Personality and Individual Differences 127 (2018) 144–150

Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid

High parental investment in childhood is associated with increased mate value in adulthood

Jan Antfolk[a,b,*], Agneta Sjölund[a]

[a] Department of Psychology, Åbo Akademi University, Finland
[b] Turku Brain and Mind Centre, Finland

ARTICLE INFO

Keywords:
Parental investment
Mate value
Life-history theory
Paternal investment
Maternal investment
Sexual strategies

ABSTRACT

Stressors in the childhood environment, such as decreased parental investment (PI) regulate an individual's reproductive behaviors. The effect of these behaviors on fitness is partly determined by individual mate value (MV). We tested whether PI during childhood is associated to MV in adulthood. Adult men and women (N = 1244) reported received maternal and paternal investment, and also current MV. We found that high PI in childhood was associated with increased MV in adulthood. Additionally, there was a positive correlation between maternal and paternal investment and the association between paternal investment and MV was mediated through maternal investment. We conclude that PI, especially maternal investment, might influence MV in offspring.

1. Introduction

Humans are born relatively helpless and require large amounts of parental investment (PI) to develop, survive, and reproduce, and this dependency on PI continues throughout childhood and adolescence. Parents invest in offspring by providing the metabolic resources necessary for conception and gestation, but also feed, shelter, foster and care for their children. PI also include teaching children to navigate societal expectations that are likely to surround them in adulthood (e.g., Kramer, 2011). The initial physiological contribution by the mother outweighs that of the father (Trivers, 1972), and maternal investment continues to be larger than paternal investment also after birth. Paternal investment is relatively high among humans (Marlowe, 2000). Mothers and fathers report equal preparedness for altruistic investment in children (Antfolk, Karlsson, Söderlund, & Szala, 2017). Fathers are, however, often more involved in more distal forms of investment, such as the provision of resources, and mothers tend to be more involved when considering more proximate forms of investment, such as care taking and instructive interactivity with the child (Finley, Mira, & Schwartz, 2008). Apart from these general sex differences in PI, there are also individual differences in the quality and amount of PI that mothers and fathers provide.

1.1. Sexual strategies and mate value

Sexual strategies (e.g., behaviors that affect mate choice and reproduction) are—at least partly—shaped by the environment. A short-term strategy is characterized by short, frequent relationships with a relatively high number of partners, and a long-term strategy is characterized by longer, less frequent relationships with a relatively low number of partners (Buss & Schmitt, 1993). Most women show a preference for long-term strategies. Men, on the other hand, show a preference for short-term strategies, but most men are unable to attract a large number of female partners, and, therefore, also adopt long-term strategies. By mixing strategies, an individual can also reap the benefits of both types of strategies (Gangestad & Simpson, 2000). Although long-term strategies are more common among women, and short-term strategies more common among men, both types of strategies are seen in both sexes. Which strategy that will benefit the reproduction of a particular individual depends highly on situational factors and on individual factors, such as the own mate value (MV; Gangestad & Simpson, 2000).

MV can be broadly defined as the degree to which an individual attract mates of the opposite sex. An individual's MV is the result of several attributes, including age, fertility, intelligence, social status, access to resources, and willingness to provide PI (e.g., Buss, 1989). Again, there are some general sex differences in attributes that affect MV. Men put a relatively high value on youthfulness and fertility when choosing mates (e.g., Antfolk et al., 2015; Buss, 1989), whereas women put a relatively high value on social status, intelligence, access to resources, and willingness to provide PI (e.g., Buss, 1989).

Because there is variation in the traits that constitute MV, there are

* Corresponding author at: Psychology, Åbo Akademi University, Fabriksgatan 2, 20500 Turku, Finland.
E-mail address: jantfolk@abo.fi (J. Antfolk).

https://doi.org/10.1016/j.paid.2018.02.004
Received 9 December 2017; Received in revised form 31 January 2018; Accepted 2 February 2018

also individual differences in MV. Individuals with high MV are less restricted in applying and optimizing their own sexual strategy (e.g., Simpson & Gangestad, 1992). Indeed, there is a positive correlation between physical attractiveness and the number of sexual partners for both men and women (e.g., Thornhill & Gangestad, 1994). Facial symmetry is also related to extra-pair mating—a typical mixed strategy (Gangestad & Thornhill, 1997). Men with high social status also have more partners (Pérusse, 1993). Hence, MV affects the possibility to choose and optimize sexual strategies and to, in turn, increase reproductive fitness.

1.2. Childhood environment and reproductive behavior in adulthood

Life-history theory suggest organisms face trade-offs between investment in development and reproduction (e.g., Sterns, 1992). Whereas stable environments allow for increased investment in development, which, in turn, can increase the quality of reproduction, a high number of offspring is more beneficial in stressful environments (Belsky, Steinberg, & Draper, 1991; Chisholm, 1993). Draper and Harpending (Draper & Harpending, 1982) proposed that the father's investment behavior during childhood shapes strategies used by their daughters later on in their life: If the father is not present or invests little, their daughters mature relatively early and show an interest in sex at a relatively young age, and are less choosy in their mate choices. This association has been demonstrated several times (see Webster, Graber, Gesselman, Croiser, & Schember, 2014 for a systematic review).

Ellis (Ellis, 2004) thoroughly evaluated competing explanations for the association between PI and sexual maturation in girls. Whereas some explanations (e.g., PI theory: Draper & Harpending, 1982) proposes that paternal investment plays a unique role, others (e.g, psychosocial stress theory; Belsky et al., 1991; Ellis, McFayden-Ketchum, Dodge, Pettit, & Bates, 1999) emphasizes also other stressors in the social environment. Whether or not maternal investment plays an equally important role as paternal investment has been discussed. In their paper, Draper and Harpending (Draper & Harpending, 1982) referenced Hetherington's (Hetherington, 1972) study, which investigated differences in sexual attitudes between women growing up with and without their father being present. Interestingly, when the father had passed away, daughters displayed less sexual attention-seeking behavior compared to when the father had separated from the family. In the former case, the mothers reported positive views on relationships, whereas they reported negative views in the latter case. This could suggest that variation in maternal investment potentially mediates the effects of paternal investment. In studies focusing on maternal investment, the quality (rather than the quantity) of investment has been shown to be related to sexual maturation in their girls. For example, daughters to more stern mothers have earlier menarche (Belsky, Steinberg, Houts, & Halpern-Felsher, 2010). Kim and Smith (Kim & Smith, 1998) found an association between mother-daughter conflict and timing of the daughters' first menstruation: The more conflict, the earlier the menstruation.

Fewer studies have investigated the association between PI and sexual maturation in boys. The outcome is mixed. For example, whereas a study by Sheppard and Sear (Sheppard & Sear, 2012) showed that father absence also was associated with early reproduction in sons, a study by James, Ellis, Schlomer, and Garber (James, Ellis, Schlomer, & Garber, 2012) did not find that family relationships were associated with sex-related outcomes in boys.

1.3. Parental investment and mate value

A question attracting less research interest is how childhood environment and PI affects MV in adulthood. Because the effects of sexual behaviors on actual fitness are tightly knit to MV (Buss & Schmitt, 1993; Gangestad & Simpson, 2000), an adaptive benefit of PI would be to also up-regulate the MV of offspring. A study by James et al. (James et al., 2012) investigated the relationship between various factors in the childhood environment and sexual maturation and behavior in young adults. The main analyses did not include MV, but a weak, but statistically significant and positive zero-order correlation between the MV of the young adults and affective disorders in their mothers was reported in a correlation matrix. Some more distal findings include that mothers that are more depressed have children with lower MV (James et al., 2012), and that the more children a family contains, and the less PI that can be directed into each of these children individually, the lower MV these children have later on (Kaptijn, Thomese, van Tilburg, Liefbroer, & Deeg, 2010). Some studies have, however, investigated the association between PI and attributes that are facets of MV. For example, both paternal and maternal affection during childhood is associated with attractive personality traits (Dunkel, Nedelec, & van der Linden, 2018).

Although the research on PI and MV is somewhat lacking, it seems that parents actively try to influence the MV and reproductive behavior of their children. Parents affect their daughters MV by controlling their behavior to maintain their daughters' reputation (Kuhle et al., 2015). Parents also try to directly influence their children's physical appearance (e.g., instruct them to lose weight; (Jackson, Wilkes, & McDonald, 2007)). Parents can also influence other aspects of MV, by, for example, helping their children to achieve academic success (Hill & Tyson, 2009), which can increase social status. Hence, parents might try to influence the MV of their children. What is less clear is whether there is a link between PI in childhood and MV in adulthood.

1.4. The current study

The aim of the current study was to investigate whether there is an association between PI in childhood and MV in adulthood. We investigated the associations between maternal and paternal investment and MV in both men and women. Based on the aforementioned theory and findings, we expected a positive association between maternal investment and paternal investment and MV of adult men and women. These associations could be independent of each other, or, as speculated by Draper and Harpending (Draper & Harpending, 1982), the association between paternal investment and MV could be mediated by maternal investment.

2. Method

2.1. Participants

The current study included observations from 1244 respondents. Of these, 907 were women and 337 were men. The age range was 18–40 years and the mean age was 27.2 years ($SD = 6.22$). Observations were taken from the Finn-Kin data set (Albrecht et al., 2014), which is based on a randomized population-based sample of adults in Finland. The data set includes responses to questions about sexual behavior, relationships, criminogenic traits, and family background. Due to differences in response rates, more women than men participated (For more details on this data collection, see Albrecht et al., 2014). In the current study, we only included respondents providing responses to all items used in the analyses.

2.2. Indicators

To measure PI, five items were included for maternal investment and five items were included for paternal investment. These items measured how much the respective parent had talked with the respondent, praised the respondent, been aware of what the respondent was doing, displayed physical affection to the respondent, and how emotionally close the respondent and the parent is (See Table 1 for exact formulations). For all items, responses were given on a continuous scale ranging from 0 (“Very seldom”/“Not at all”) to 100 (“Very often”/