An evolutionary life history approach to understanding greed∗

Bin-Bin Chen

Department of Psychology, Fudan University, 220 Handan Road, Shanghai 200433, China

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ABSTRACT

Evolutionary life history theory offers a unifying theoretical framework, emphasizing that human behaviors have been selected because they are adaptive responses to environmental challenges. There is little extant empirical research on the evolutionary origin of greed. The purpose of this study, which was based on the evolutionary life history approach, was to examine the relationships between childhood environmental unpredictability, attachment, and greed. A sample of 364 university students completed measures of greed, attachment, and childhood environment. Structural equation modeling revealed that, as predicted, childhood environmental unpredictability was positively associated with greed. Furthermore, attachment was confirmed as a mediator of the association between childhood environmental unpredictability and greed. These results define the evolutionary origin of greed.

1. Introduction

Greed has been defined as always wanting more, combined with never being satisfied that one has enough (Krekels & Pandelaere, 2015; Seuntjens, Zeelenberg, van de Ven, & Breugelmans, 2015). Greed has been a hot topic in philosophy, economics and religious thinking (Seuntjens et al., 2015). Despite the increased attention in greed, it is only in the past five years that scholars have begun to explore greed empirically, especially from a psychological perspective (Seuntjens, van de Ven, Zeelenberg, & van der Schors, 2016). Furthermore, very little is known about the evolutionary origins of greed. The aim of this paper is to provide one of the first empirical investigations of greed informed by evolutionary life history theory.

Evolutionary life history theory proposes that environmental conditions play an important role in individuals' survival and reproductive fitness (Del Giudice, Gangestad, & Kaplan, 2015). In particular, environmental conditions in early life can calibrate individuals' developmental pathways and, thus influence the life history strategies they adopt in response to environmental challenges (Belsky, Steinberg, & Draper, 1991; Chisholm, Quinlivan, Petersen, & Coall, 2005). This is because environmental cues in early life may reflect the ecology that an individual will face in later life (Belsky, 1997; Ellis, Figueredo, Brumbach, & Schlomer, 2009). An important feature of childhood environment is its unpredictability (Ellis et al., 2009). An individual who grows up in a predictable environment may learn to expect the future to be similarly predictable and hence adopt a life history strategy characterized by prosocial orientation and long-term goals. In contrast, an individual who grows up in an unpredictable environment may develop an expectation that the future is uncertain and hence adopt a life history strategy characterized by a selfish orientation and short-term goals. Empirical research has consistently supported the hypothesis that environmental unpredictability in childhood influences adult life history outcomes such as sexual behaviors (Belsky, Schlomer, & Ellis, 2012; Simpson, Griskevicius, Kuo, Sung, & Collins, 2012), time preference (Chen & Qu, 2017), interpersonal relationships (Barbaro & Shackelford, 2016), and personality traits (Chen, Shi, & Sun, 2017).

If one takes this kind of evolutionary perspective, greed may also have evolved as a life history strategy in response to unpredictable environments. Working to get as many things as possible may give greedy people living in the environments of resource insecurity or scarcity an evolutionary advantage (Chen, 2017b; Krekels & Pandelaere, 2015). Thus being greedy may increase access to resources and reduces the risks associated with uncertainty (Robertson, 2001; Seuntjens et al., 2015). Recent research based on the children sample has provided empirical support for this notion. Children who were exposed to a condition in which future access to resources was unpredictable were more likely to choose immediate gratification than those who were exposed to a predictable condition (Kidd, Palmeri, & Aslin, 2013). This hypothesis based on the life history theory may also apply to explain greed in adulthood. Although the role of an unpredictable childhood in greed in adulthood has not been examined directly, there is some suggestive evidence. For example, previous research has indicated that people who grew up in a disrupted family place greater importance on financial security than people who grew up

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E-mail address: chenbinbin@fudan.edu.cn.
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in an intact family (Rindfleisch, Burroughs, & Denton, 1997). On the basis of evolutionary life history theory and the existing literature we predicted that unpredictable childhood environment would be associated with greed.

Although childhood environmental unpredictability may be directly associated with life history outcomes, some evolutionary psychologists (e.g., Barbaro & Shackelford, 2016; Belsky et al., 2012; Chen et al., 2017; Chen & Qu, 2017; Szepsenwol, Simpson, Griskevicius, & Raby, 2015) have recently proposed that it might influence life history outcomes later in life indirectly, through a mediating mechanism. This idea attracted attention to the life history model of attachment (Belsky et al., 1991; Chen, 2017a; Chen & Chang, 2012a; Chisholm, 1993; Del Giudice, 2009). This model offers a theoretical explanation for how the attachment system, which evolved as an environmentally-contingent mechanism that enhances survival and reproductive fitness, channels children towards different life history strategies and developmental pathways. It stresses that attachment patterns during early life serve as a “bioassay” (i.e., a mediator) of environmental conditions (Chisholm, 1993). In predictable environments children are more likely to establish secure attachment relationships with their parents (Chisholm, 1993; Del Giudice, Angeleri, & Manera, 2009). Individuals with secure attachments are more likely to have an internalized expectation of a predictable future, which leads them to slow their reproductive schedule and engage in pursuit of long-term goals (Chen, 2017a; Chen & Chang, 2012a; Del Giudice, 2009). In contrast, in unpredictable environments children are more likely to establish insecure attachment relationships with their parents (Chisholm, 1993; Del Giudice et al., 2009). Individuals with insecure attachments are more likely to have an implicit expectation that the future is unpredictable, which causes them to speed up their reproductive schedule and to engage in activities associated with short-term goals and antisocial orientation (Chen, 2017a; Chen & Chang, 2012a). Thus parental attachment may mediate the relationship between childhood environment and behavioral outcomes relevant to life history strategies (e.g., coercive resource control; Chen, 2017a). Following this evolutionary logic from the life history model of attachment, we predicted that insecure attachment would mediate the relationship between unpredictable environment in childhood and greed in adulthood.

1.1. The present study

In summary, this study examined greed as both a direct and indirect behavioral outcome of childhood environmental unpredictability, with insecure attachment as the mediator of the putative indirect relationship. First, we hypothesized that childhood environmental unpredictability would be correlated with greed. Second, we hypothesized that insecure attachment would mediate the association between childhood environmental unpredictability and greed. The model is presented in Fig. 1. We tested these two hypotheses in a sample of college students using structural equation modeling (SEM). We used multiple indicators to measure the three latent constructs. We used three scales to measure the greed construct and two scales to measure the childhood environmental unpredictability construct. We assessed the insecurity of participants’ attachments to both parents. We assessed the direct and indirect (mediated by insecure attachment) associations between childhood environmental unpredictability and greed using both overall model fitness statistics and significance tests of specific paths.

2. Method

2.1. Participants and procedures

A convenience sample of 364 Chinese college students (229 women; 135 men; mean age = 20.28 years, SD = 1.43) took part in the study. The participants were volunteers and were given a link to a website where they could complete the questionnaires.

2.2. Measures

2.2.1. Greed

Three scales were used to assess greed: (1) the Dispositional Greed Scale (DGS; Seuntjens et al., 2015), which consists of seven items (e.g., “I always want more.”; α = 0.91); (2) the Greed Trait Measure (GTM; Mussel, Reiter, Osinsky, & Hewig, 2015), which consists of 7 items (e.g., “When I think about all the things I have, my first thought is about what I would like to have next.”; α = 0.88); (3) the Greed Subscale of the Virtues and Vices Scale (VVS; Veselka, Giammarco, & Vernon, 2014), which consists of ten items (e.g., “I do not enjoy sharing positions of power”; α = 0.80). Responses to all three scales were given using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). Composite greed scores for each scale were calculated by averaging the item scores; high scores represented high levels of greed.

2.2.2. Insecure attachment

Insecure attachment was assessed using the alienation subscale of the Chinese version (Chen, 2017c) of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). The alienation items measure feelings of insecure attachment relationships with parents. Previous research has shown that individuals with insecure attachment as measured by the Attachment Questionnaire (Hazan & Shaver, 1987) have higher levels of alienation scores as measured by the IPPA than securely attached individuals (Muris, Meesters, van Melick, & Zwambag, 2001). Responses to the five items (e.g., “My [mother/father] does not understand what I am going through”) were given separately for each parent, using a five-point Likert scale ranging from 1 (“never”) to 5 (“always”). Composite insecure paternal and maternal attachment scores were calculated by averaging item scores; higher scores indicated insecure parental attachment. The internal consistency statistics for the paternal and maternal attachment scales were 0.70 and 0.75 respectively in our sample.

2.2.3. Childhood environmental unpredictability

Two scales were used to assess childhood environmental unpredictability. One was the Chinese version (Chen & Qu, 2017) of the Environmental Conditions Scale (ESC; Brumbach, Figueiredo, & Ellis, 2009), which consists of five items (e.g., “How often did your parents or other adult care-givers fail to take care of your basic needs, such as keeping you clean and providing food and clothing?”; α = 0.68). Responses were given using a four-point Likert scale (1 = ‘never’ to 4 = ‘always’). The other was the Childhood Unpredictability Scale (CUS; Mittal, Griskevicius, Simpson, Sung, & Young, 2015), which consists of three items (e.g., “When I was younger than 10, things were often chaotic in my house.”; α = 0.82). Responses were given using a seven-point Likert scale (1 = ‘strongly disagree’ to 7 = ‘strongly agree’). These two scales provide a retrospective measure of childhood experiences, but the empirical evidence has consistently suggested that these retrospective reports are accurate (Brewin, Andrews, & Gotlib, 1993; Hardt & Rutter, 2004).

2.2.4. Test of common method bias

All the variables were assessed by self-report questionnaires, so common method bias was a potential problem. To determine whether the results were affected by common method bias we conducted a confirmatory factor analysis testing the hypothesis that a single factor explained all of the variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The one-factor model was a poor fit, χ²(14) = 182.13, p < .001, RMSEA = 0.18, CFI = 0.86, SRMR = 0.10, indicating that our results were not substantially affected by common method bias.
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