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Pre-adjustment of adult attachment style to extrinsic risk levels via early attachment style is neither specific, nor reliable, nor effective, and is thus not an adaptation

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Abstract: The mechanism proposed by Del Giudice by which adult attachment style is adapted to the extrinsic risk in the local environment via attachment style during the early years does not fulfill important criteria of an adaptation. The proposed mechanism is neither specific, nor developmentally reliable, nor effective. Therefore, it should not be considered an adaptation.

In the wake of similar models (Belsky et al. 1991; Chisholm 1993; 1996; 1999), Del Giudice proposes an adaptation consisting of multiple steps that adapt adults' attachment style and reproductive strategy to the level of extrinsic risk in their local environment via their attachment style during early years. Unfortunately, Del Giudice never discusses which criteria we should use to establish if a certain mechanism or structure is an adaptation. Andrews et al.'s (2002) summary of the debate on this issue shows that specificity, developmental reliability, and efficiency figure prominently among these criteria. The mechanism envisaged by Del Giudice fails on all three of them.

Although parental behavior has a moderate effect on children's attachment style (De Wolff & van IJzendoorn 1997), the latter appears to be insensitive to the extrinsic risk of the environment. In a cross-cultural review of attachment patterns, van IJzendoorn and Sagi (1999) find one of the highest proportions of secure attachment (88% with a tripartite coding system) in the Dogon, for which child mortality is extraordinarily high (25% of children die within their first five years). Thus, deviation from secure attachment does not appear to be very sensitive to extrinsic risk. In addition, unusually high deviations from secure attachment were found in kibbutz children (31% to 52% not securely attached). But the reason for this high level of insecure attachment is not an extrinsically risky environment but, rather, that infants sleep away from their parents, with Israeli day-care infants showing secure attachment rates between 75% and 80%. Thus, the effect of extrinsic risk on infant attachment style lacks specificity because risk hardly (if at all) affects attachment style, whereas an irrelevant variable (sleeping away from parents) has a strong effect on attachment style.

However, even if the proportion of non-securely attached children clearly covaried with the extrinsic risk of the environment, the overall low variability in the relative frequency of attachment patterns should be noted. Van IJzendoorn and Sagi's (1999) review strongly suggests that secure attachment is the norm across very different environments. If deviation from secure attachment were adaptive in the face of high extrinsic risk, we would thus find that the majority of children in cultures that suffer from high childhood mortality or other high risks are maladapted because they are securely attached. However, if deviation from secure attachment were adaptive under these circumstances, we should observe developmental reliability; that is, the shift away from secure attachment should be ubiquitous and not only seen in a fraction of children. Women's esthetic judgment of male bodies may serve as an example for the ubiquity of an alleged psychological adaptation in humans. Hönekopp et al. (2007) hypothesized that women evolved an adaptive preference for the bodies of athletic men. In line with the notion that an adaptation should be developmentally reliable, a preference for the bodies of athletic men was found for all women in their sample.

Even if the mechanism envisaged by Del Giudice were specific and developmentally reliable, it would still be unlikely to be

effective. The reason is that the proposed chain of information transmission is simply too long: In the ideal case, a match between A's reproductive strategy and the extrinsic risk of the environment would come about because (1) the risk during A's adulthood correlates with the risk during A's early years, (2) the risk during A's early years correlates with A's parents' care-giving behavior, (3) A's parents' care-giving behavior correlates with A's early attachment style, and (4) A's early attachment style correlates with A's adult attachment style and reproductive strategy. Even if we assume an unusually high correlation of $r = .7$ within each of the four links, half of the relevant information would be lost during each transmission stage (because two variables that correlate with $r = .7$ have $0.7^2 = 49\%$ variance in common). This information loss multiplies over the whole chain, so that 94% of the relevant information is lost at the end of the chain ($1 - \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$). Of course, even a mechanism that loses 94% of the relevant information may be adaptive if there is no better alternative. But obviously, A has ample opportunity to directly observe the extrinsic risk in the local environment. As humans' sexual strategies appear flexible enough to take such information into account (Gangestad & Simpson 2000), A's mating strategy should be based on the observation of the current environment. And the availability of this more direct strategy renders the mechanism proposed by Del Giudice utterly ineffective.

In sum, the proposed mechanism of adjusting adult romantic attachment style and sexual strategy to the extrinsic risk level of the local environment via attachment style during the early years lacks specificity, developmental reliability, and efficiency, and should therefore not be considered an adaptation.

Synthesizing life history theory with sexual selection: Toward a comprehensive model of alternative reproductive strategies

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Abstract: Del Giudice's model of sex-specific attachment patterns demonstrates the usefulness of infusing life history theory with principles of sexual selection. We believe a full synthesis between the two theories provides a foundation for a comprehensive model of alternative reproductive strategies. We extend Del Giudice's ideas based on our own program of research, focusing specifically on the importance of intrasexual competition and the individual phenotype during development.

Del Giudice's explication of sex-specific patterns of insecure attachment substantively advances our understanding of attachment organization across development and its role in shaping adult reproductive strategies. An important strength of the model is the incorporation of parental investment and sexual selection theory into current life history models, enabling a better account of sex-differentiated life histories. The focus on sex-specific reorganization of attachment patterns in middle childhood as a critical phase in the formation of reproductive strategies is a novel and exciting idea that should stimulate future research.

Despite these strengths, the synthesis of life history theory and sexual selection theory needs further development. A comprehensive model must incorporate not only the concept of asymmetries in parental investment between the sexes, but also the alternative reproductive strategies that arise within each sex as a result of intrasexual competition. Current sexual selection models, such as Gangestad and Simpson's Strategic Pluralism