsky, 2015; Granqvist et al., 2017). Given the widespread use of disorganized attachment in practice and the ongoing controversy about the origins and meanings of the classification, here we examine the assertions and controversies within the primary science, and pose further fundamental questions about the robustness, legitimacy and utility of 'disorganized attachment' as a concept in child protection assessment and decision-making.

2. Origins and early debates

First, we briefly summarize the concept of 'disorganized attachment' which emerged from attempts to understand some of the behaviors elicited in the seminal experiment from the early days of attachment research. The Strange Situation Procedure (SSP) marks the start of an 'experimental' paradigm in attachment research, it is not strictly

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speaking an “experiment”. For example, it does not rely on random assignment to experimental and control conditions, or a differential manipulation across the conditions; rather it is best described as a semi-structured observational procedure in a laboratory setting. It is a 20-min staged event, designed to elicit mild distress in the infant, in which a child's behavior on the departure and return of the primary caregiver and a stranger are observed over eight episodes. This procedure is the ‘gold standard' (Bernier & Meins, 2008, p. 969) for assessing attachment behaviors in infants aged 12 to 18 months, from a research perspective.

In the SSP, typically two thirds of infants in a non-clinical sample (of ‘middle class’ children) will be categorized as showing ‘secure attachment’ (categorized in the system as type B) (Ainsworth & Wittig, 1969). This group, whilst showing some separation distress, can be comforted quickly by a caregiver on return. About one fifth will show little sign of distress, which Ainsworth attributes to learned behavior in response to caregivers who tend to discourage displays of distress. These infants are classified as ‘insecure-avoidant’ (categorized as type A). Children who exhibit distress before separation, and who were difficult to settle on return, are classified as ‘insecure-resistant/ambivalent’ (categorized as type C).

The category ‘disorganized' was coined to describe infants who do not display a consistent response in dealing with the scenarios in the Strange Situation Procedure.

> *Infant behaviors coded as disorganized/disoriented include overt displays of fear*
> *of the caregiver; contradictory behaviors or affects occurring simultaneously or sequentially; stereotypic, asymmetric, misdirected, or jerky movements; or freezing and apparent dissociation. In general, these behaviors occur only briefly, before the infant then enters back into one of the Ainsworth A, B or C attachment patterns. As such, all infants coded as* disorganized/*disoriented are also given a secondary A, B or C classification.*
>
> Duschinsky, 2015*, p. 35.*

In short, these infants show some sort of contradictory response. Duschinsky (2015) gives a thorough history of the emergence of the concept which we draw upon here. It is most usually traced to a paper by Main and Solomon (1986) but Mary Main had been Mary Ainsworth's PhD student and had noted the anomalous behaviors during the administration of the Strange Situation Procedure a decade before. As Duschinsky (2015) indicates, when Main introduced the new ‘disorganized' category, it was not assumed to constitute a fourth pattern of behaviors, but rather to indicate that these behaviors were a disorganization of one of the three major patterns outlined by Ainsworth (Crittenden & Ainsworth, 1989). In reviewing letters by Ainsworth to Bowlby, Landa and Duschinsky (2013a) identify that Ainsworth herself was initially skeptical about the ‘disorganized' category. At the same time, another PhD student of Ainsworth, Patricia Crittenden, was developing an alternative perspective on these ‘odd behaviors' through studying maltreated children in the Strange Situation Procedure. She disagreed with Main that ‘disorganized' behavior should be expected in such children.

While on the surface this disagreement seemed to be simply about what constituted ‘disorganized' behavior, the foundations of the dispute went to the heart of attachment theory. What do we mean by attachment behaviors and what do we mean by these being either ‘organized' or ‘disorganized'? According to Landa and Duschinsky (2013b), when Main was a PhD student of Ainsworth, Ainsworth defined ‘organization’ as behaviors orientated toward *proximity* with the caregiver when the attachment system was activated by anxiety. Crittenden, however, was a student of Ainsworth ten years later, by which time some researchers in the field, including Ainsworth (see Landa & Duschinsky, 2013b) had changed the definition of ‘organization’ to mean behavior that sought to maintain the *availability* of the attachment figure when the attachment system was activated. To Main, therefore, behaviors that did not seek proximity to the caregiver in the Strange Situation Procedure seemed odd and thus ‘disorganized', while for Crittenden, such behaviors were oriented to maintaining the availability of the caregiver, even if they did not seek proximity. Disagreement remained about what behaviors children were trying to organize (Ringer & Crittenden, 2007).

Regardless of these controversies, the relevance of disorganized attachment as a concept for child protection work has been clearly and trenchantly argued. This has been further strengthened by research that has linked disorganized attachment to a wide range of deleterious outcomes for children, such as controlling, externalizing, and aggressive behavior, conduct, attention, and borderline personality disorders (for recent reviews see contributions to Cassidy & Shaver, 2018). Once such arguments are articulated, a moral imperative to prevent such harm seems naturally to present itself.

3. Different worlds? Practice and science

We have noted that disorganized attachment was originally used to describe infants who do not display a consistent response in dealing with the scenarios in the SSP. The hypothesis of choice to explain the means of transmission of these contradictory responses is as follows:

> *The basic assumption is that if caregivers appear fearful or display frightening behavior, this not only will alarm and frighten their infants but will present them with an unsolvable paradox: The person who can alleviate their fear and alarm is the very source of these negative emotions. The infant can therefore neither flee from nor approach the attachment figure. This “fright without solution” is postulated to result in the anomalous behaviors that are the hallmark of disorganized attachment.*
>
> Bernier & Meins, 2008*, p. 970.*

There is considerable debate in the domain of academic journals about the ‘transmission’ mechanisms of disorganized attachment, and indeed about the category itself. It is worth tracing a little more of its history. Van IJzendoorn, Schuengel, and Bakermans-Kranenburg (1999) note.

> *Although disorganized attachment behavior is necessarily difficult to observe and often subtle, many researchers have managed to become reliable coders.... In normal, middle class families, about 15% of the infants develop disorganized attachment behavior. In other social contexts and in clinical groups this percentage may become twice or even three times higher (*e.g.*, in the case of maltreatment). Although the importance of disorganized attachment for developmental psychopathology is evident, the search for the mechanisms leading to disorganization has just started (p. 225).*

In the paper's discussion section, the authors note that, for diagnostic purposes, the coding system for disorganized attachment is complicated, and the intercoder reliability only marginal: not all observers can agree when they have seen a case of disorganized attachment behavior. A noteworthy cited example is a case in which the ‘detection’ of disorganized attachment in a child's home took almost 4 h of videotaped observations, with the further frustration that the disorganized response was inconsistently triggered. The authors urge a search for ‘ethically acceptable ways of inducing these triggering behaviors in the parent’ (p. 242). Calling for further research, the paper concludes:

> *we should be cautious, however, about the diagnostic use of disorganized attachment… the meta-analytic evidence presented in this paper is only correlational and the causal nature of the association between disorganized attachment and externalizing problem behavior still has to be established (p. 244).*

The problem of eliciting the behavior and its antecedents are exacerbated by the fact that the ‘disorganized' behavior only occurs for a short time, soon resolving into one of the other patterns. A thorough review by Bernier and Meins (2008) reiterates the difficulties in

establishing the facts of disorganized attachment:

> *Any explanatory framework for the antecedents of disorganization will thus need to speak to two major anomalies in the extant literature. First, it must account for why different aspects of parenting—insensitivity, fearful behavior, and frightening behaviour can result in disorganization depending on the prevailing social– environmental conditions. Second, it must explain the fairly large portion of variance in disorganized attachment that is not explained by the (parental) mediation model… the magnitude of the relations found thus far suggests that some children manage to establish organized attachment relationships in the face of exposure to atypical parenting behaviors and a high-risk environment, whereas others form disorganized attachments in the absence of putative risk factors (p. 971).*

But as we move away from the journal science, these carefully worded observations quite quickly begin to lose their equivocation and establish themselves as facts. The important point here is that different accounts of the same phenomenon coexist; they are associated with different worldviews. This makes it important to understand the origins of theoretical ideas within the scientific community, and of the debates and controversies within that world. Regarding disorganized/disoriented attachment, Duschinsky (2015) has traced its evolution since its first emergence as a category for "rounding up" behaviors in the SSP that didn't fit the original tripartite taxonomy. His carefully argued account highlights the tensions, confusions and contradictions along the way. Whether the new category (D) is ontologically distinct, of equal status with the original three categories, or is simply a residual category, is a recurrent theme in his genealogy.

The relationship between disorganized and avoidant strategies is especially problematic, with children exhibiting behaviors of both types in different "situations". Duschinsky quotes Main as follows, in a personal communication (p. 38): "avoidant babies often look like disorganized/disoriented babies in the home". Ainsworth too, reports finding more conflicted behavior in the home for avoidant babies than in the lab. Stress appears to be a factor in this: "Main and Soloman provide evidence that in the context of familiar situations in which stress is not high, direct expressions of behavioral conflict can be observed in … infants classified as avoidant in the SSP" (p. 38).

Duschinsky cites the finding of Ainsworth that repetition of the SSP within two weeks caused all avoidant infants to display conflict behaviors. In studying this phenomenon, Granqvist et al. (2016) identified that children who had been subject to the SSP previously, displayed elevated type D behaviors. They hypothesize that this could be due to increased levels of distress combined with their learning from the previous SSP that their primary caregiver would not respond as they had come to expect, resulting in behavior that is coded as 'disorganized'. Their research underlines the point that there may be many reasons why a child's behavior may be categorized as disorganized beyond maltreatment. Indeed, in considering the relationship between avoidant and disorganized attachment classifications, Duschinsky (2015) avers that these contradictions "are inconsonant with any account drawing categorical distinctions between avoidant and disorganized/disoriented infants" (p. 41). He argues that the creation of the new category should best be seen as primarily rhetorical: the "discovery" of a D category, he argued, "had the advantage of helping to attract notice to an important phenomenon for researchers and clinicians" (Duschinsky, 2015, p. 41). Duschinsky continues to make other important points, especially relating to the measurement of type D via Main's 1-to-9 scale and inconsistencies in its use (coding of behaviors, setting of thresholds, misuse as a diagnostic instrument, rather than a measure of "interpretive certainty"). He attributes the ascendancy of type D to:

> *the rise of "child abuse" and the need to find a tool and concept for distinguishing maltreating and adequate parenting… I would be pleased if this critical historical analysis could help counter tendencies within the attachment research community to reify "disorganization/disorientation".*

Science and Practice are different worlds with different preoccupations, ontologies and epistemologies. In Science, general laws are sought at expense of individual differences: what matters is the degree to which evidence supports or contradicts a theory, not practical utility. The domain of psychological science reflects (and indeed requires) a different style to that occupied by child welfare and protection specialists and campaigners. The confident statements of the latter belong to the world of professional handbooks. This is a simplified world in which the inconvenient quandaries in the journal science can be avoided. This happens in rather subtle ways. For example, Shemmings and Shemmings (2011) is, in many ways, a carefully caveated account for social workers on how to recognize and assess disorganized attachment. They note:

> *…we wish to stress that* disorganized *attachment cannot be inferred from* behaviors *such as a child's room being a mess, or that he or she appears to be clumsy. 'Disorganized attachment' is a precise term and must involve a situation which mildly activates the child's attachment system and into which a carer is 'introduced' either physically as in the SSP (Strange Situation Procedure') or by asking the child to think about that carer (p. 19).*

There follows a review of developments and debates in the primary work and the various parental behaviors and characteristics of the child which might contribute to 'disorganization', which illustrate the contestable nature of the concept. Nevertheless, throughout, disorganized attachment itself must necessarily remain 'black-boxed' (Wastell and White, 2017; Latour, 1987). The scientific and technical work that created the concept and the ongoing debates and controversies within the scientific community about the classification remain invisible. This involves constant shifts in modality from cautious review of the literature to unequivocal diagnostic reasoning like the following:

> *Compared with children with organized attachments, caregivers of children with disorganized attachments have very different caregiving systems. They are either extremely insensitive in their caregiving, disconnected in their caregiving or they display very anomalous or disrupted caregiving behaviour (p. 160).*

And, thus, in the midst of caveats, the relationship between disorganized attachment and abusive or incompetent parenting is re-established. We should note here Shemmings (2018) has recently published a helpful coda in the UK professional social work magazine Community Care advising social workers to exercise caution in the application of concepts from attachment theory suggesting, that they 'say what they see', rather than layering pathologizing and imprecise theoretical language on top of rather thin observations. This was in response to the reporting of a family law case in which the judge was highly critical of the social worker's use of the theory.

4. Portentous predictions: imagining likely harm

Attachment theory functions routinely as the preferred theoretical explanation within the child protection field to explain a variety of interactions, behaviors and emotional responses. Woolgar and Baldock (2015) illustrate this point in their analysis and review of 100 referrals of adopted and fostered children for a specialist assessment of a complex range of social, emotional, and behavioral problems. By reviewing the symptoms the child was experiencing as described in the referral, and the explanations for them given by the referrers, Woolgar and Baldock (2015) found that attachment disorders were not only 'over-identified', i.e. the symptom information did not correspond to expectations for attachment disorder, but that more common issues such as depression, anxiety, autism, epilepsy, along with other conditions, were 'under-identified' when compared with prevalence statistics. It

seems, once one way of seeing a child is promoted and legitimized it becomes *the* way of seeing the child.

Elsewhere White et al (2019, forthcoming) we have discussed at some length the way in which the 'disorganized' classification is used in practice. Here we provide brief illustrations. The following extracts, taken from cases reported in the family courts in England (https://www.bailii.org/) demonstrate the classification being invoked in expert reports:

Extract 1

The mother, as a result of her own needs, was unable in Dr. Williams view to fulfil her parenting role. Her parenting approach was emotionally harmful to the child, who required a reparative parenting experience. It would not be advisable for the mother to remain in her current role as the child's primary parent. Dr. Williams greatest concern from a developmental perspective was that the consequences of the child being raised within a chaotic and disorganized attachment relationship would have a severe and detrimental impact on the child's outcome as a young man. (In the matter of B (Care Order) [2012] JRC 188 (17 October 2012)

Extract 2

Children with disorganized attachment patterns generally struggle to know how to manage closeness, feel unsafe receiving personal care, feel overly-responsible for managing situations/events, have difficulty coping in a new setting or meeting new people, and can show sometimes bizarre reactions and be highly challenging to support when anxious. (A (A Child), Re [2015] EWFC B131 (03 March 2015).

Extract 3

The consultant child and adolescent psychiatrist, whose evidence the judge accepted although contested by the mother, considered that CB had a disorganized attachment to her mother. (London Borough of Merton v LB [2014] EWHC 4532 (Fam) (19 December 2014).

In these cases, the category functions to classify a range of behaviors as disorganized and thus to warrant speculation about the future, based on what 'generally' ensues from being 'disorganized'. Now of course, it is unsurprising that a child's relationships and 'attachments' are salient for courts making decisions about contact and future placements, but it also appears significantly to be informing threshold decisions about significant harm.

The concept is also evident in social workers' reasoning (Wilkins, 2017). The following excerpt is taken from a social work assessment document showing that the concept, though apparently rather poorly understood in this case, is nevertheless used to 'explain' a wide range of behaviors Gibson, (2019).

*[The child] has experienced unpredictable, frightening care giving previously and as a result she takes control at home to overt [*sic*] her own safety and needs. [The child] has developed various controlling behaviours including compulsive compliance, care-giving and compulsive self-reliance. Disorganised controlling children experience themselves as people who generate anger, violence and distress in others. These children can begin to feel powerful and invulnerable yet also unloved and frightened. As a result, a disturbed mixture of low self-esteem, hyper vigilance and aggression can appear. These children can often be unpopular with their peers and can easily attribute negative intentions to other people's behaviours. [The child] demonstrates a very low level of social understanding and competence as result [*sic*] shows both high levels of aggressive and a social withdrawal and behaviour problems.*

This enthusiasm should not surprise us, 'disorganized attachment' is explicitly written into practice guidance. In the UK, the commissioned evidence review, Decision-making in a Child's Timescale, (Brown & Ward, 2013) asserts:

There is consistent evidence that up to 80% of children brought up in neglectful or abusive environments develop disorganised attachments' (p. 29, emphasis added).

The first point of note is the use of the expression 'up to' which may refer to anything from zero to 80%; the second is the unequivocal causal association of disorganized attachment with child maltreatment. The currency of the category 'disorganized attachment' in the child protection field is thus considerable with some going further and claiming it as a key diagnostic marker of maltreatment:

Disorganised attachment behaviour is 'indicative' as distinct from 'predictive' because its presence does not imply that a child will be or even is likely to be maltreated in the future, instead it suggests they may well have been abused already and are still experiencing the consequences of maltreatment, as shown by the way they react and respond to mild activation of their attachment system.

Shemmings & Shemmings, 2014, *p. 22*

If the category 'disorganized attachment' is used as a cornerstone of professional analysis and decision making, we might suppose that it sometimes has grave consequences for family preservation. So, is this enthusiasm warranted by the evidence?

5. What the science says

The primary researchers in the field have recently written an important paper to address their concerns about the misinterpretations and misrepresentations of disorganized attachment in child welfare contexts (Granqvist et al., 2017). It is co-authored by over 40 leading researchers. It is a landmark review and deserves to be taken very seriously. We will now review that paper, extracting what seem to us to be its salient points.

First, we note a recurrent theme throughout the paper of the importance of (accredited) training and rigorously defined thresholds for establishing the presence of disorganized attachment: "seeing one or another example of disorganized infant behavior is not, in itself, sufficient for a disorganized classification unless certain thresholds of intensity are met… recognizing such thresholds forms a core part of the training and reliability process" (p. 539). Next it is noted that infants may display disorganized attachment with one parent but not with other caregivers, to whom they may even be securely attached: it is not, therefore, a "fixed property or trait of the individual child but tends to be relationship specific" (p. 539). That attachments show only "modest stability" over time (p. 539) is also noted, as we observed above.[1] The idea that some of this variability can be attributed to genetic factors in the child is then made, with reference to two studies, one involving the dopamine receptor gene (Bakermans-Kranenburg & van IJzendoorn, 2007). This is an important aside, to which we will return.

Parental factors, reflecting either socioeconomic circumstance or abuse in their own history, is adduced as a possible source of alarm for the child, creating the paradoxical predicament of approach-avoidance, which is held to underlie disorganized behavior. The important point is made that blaming these caregivers is inappropriate and changes "the clinical imperative from retribution for errors to efforts in assisting parents to adopt caregiving behaviors that promote feelings of safety" (p. 542). The next section of the paper dwells at length on the long-term psychosocial consequences of disorganized attachment, highlighting the modest magnitude of such predictive effects: "The average effect size linking infant disorganized attachment… to later behavior is small to moderate… In other words, a child assigned a disorganized classification is not necessarily expected to develop behavior problems"

[1] Van IJzendoorn et al.'s meta-analysis (1999) reports an average "stability" of only 0.34, as measured by the correlation coefficient of test-retest comparisons over a lag of up to 5 years.

(p.542). For us this is a critical point, and we will interrogate the evidence subsequently, taking the example of externalizing behaviors. The Review also notes that maltreatment is not the only "pathway" to disorganized attachment: the causes are multifactorial, with socioeconomic risks playing a key role. As such, disorganized attachment has:

> *insufficient sensitivity and specificity for screening for maltreatment… even when accredited reliability is in place, the results should be used to inform clinical formulation… rather than as a definitive means of assessment for maltreatment or developmental risk (p. 143).*

Although attachment theory and research have "a major role to play in supportive welfare and clinical work… it is targeted supportive work, much more than assessment, that actually makes a difference to child outcomes" (p. 545). Later in the paper (p. 549), the authors lament the striking contrast in practice between thresholds for assessment (very low) and for receiving support (very high).

Next, the context dependency of the categorization is highlighted:

> *Disorganized attachment is a technical, research-based term for coding behaviours in a specific laboratory situation, the Strange Situation. No replicated research has yet established that children assigned a disorganized classification in the Strange Situation show the behaviours listed by Main and Solomon in naturalistic settings such as the home (p. 545).*

And conversely, that disorganized behavior at home may not be replicated in the SSP. Moreover, because it is relationship specific: "clinicians need to observe the child with all his or her caregivers in order to make an informed set of recommendations in the best interests of the child" (p. 546). How frequently does this occur in most professional assessments, either by social workers or 'experts' in the family Courts?

The next section of the paper deals with attachment-based clinical interventions. Four studies are briefly described, leading to the claim that "these supportive interventions have all demonstrated – in randomized control trials – that caregiving conditions contributing to (or maintaining) disorganized attachment can be changed even among very high-risk families" (p.549). This is a very important claim, though we note the careful, somewhat qualified wording. We will review one of these studies in due course.

The Review moves on to consider child removal. Conceding that although fostering and adoptive care is sometimes fully justified, it is both risky and potentially as harmful as leaving children in "maltreating environments" (p. 549). Removal should only be undertaken if "there is compelling evidence of maltreatment and a fully adequate provision of supporting services has been exhausted" (p. 549). Attachment theory may then help to inform effective foster parenting. With these statements we fully concur.

The Review concludes by reiterating the weak link between disorganized attachment and later behavioral problems and its limitations as a diagnostic tool at the individual level. It laments that "misapplications of attachment theory, and disorganized attachment in particular, have accrued in recent years" (p. 551) due to erroneous assumptions regarding its efficacy in assessment, its association with child maltreatment, its ability to predict pathology, and the imperviousness of attachment behaviors to change in the child's original home. Such misapplications may "selectively harm already underprivileged families…. violate children's and parent's human rights… [and] may also represent discriminatory practice against minorities" (p. 551). The authors are, nonetheless, sympathetic to the theory and the Review concludes on an optimistic upbeat note:

> *Attachment theory, assessments and research can have major roles to play in clinical formulation and supportive welfare and clinical work. There is robust evidence that attachment-based interventions… can break intergenerational cycles of abuse. We conclude that the real practical utility of attachment theory and research resides in supporting understanding of families and in providing supportive evidence-based interventions (p. 551)*

6. Raining on the parade? A foray into the primary research

In the preceding section, we highlighted claims which we felt were particularly salient, and worthy of further interrogation, namely those pertaining to the validity of the disorganized classification as a predictor of future behavioral problems and the efficacy of attachment-based interventions. Scrutiny of these claims requires that we take the plunge in to the primary research giving rise to them. We begin with the predictive validity of the 'type D' classification.

First, we note that attachment theory has burgeoned into a large industry from its humble origins in the seminal work of but a few inspired individuals. To make sense of this extensive body of work, the meta-analytic review is the tool of choice. Such reviews attempt to pool the results of multiple studies which focus on a particular issue and which deploy comparable methodologies, normally of a quantitative nature. The ability to convert the results of any individual study into a common index, which gauges the magnitude of the "effect" of interest, enable the results of multifarious studies, which inevitably produce results which vary in magnitude and possibly direction, to be combined into a single overall measure which may be taken to reflect the statistical consensus of that body of work. The Review of the last section relies heavily on such meta-studies.

Here we focus on the relationship between attachment classifications, particularly type D, and future psychopathology. The key study in this area is that of Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley, and Roisman (2010), which focused on externalizing behavior, examining the links with all four attachment classifications, assessed mainly with the SSP, although other instruments were used such as the Attachment Q-sort. 53 studies were identified, yielding 69 independent samples. Although each of these studies was unique in the range of variables studied (some looked at socioeconomic class, others at gender; some addressed clinical populations, others focused on maltreatment, whilst some looked at longitudinal relationships in normal populations), the instruments used to measure parenting, attachment behaviors, psychopathology and behavioral problems, nonetheless it was felt they were sufficiently comparable to be combined. This is a challenging endeavor.

The chosen statistic for assessing effect size is something called Cohen's d, which is a widely used standard in many fields Wastell and White (2017). In the 34 studies (N = 3778 participants) which looked at this relationship, the combined effect size was 0.34, and of the 24 studies which based assessment on the SSP, the effect was 0.27. Given that our interest is on the early assessment of type D using the SSP, we will focus on this result. First, what does d = 0.27 mean? In the language of effect sizes, this would be dubbed a small effect, something of interest to the theoretician and for planning public health interventions at the population level, but of questionable value to the practitioner dealing with an individual child.[2] It means that, on average, in a large group of people, there is a relationship. But this is not the same as the ability to make accurate predictions at the individual level, as practitioners and courts require. To give a better sense of this, conversion into another measure of effect size is helpful. The Number Needed to Treat (NNT) is such a measure, developed for the world of medicine in particular. In simple terms, it means the number of individuals who would need to be treated to generate one successful cure. Let us assume, as a thought experiment, that there was some pharmaceutical treatment for attachment disorder. An effect size of 0.27 would mean that for every

[2] Conventional "effect size" categories for Cohen's d are: d < 0.1 (no effect), d between 0.1 and 0.4 (small effect), d between 0.4 and 0.7 (intermediate effect), d > 0.7 (large effect).

6.6 children given the drug, one would be cured, i.e. show a secure attachment.

Assuming there were no side-effects of the treatment and it were not too expensive, we might well decide this small effect was good enough. But that is clearly a big "if", as treatments always have side effects. In the world of social work, the consequences of wrong decisions not only potentially harm children, but can damage parents whatever the benefits for the child. Were the cure for attachment disorder not to have side-effects on the child, but by some mysterious process to damage permanently the well-being of the parents (like removing a child) we may consider the harm to outweigh the benefit.

Returning to the meta-analysis, there are a couple of further points to note. First, that the impact of disorganized attachment applied only to boys, though only for the whole sample (all assessment methods, d = 0.35 not for those assessed in the first two years with the SSP (d = 0.12). Moreover, for girls the combined effect went in the opposite direction (d = −0.24), i.e. type D was associated with less subsequent externalizing behavior. No effect of social class was found, nor did the relationship depend on the age when externalizing behavior was measured. We also note that there was no combined effect of either insecure-resistant or avoidant attachment on externalizing behavior. The authors conclude that "the current meta-analysis is only partially supportive of the special status sometimes accorded to disorganized attachment as a precursor of children's externalizing problems" (p. 27). We would comment that the fact a relationship is weak indicates that many other factors bear on the emergence of psychopathology in later life. The authors acknowledge this, citing a range of likely "risk processes", including "impulsivity, negativity emotionality, affect regulation, hostile attributional biases, and physiological hypo-arousal". This speculation then leads to the conclusion:

> *Risk factors such as these situated at the biological, cognitive or affective level may be considered proximal determinants of externalizing behaviour, with the quality of the attachment relationship with a primary caregiver conceptualized as a more distal determinant (p. 28).*

At this point, we thought it appropriate to continue our digging into the primary science on which the meta-analysis was based to get a real feel for the research itself, the methods used, questions asked, discursive issues raised, doubts expressed. We read several of the individual studies. Here, we focus on one, that of Elizabeth Carlson, a seminal study with over 1268 citations at the time of writing published in the well-respected journal Child Development (Carlson, 1998). We will not report the technical details of the study, only to comment that it was impressively rigorous. A cohort of 157 infants was studied, initially recruited while receiving prenatal care at public health clinics in Minneapolis in 1975. Medical histories (including the presence of infant anomalies) neonatal behavior and infant social behavior during feeding were assessed, together with maternal factors such as history of abuse and psychological problems, perinatal risk status, caretaking skill and affective quality during feeding, maternal cooperation and skill at 6 months, infant abuse history and quality of attachments (SSP at 12 and 18 months). Outcome measures included the quality of the mother-child relationship (24 months, 13 years), preschool behavior problems, teacher reports of behavior and emotional health (throughout high school), assessment of affective disorder at 17.5 years and dissociative experiences at 19 years.

Here we focus on one of the two primary relationships evaluated by the study, that between attachment in infancy and affective psychopathology in late adolescence. The authors deploy a statistical technique known as structural equation modelling (SEM) in order to model this relationship and quantify the strength of the correlation between the various predictive variables. Their model is shown in Fig. 1, part A. Two kinds of variables are shown in the standard SEM notation: attributes which can be directly measured (rectangular boxes) and theoretical constructs (latent variables) which cannot be directly measured, but which give rise to measurable indicators. An example of the latter is "early caregiving". Inferring the existence of such hypothetical constructs is a matter of judgement; here it is taken to mean that the authors have measured three behavioral categories (maternal caretaking skill at 3 months, parental cooperation/sensitivity at 6 months and infant history of abuse) which they believe to be related, as reflecting some underlying common attribute denoted early caregiving.

The arrows simply represent (inferred) causal relationships, and the numbers the strength of those relationships (they are known as standardized regression coefficients, b for short): a value of 1 means a perfect predictive relationship (i.e. knowing X exactly predicts Y), whereas 0 would imply no correlation at all. The model indicates that there is a small, though statistically significant relationship (b = 0.25; $P < .01$) between attachment disorganization and psychopathology. That b is positive means that the greater the level of disorganization, the greater the degree of psychopathology. On the other hand, the relationship between early caregiving and attachment disorganization is negative, meaning that better caregiving means less disorganized attachment, as would be expected given the author's theoretical predisposition. This relationship is also stronger (b = −0.53) than that between attachment and psychopathology. The causal link between early care and psychopathology indicates a small, but statistically insignificant, direct link between these variables. This implies that the major influence of parental care on psychopathology, is indirect, via its effect on attachment behavior.

To the lay reader, it might appear that the data has directly generated this model, giving it a kind of objective veracity. However, the conceptual form of the diagram directly derives from the author's theoretical prior position. It is Carlson who has adumbrated its form, the variables and their various inferred causal linkages, and Carlson would not pretend otherwise. That is what SEM is for: to allow theorists to adumbrate a model, and then test how well it fits. The degree of fit between individual elements is indicated by the beta coefficients, and the overall fit of the model by the proportion of variance in outcomes it accounts for. Here 12% of this variance is "explained" by the model, which of course means that 88% of inter-individual variability in psychopathology cannot be ascribed to the factors measured. That a given factor is "only" responsible for a small percentage of the phenomenon of interest does not mean it is unimportant. This is not our point. The low percentage shows the phenomenon to be complex with multiple causal factors in play, i.e. the factor is not preeminent, just one influence amongst many. This is the same point that we made above regarding the meta-analysis. It is a crucial cautionary point largely absent in the attachment literature.

To show the dependence of Carlson's findings on their assumptive base, we could have posited and tested a rather different model, which reverses the causal hierarchy of Carlson's model, which implies attachment to be a proximal and early caregiving to be distant to this. Carlson in Appendix C provides the correlation matrix for her study, allowing us to test the fit of a different model,[3] shown in the lower half of the diagram (part B). This gives a rather different view of the world, with early caregiving being the proximal predictor of psychopathology. The overall fit of this model is actually stronger, according to our reanalysis; in particular, the beta coefficient between early care and psychopathology is higher (b = −0.48) than that for the direct effect of attachment in the original model. The presence of the negative relation between early care and attachment implies that attachment problems disrupt parenting. By way of clarification, we are not saying that attachment (measured at 12–18 months) acts retrospectively; the temporal sequence simply reflects when the quality of attachment was assessed using the SSP. We plausibly assume that the presence of disordered behavior at this point reflects the evolution of attachment anomalies which pre-date the test, perhaps even going back to the birth itself. Attachment disorders do not emerge spontaneously at the point

[3] Using the *lavaan* module of the R statistical package

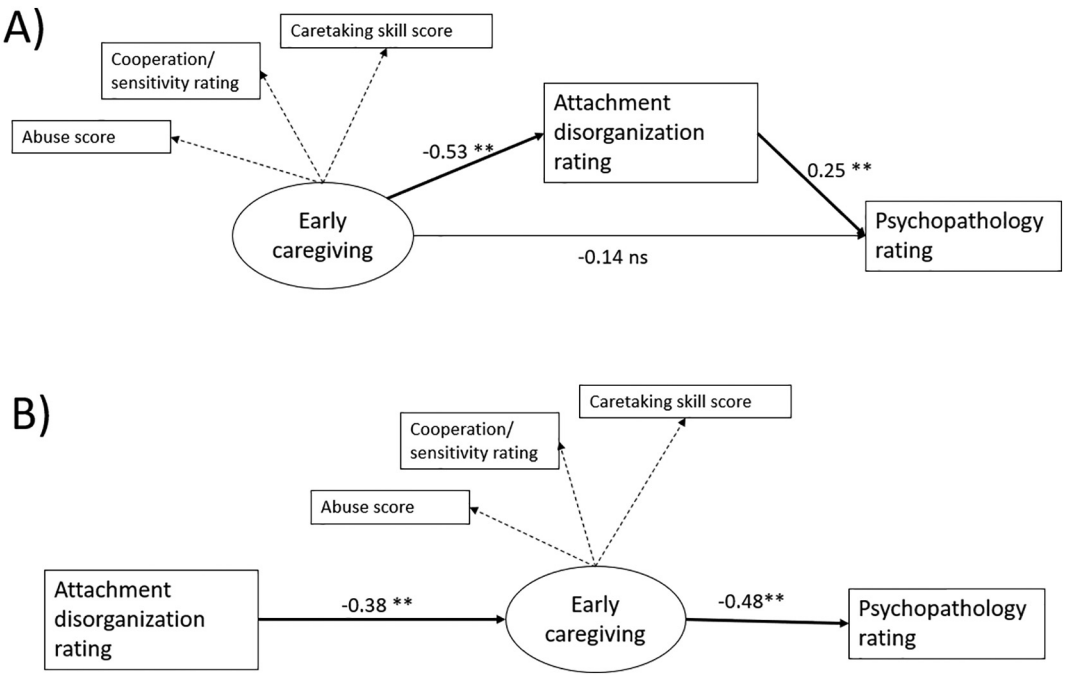

Fig. 1. Graphical representation of the results of Carlson's original analysis (part A) and our re-analysis (part B).

of assessment.

Our re-worked model gives a quite different view of the relationship between attachment and early nurturing from that in the original, which portrays disordered attachment as the result of inadequate parenting. Our model implies the reverse, that attachment difficulties make maternal care more challenging. It could even be taken to mean that the temperament and behavior of the child could be playing a role, a neglected focus we outline elsewhere White et al (2019 forthcoming). Maybe some children really are more challenging than others? Whilst we are cautious about the "biological turn" Wastell and White (2017), there is genetic evidence that this may be so, with this line of reasoning leading to a different story. Bakermans-Kranenburg and van IJzendoorn (2006) have investigated the relationship between maternal sensitivity and externalizing behaviors in children and a variant of the DRD4 dopamine gene, which has been linked to a range of maladjusted behaviors in childhood and adulthood, including externalizing behavior, as well as conditions on the autistic spectrum and ADHD Wastell and White (2017). Superficially, the results show that in children without the gene, maternal sensitivity has no effect on externalizing behavior. Only for those children with the variant, who may be presumed to be more challenging for parents, does maternal sensitivity appear to make a difference, with high sensitivity linked with normal levels of externalization. This suggests that children who are more difficult to deal with, through some intrinsic characteristic or temperamental trait, require higher levels of parental input, and that some mothers struggle to provide this. The point we seek to make is not that our model is better than that of Carlson, nor that it is correct; we simply wish to underline the point that the theoretical models tested by researchers are their models reflecting theoretical orientations.

We have noted that the paper by Granqvist et al. (2017) concluded that attachment classifications in the Strange Situation are not evidence of child maltreatment and the D/disorganized category should not be used for decision making within specific child protection cases. The paper sparked further debate and controversy from within the research and practice community. Spieker and Crittenden (2018) responded to argue that the D category was derived from one strand of attachment theory and the Dynamic-Maturational Model (DMM) of attachment and adaptation differs from this and, therefore, offers alternative possibilities for child protection work. They argue that the DMM model does not see insecure behaviors as bad, but rather as environmental adaptation strategies, which they argue are a strength. They argue that the D category does not exist in the same way, is not theorized in the same way in DMM, and, therefore, the conclusions of the Granqvist et al. (2017) paper do not apply to this particular strand of attachment theory (Spieker & Crittenden, 2018). Spieker and Crittenden (2018) argue, therefore, that the DMM model can be used for decision making in case-specific child protection decision making. They seek to demonstrate how the DMM model meets the guidelines and criteria for reporting of attachment in family courts of the International Association for the Study of Attachment (IASA). Van Ijzendoorn, Bakermans, Steele, and Granqvist (2018), however, take issue with such conclusions going on to critique the DMM model, the argument that it can identify maltreatment reliably and validly, and that it could be used ethically in family courts. The debate is heated and while Crittenden and Spieker's (2018) response to Van Ijzendoorn et al. (2018) outlines some commonalities between the different versions of attachment theory, the debate amply demonstrates the divisions within the attachment theory research communities about what attachment behaviors are, how they can be assessed, and what these behaviors mean.

7. Final reflections and conclusions

These exchanges illustrate the important points raised in this paper. Given the "very real existence of multiple causes of children's D behaviors" (Granqvist et al., 2016, p. 236), including the effect of being involved in multiple SSPs, Granqvist et al. (2016) express concern that some scholars have "sanctioned for social workers to identify D in naturalistic settings as an indicator of maltreatment", which can result in "the child being taken out of the parent's custody on invalid grounds" (p. 237). Even if we accept that frightened or frightening parental behavior might be a factor, the potential sources of this have been interrogated in meta-analyses and unsurprisingly correlate with socio-economic and environmental stressors, such as poverty, isolation and racism (Cyr, Euser, Bakermans-Kranenburg, & Van Ijzendoorn, 2010), which affect parental coping. This is important context when interpreting claims that higher rates of disorganized classifications exist amongst lone mothers and mothers from minority ethnic groups, who are more likely to be living in poverty.

The publication of the criticism by Granqvist et al. (2016) produced a response from one of the scholars named. Shemmings (2016) writes as follows:

> *Anyone who knows me or who has worked with me would be aware that my approach is very much rooted in family preservation whenever possible and I think they would be fairly astonished to read of this particular concern about our work. Our work is actually aimed at achieving the complete reverse: to help keep the family together and at the same time safeguard and protect the child (p. 526–527)*

In his rejoinder to this letter, Granqvist (2016) makes a number of points. First, he states that in practice, he has seen (as we have observed in this paper) "several cases … in which child removal orders have been filed almost exclusively based on erroneous usage of attachment theory" (p. 531). He also refers to an article in the Guardian newspaper by the same scholar which claims that "practitioners trained in our Attachment and Relationship-based Practice programme ... tell us that working in this way is quicker and more effective than the current system, with its endless assessing and monitoring, often over many weeks, seemingly getting nowhere" (p. 531–532). It is not surprising that Granqvist (2016) expresses pleasure that Shemmings has rethought "the earlier conclusions of his group, cited in our paper, about the close causal links between maltreatment and D", urging Shemmings "to go against the current tide of using attachment assessments as the magic wand for parenting-related social and clinical work" (p. 531).

What does all this mean for child protection practitioners? The four most salient points are as follows: first, not all researchers agree on what disorganized attachment means, raising questions over the construct itself. Second, assessing a child as displaying disorganized attachment behaviors requires training in the research instruments and protocols and even those who are trained often do not agree. Third, despite one purported causation of disorganized attachment being the quality of the parental care the child is provided, there is no agreement in the scientific community on the transmission mechanism of disorganized attachment. Fourth, the link between disorganized attachment and later deleterious outcomes for children is weak.

We may conclude from this that the use of the popularized version of 'disorganized attachment' disseminated in handbooks and practice guides for social workers in particular, can lead to decisions that cause more harm than good, with children potentially being removed from their family and often experiencing multiple unstable placements, on the basis of questionable assumptions. Attachment theory makes an important contribution to child protection practice and, properly applied White et al (forthcoming 2019) should give appropriate attention to enduring affectionate bonds. Research on 'disorganized attachment' might well give some helpful indicators on how to help children and their parents, but as part of a diagnostic gaze in the child protection system it needs to be handled with extreme care.

Declaration of Competing Interest

None.

References

Ainsworth, M. D., & Wittig, B. (1969). Attachment, exploration, and separation: illustrated by the behavior of one-year-olds in a strange situation. *Determinants of infant behaviour, 4*, 113–136.

Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2006). Gene-environment interaction of the Dopamine D4 receptor (DRD4) and observed maternal insensitivity predicting externalizing behavior in pre-schoolers. *Developmental Psychobiology, 48*(5), 406–409.

Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2007). Research review: Genetic vulnerability or differential susceptibility in child development: The case of attachment. *Journal of Child Psychology and Psychiatry, 48*(12), 1160–1173.

Bernier, A., & Meins, E. (2008). A threshold approach to understanding the origins of attachment disorganization. *Developmental Psychology, 44*(4), 969–982.

Brown, R., & Ward, H. (2013). *Decision-making within a child's timeframe: An overview of current research evidence for family justice professionals concerning child development and the impact of maltreatment.* London: Department of Education.

Carlson, E. A. (1998). A prospective longitudinal study of attachment disorganization/disorientation. *Child Development, 69*(4), 1107–1128.

Cassidy, J, & Shaver, P. R. (Eds.). (2018). *Handbook of Attachment: Theory, Research and Clinical Applications*(3rd Edition). London: The Guilford Press.

Crittenden, P. M., & Ainsworth, M. D. S. (1989). Child maltreatment and attachment theory. In D. Cicchetti, & V. Carlson (Eds.). *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp. 432–463). Cambridge: Cambridge University Press.

Crittenden, P. M., & Spieker, S. J. (2018). Dynamic-maturational model of attachment and adaptation versus Abc+ D assessments of attachment in child protection and treatment: Reply to Van Ijzendoorn, Bakermans, Steele, & Granqvist (2018). *Infant Mental Health Journal, 39*(6), 647–651.

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.

Duschinsky, R. (2015). The emergence of the disorganized/disoriented (D) attachment classification, 1979–1982. *History of Psychology, 18*(1), 32–46.

Fearon, R. P., Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., Lapsley, A.-M., & Roisman, G. I. (2010). The significance of insecure attachment and disorganization in the development of children's externalizing behavior: A meta-analytic study. *Child Development, 81*, 435–456.

Gibson, M. (2019). *Pride and shame in child and family social work: Emotions and the search for humane practice.* Bristol: Policy Press.

Granqvist, P. (2016). Observations of disorganized behaviour yield no magic wand: Response to Shemmings. *Attachment & Human Development, 18*, 529–533.

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.

Granqvist, P., Sroufe, L. A., Dozier, M., Hesse, E., Steele, M., van Ijzendoorn, M., ... Duschinsky, R. (2017). Disorganized attachment in infancy: A review of the phenomenon and its implications for clinicians and policy-makers. *Attachment & Human Development, 19*(6), 534–558.

Landa, S., & Duschinsky, R. (2013a). Letters from Ainsworth: Contesting the 'organization' of attachment. *Journal of the Canadian Academy of Child and Adolescent Psychiatry, 22*(2), 172–177.

Landa, S., & Duschinsky, R. (2013b). Crittenden's dynamic–maturational model of attachment and adaptation. *Review of General Psychology, 17*(3), 326–338.

Latour, B. (1987). *Science in action.* Cambridge, MA: Harvard University Press.

Main, M., & Solomon, J. (1986). Discovery of a new, insecure-disorganized/disoriented attachment pattern. In M. Yogman, & T. B. Brazelton (Eds.). *Affective development in infancy* (pp. 95–124). Norwood, NJ: Ablex.

Ringer, F., & Crittenden, P. M. (2007). Eating disorders and attachment: The effects of hidden family processes on eating disorders. *European Eating Disorders Review: The Professional Journal of the Eating Disorders Association, 15*(2), 119–130.

Shemmings, D. (2016). Letter. *Attachment & Human Development, 18*(6), 526–528.

Shemmings, D. (2018, June 28). Why social workers shouldn't use 'attachment' in their records and reports. *Community care*. Retrieved from https://www.communitycare.co.uk/2018/06/28/social-workers-shouldnt-use-attachment-records-reports/.

Shemmings, D., & Shemmings, Y. (2011). *Understanding disorganized attachment: Theory and practice for working with children and adults.* London: Jessica Kingsley Publishers.

Shemmings, D., & Shemmings, Y. (2014). *Assessing disorganized attachment behaviour in children: An evidence-based model for understanding and supporting families.* London: Jessica Kingsley Publishers.

Spieker, S. J., & Crittenden, P. M. (2018). Can attachment inform decision-making in child protection and forensic settings? *Infant Mental Health Journal, 39*(6), 625–641.

Van Ijzendoorn, M. H., Bakermans, J. J., Steele, M., & Granqvist, P. (2018). Diagnostic use of Crittenden's attachment measures in family court is not beyond a reasonable doubt. *Infant Mental Health Journal, 39*(6), 642–646.

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*, 225–249.

Vicedo, M. (2013). *The nature and nurture of love: From imprinting to attachment in cold war America.* Chicago: University of Chicago Press.

Wastell, D., & White, S. (2017). *Blinded by Science: Social Implications of Neuroscience and Epigenetics.* Bristol Policy Press.

White, S., Gibson, M., Wastell, D., & Walsh, P. (2019). *Reassessing Attachment Theory in Child Welfare.* Bristol Policy Press (forthcoming).

Wilkins, D. (2012). Disorganised attachment indicates child maltreatment: How is this link useful for child protection social workers? *Journal of Social Work Practice, 26*(1), 15–30.

Wilkins, D. (2017). Using Q methodology to understand how child protection social workers use attachment theory. *Child & Family Social Work, 22*(S4), 70–80.

Woolgar, M., & Baldock, E. (2015). Attachment disorders versus more common problems in looked after and adopted children: Ccomparing community and expert assessments. *Child and Adolescent Mental Health, 20*(1), 34–40.