The association between life history strategy and mate preference in men

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The function of life history (LH) strategies acquired in response to ambient conditions during childhood is to maximize reproductive success. Mate preferences that facilitate reproductive goals should thus vary with LH strategies. In two studies, male participants completed measures of LH and mate preferences regarding fertility and good genes, fidelity and good mothers, and modernity and good provisioning (Study 1) or a face identification task designed to assess perceptual sensitivity toward neoteny representing fertility (Study 2). Results showed that men identified as of fast LH preferred physically attractive women and prioritized fertility and good genes over fidelity and good mothers in their mate selections. Moreover, they were sensitive to female fertility features, as evidenced by them spending less time identifying odd faces that differed from other faces in terms of neoteny. These findings suggest that men of faster LH are more likely to invest in mating than parenting and preferred mates of high reproductive potential over those representing high parental investment.

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1. Introduction

Parental investment determines the direction of sexual selection. When females are the investing sex, males compete for access to females and females select among males, whereas males and females can be equally selective when both sexes contribute to parental investment (Trivers, 1972). Trivers’ parental investment theory explains interspecific variations as well as individual differences within a single species. Men being highly parentally invested fathers (Geary, 2000) should therefore be selective like women in long-term relationships. At both levels, mating behavior including mate choice is the result of life history (LH) tradeoff strategies. Parental investment versus mating investment represents two LH strategies, with the former being a slow LH strategy that focuses on the quality of both parenting and offspring, and with the latter being a fast LH strategy that trades parenting quality for offspring quantity (Del Giudice & Belsky, 2011). In this light, why men are selective and what they select in long-term relationships are ultimate LH questions. Whereas women’s mate choice has received much attention in the literature (e.g., Buss & Shackelford, 2008), the purpose of the present study was to investigate the association between LH strategies and men’s mating preferences.

1.1. LH and mating behavior

LH refers to organisms capturing energy from the environment and using it to produce more organisms (Ellison, 2016). Some of this energy must be employed for the growth and maintenance of the energy-capturing organism, as well as for reproduction and raising offspring. Because of environmental constraints arising from limited resources and such extrinsic risks as predation, disease, and intraspecific violence that hinder the energy-capturing process, amounts of energy are seldom sufficient to meet all the demands. Trade-offs must be made between aspects of growth and development such as parenting and reproduction, resulting in two broad LH trade-off strategies: a fast strategy involving fast growth, early maturation, and a long mating tenure relative to the life span and a slow strategy associated with slow growth, late maturation, delayed reproduction, and a longer life span. The implementation of these strategies depends on the resources and risks in a species’ environment (Ellis, Figueredo, Brumbach, & Schlomer, 2009). When resources are abundant or fluctuate between periods of prosperity and scarcity, organisms enjoying prosperity adopt fast LH strategies by freely exploiting the rich resources for fast development and early reproduction. Such organisms produce high quantities of offspring who can survive and thrive in a resource-rich, competition-free environment with little parental investment (MacArthur & Wilson, 1967; Pianka, 1970). When high reproductive rates increase population density to the point of resource depletion, organisms adopt slow LH strategies by shifting energetic investment from mating to parenting. Such organisms...
produce lower quantities of high quality offspring, and teach them the skills required to compete for available resources. Similarly, high frequencies and variations of such extrinsic risks as predation, war, and disease cause mortality and morbidity despite survival efforts. Under such conditions, organisms implement fast LH strategies to accelerate development and reproduction before extrinsic mortality or morbidity occurs (Promislow & Harvey, 1990).

Correspondence between environmental conditions and fast–slow LH is determined during evolution and continues to regulate organisms’ responses to their current environments (Pepper & Nettle, 2017). For example, using a within–species individual–difference approach, numerous studies on human LH have shown linkages among environmental conditions, LH strategies, and various sexual outcomes (Lu, 2018). People growing up in harsh and unpredictable environments tend to experience the early onset of puberty (Belsky et al., 2010; James, Ellis, Schlomer, & Garber, 2012), risky sexual activity at an early age, and premartial pregnancy (Ellis et al., 2003), with many becoming parents at young ages (Nettle, Coal, & Dickens, 2011; Sheppard & Sear, 2012). Experimental manipulation of mortality and morbidity (e.g., stories about impending uncertain harsh times) directly and indirectly correlates with such fast LH outcomes as short-term mating motivation and the desire for early reproduction (Dunkel, Mathes, & Decker, 2010; Griskevicius, Tybur, Delton, & Robertson, 2011). However, cues of resource-depleting environments alter mating behaviors, making them more characteristic of slow LH. College students in hungry state liked female mates with mature features (e.g., relatively taller, heavier, and older) that represent parental investment potential and they paid little attention to body shape that implies fertility and good genes (Pettijohn, Sacco, & Verkes, 2009; Swami & Tovée, 2006). After being primed with impoverished living environments, men (Little, Cohen, Jones, & Belsky, 2007) and women (Lu, Zhu, & Chang, 2015) preferred mate values representing good parental investment over those representing good genes in long-term relationships, and women also preferred good provisioning (Lee & Zietsch, 2011). These mating preferences suggest slow LH orientation. Similarly, correlational studies have shown that slow LH strategies correlate with less effort invested in acquiring sexual partners (Gladden, Figueredo, & Jacobs, 2009), a weaker orientation toward short-term relationships (Dunkel & Decker, 2010; Olderbak & Figueredo, 2012), and more restricted attitudes toward sexual intercourse (Brumbach, Figueredo, & Ellis, 2009).

1.2. Mate preference and LH

Mate choice is similarly calibrated by LH. As an ongoing topic of human mating, mate preferences have been investigated using methods such as textual analysis of mate-searching advertisements (Pawlowski & Dunbar, 2001) and questionnaires measuring the importance of various mate attributes in mate selection (Buss & Schmitt, 1993) or the likelihood of marrying a person with particular characteristics (Sprecher, Sullivan, & Hatfield, 1994). Three categories of preferences for long-term mates appear to have remained stable over time and in various locations. These categories are attractiveness or attributes of good genes and fertility, domestic virtues or attributes of good mothers and fidelity, and desirable economic conditions or attributes of good providers and modernity (Buss & Schmitt, 1993; Busto & Emlen, 2003; Chang, Lu, & Zhu, 2017; Lu et al., 2015; Schmitt, Shackelford, & Buss, 2001). Such preferences represent various LH strategies; for example, fertility-related attributes represent a fast LH strategy by contributing to immediate reproductive success (RS) upon insemination, whereas attributes of good parenting have a delayed effect on RS only after childbirth (Lu et al., 2015), thereby serving a slow LH function. Therefore, mate selection is a question of fast versus slow LH.

Men pursuing a fast LH strategy focus on immediate fertility opportunities before mortality-morbidity strikes. A crucial indicator of female fertility is age, with potential reproduction peaking during the midteens and actual reproduction peaking during the mid-20s (Johnston, 2006). Age can be identified from facial appearance (Jones et al., 1995). Features associated with youthfulness include smooth skin, lustrous hair (Gangestad & Scheyd, 2005), and facial biomarkers such as large eyes, full lips, and a small jaw region (Jones et al., 1995). As people become older, eyebrows descend from above to below the supraorbital rim, ears become larger, noses become longer and wider, and lips become thinner (Jones et al., 1995). Maintenance of youthful facial features is called “facial neoteny,” and implies a high level of estrogen. High estrogen levels in women indicate high reproductive capacity (Roberts et al., 2004) and high gene quality (Thornhill & Gangestad, 1999), both of which are manifested in facial attractiveness. Therefore, youthful faces and attractive faces share common features (Cunningham, 1986), and it is reasonable to assume that men pursuing fast LH should prefer attractive women and can quickly identify youthful female faces.

The main challenge of men pursuing slow LH strategies is to improve the competitiveness of their offspring in resource-scarce environments (Chang & Lu, 2018). Intensive parenting is crucial for nurturing competitive offspring; therefore, men pursuing slow LH strategies should prefer women who exhibit attributes of being a good mother. Moreover, because slow LH strategists emphasize investing more in parenting than in mating to produce high-quality offspring (Kaplan & Gangestad, 2005), when pregnancy is not inevitable, such men can incur far greater losses than those pursuing fast LH strategies, who produce high quantities of offspring with little parental investment. Therefore, men pursuing slow LH strategies should prefer women who can dispel paternal uncertainty by being home-oriented and who exhibit domestic virtues.

Attributes of good provision are beneficial to one’s partner at the premating stage and are beneficial to one’s offspring at the postmating stage. Therefore, such attributes may be involved in both fast and slow LH strategies. Fast LH strategists may seek immediate material rewards from a mate, especially in uncertain environments that prevent future resource-based planning, and may be accustomed to exploiting windfalls of competition-free resources (Chang & Lu, 2018). However, slow LH strategists who are future-oriented (Frankenhuis, Panchanathan, & Nettle, 2016) and who focus on parenting and training of offspring (Kaplan & Gangestad, 2005) may prefer extra resources from a partner to increase indirect parental investment. Compelled by depleting resources, slow LH strategists may also be eager to extract and hoard available resources (Chang & Lu, 2018). Because the functional effect of provisioning serves both ends of the fast–slow LH continuum, when measured in one direction of fast or slow LH, the construct is expected to be uncorrelated with good provisioning mate attribute.

1.3. Present study

In contrast to extant mating research that has focused almost exclusively on women’s mating preferences within the sexual selection framework of female choices, the present study examined men’s mating preferences within the LH framework because extensive human paternal investment in offspring renders men selective about their long-term partners. In two studies, we tested a set of hypotheses regarding the relationships between LH strategies and mating preferences over attributes of good genes, good mothers, and good providers. In Study 1, we conducted structural equation modeling to examine the structural relations between fast LH strategy and mating preference consisting of preferences over fertility and good genes, fidelity and good mothers, and modernity and good providers. We expected fast LH to be positively correlated with fertility and good genes, negatively correlated with fidelity and good mothers, and uncorrelated with modernity and good provisioning mate attributes. In Study 2, we conducted a facial identification test, where the participants were required to identify female faces with various neotenic features. We hypothesized that men with faster LH strategies would be faster at identifying faces because they would focus more on neotenic features representing fertility.
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