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Ultimatum Game behavior in light of attachment theory

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ABSTRACT

In this paper we import a mainstream psychological theory, known as attachment theory, into economics and show the implications of this theory for economic behavior by individuals in the ultimatum bargaining game. Attachment theory examines the psychological tendency to seek proximity to another person, to feel secure when that person is present, and to feel anxious when that person is absent. An individual's attachment style can be classified along two-dimensional axes, one representing attachment "avoidance" and one representing attachment "anxiety". Avoidant people generally feel discomfort when being close to others, have trouble trusting people and distance themselves from intimate or revealing situations. Anxious people have a fear of abandonment and of not being loved. Utilizing attachment theory, we evaluate the connection between attachment types and economic decision making, and find that in an Ultimatum Game both proposers' and responders' behavior can be explained by their attachment styles, as implied by the theory. We demonstrate how knowledge of the attachment type of the responder can be utilized by the proposer in order to maximize his expected income. We believe this theory has implications for economic behavior in different settings, such as negotiations, in general, and more specifically, may help explain behavior, and perhaps even anomalies, in other experimental settings.

1. Introduction

In this paper we import a mainstream psychological theory, known as attachment theory, into economics and show the implications of this theory for economic behavior by individuals in certain settings. We test these implications by appealing to the much researched Ultimatum Game, and demonstrate the ability of the theory to help explain some of the differing behavior across individuals in this game.

Attachment theory is meant to describe and explain people's enduring patterns of relationships from birth to death. This domain overlaps considerably with that of Interpersonal Theory. Because attachment is thought to have an evolutionary basis, attachment theory is also related to Evolutionary Psychology. Bowlby (1969), who first applied this idea to the infant-caregiver bond, was inspired by studies from ethology, which is concerned with the adaptive or survival value of behavior and its evolutionary history. It was first applied to research on children in the 1960s, but has become more influential in recent years. Bowlby created an alternative to psychoanalytic theory, one much more solidly grounded in primate ethology,

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cognitive developmental psychology, and clinical research. Basically, attachment theory is a theory of personality and social behavior.

Today, because of this auspicious theoretical and psychometric foundation, attachment theory has spawned a large and complex literature comprising thousands of empirical studies, a literature that continues to reflect Bowlby's psychoanalytic origins. As a personality theory, attachment theory combines psychoanalytic, evolutionary, developmental, social-cognitive, and trait-like constructs in a systematic framework that transcends the usual typologies of personality theories. Still, the subheadings used in textbooks that systematically compare personality theories – structure, motivation, dynamics, individual differences, development, and mental health or optimal adjustment – are useful in organizing and explaining attachment theory and its research literature.

A number of researchers have demonstrated that psychological traits affect choices in the Ultimatum Game.[1] Meyer (1992) and Carpenter, Burks, and Verhoogen (2005) considered a personality scale known as the Mach (Machiavelli) Scale as an explanatory variable in the Ultimatum Game. Construction of the Mach Scale is accomplished by posing 20 statements with which the subject is asked to agree or disagree on a seven-point scale. The Mach Scale is meant to capture a person's level of cynicism about others, willingness to engage in manipulative behavior and concern about morality. Meyer (1992) found that those with high Machs are less likely to reject low offers. Carpenter et al. (2005) found no evidence that the Mach Score has an effect on offers (although it does have an effect on offers in the Dictator Game).

Brandstätter and Königstein (2001) examined individual differences in behavior within an Ultimatum Game. The authors found that personality measures contribute significantly to understanding decisions. High scores on independence and tough-mindedness are positively correlated with proposer demands. For responders, people who are either emotionally unstable and extraverted or emotionally stable and introverted reject more often, which is interpreted as an act of angry retaliation (negative reciprocity).

Swope, Cadigan, Schmitt, and Shupp (2008) classify people by a psychological preference measure known as MBTI (Myers–Briggs Type Indicator), and derive testable hypotheses with respect to behavior in four experiments including the Ultimatum Game. They are unable to test the effect on rejection rates (there were only 4 rejections in 47 observations), but they do find an effect of certain traits on offers. Specifically, they show that people who are both extroverts and feeling types (as opposed to thinking types) make higher offers.

In this paper, as stated, we consider fundamental attachment traits. We should mention at the outset that the essence of attachment theory deals with situations in which the parties are in close contact with one another, however, it also has implications for less intimate situations, such as in religious settings (treating G-d as an attachement figure, Kirkpatrick, 1998), in the workplace (Wendling, 2010), and even when parties are not previously attached but may become so. We chose to test the implications of this theory for economic behavior specifically in the anonymous setting of the Ultimatum Game, a setting in which it is least likely to succeed. Using this non-natural setting to test the theory allows us to establish a lower bound on expected effects in less anonymous settings – if the theory works to explain behavior in the anonymous Ultimatum Game, it is certainly expected to be able to do so in real-life settings in which parties have a joint history.

The paper is organized as follows. The next section reviews attachment theory as developed in the psychology literature. Section 3 provides the experimental design and the hypotheses. Section 4 contains the results and the analyses. A brief summary and discussion can be found in Section 5.

2. Introduction to attachment theory

Attachment theory was first suggested by Bowlby (1969, 1973, 1980, 1988) to help explain the emotional connection that is formed between infants and their caregivers. This connection, called attachment style, is credited with assisting the infant's survival during times of stress or threat. Different modes of communication evolve over time to assist in creating this attachment system. According to Bowlby, the attachment system is activated through the answer to the following fundamental question: Is the attachment figure nearby, accessible and attentive? If the child perceives the answer to this question to be "yes," he or she feels loved, secure, and confident, and, behaviorally, is likely to explore his or her environment, play with others, and be sociable. If, however, the child perceives the answer to this question to be "no," the child experiences anxiety, and, behaviorally, is likely to exhibit attachment behaviors ranging from simple visual search to active search expressed by crawling and crying in an attempt to find the attachment figure.

Although Bowlby believed that the basic dynamics described above captured the normative dynamics of the attachment behavioral system, he recognized that there were individual differences in the way children appraised the accessibility of the attachment figure and how they regulated their attachment behavior in response to a threat. However, it was not until his colleague, Mary Ainsworth, began to systematically study infant-parent separations that a formal understanding of these individual differences came to fruition. Ainsworth and her students developed a technique called "the stranger situation." In this technique, 12-month-old infants and their parents were brought to the laboratory and were systematically separated (and replaced by a stranger) and reunited. In "the stranger situation," most children (about 60%) behaved in accordance with Bowlby's "normative" theory. They became upset when the parent left the room, but when he or she returned, they actively sought the parent and were easily comforted by him or her. Children who exhibit this pattern of behavior are often called

[1] For discussions of the ultimatum game, see, for instance, Kagel and Roth (1995) and Camerer (2003).