Moral Attributes in a Dictator Game

Brian T. Kench -- University of Tampa
Robert L. Beekman -- University of Tampa
Wanda V. Chaves -- University of Tampa
Neil B. Niman -- University of New Hampshire

Abstract
This paper investigates whether or not the moral factors captured in an emotional intelligence assessment matter in the economic decisions made by subjects in a dictator game. We find a statistically significant relationship between the amount of the dictator’s contribution and a few of the factors of the Intrapersonal Dimension of the EQi. We also find a significant relationship between dictator contributions and an adjusted EQi score, measures of independence, know-my-own and empathy. Finally, we recommend to those studying individual decision making to use EQi questions pertaining to independence, know-my-own, and empathy in a pre-experiment survey. Such information should be used to control for a few of the moral attributes Levitt and List (2006) suggest are so very important in understanding laboratory and field experiments.

Introduction
Steven Levitt and John List (2006, pp. 2-3) argue that human decisions are influenced not just by simple monetary calculations, but also by the nature and extent to which one’s actions are scrutinized by others, the particular context and process by which a decision is embedded, and self-selection of the individuals making the decisions. Levitt and List (2006) offer a model of utility maximization that depends on wealth and an individual’s desire to “do the right thing” or make the “moral” choice. The weight an individual places on such moral desires is likely to increase when a subject is being watched, when the decision process is emphasized, and / or the stakes of the game decrease (Levitt and List 2006, pp. 3-4). The Levitt and List utility maximization model predicts that in a dictator game – a game where one subject (the dictator) has the sole decision on how to split some monetary sum between herself and another subject – keeping a greater share for oneself

* Research funding provided by the University of Tampa’s Faculty Development Dana Grant and the David Delo Research Professor Grant.

1 The Levitt and List (2006) utility function is \( U_i(v, n, s) = M_i(v, n, s) + W_i(v, n, s) \), where a utility-maximizing individual \( i \) is faced with a choice regarding a single action \( a \in [0,1] \). \( W \) is an individual’s wealth, \( v \) is the value of the monetary stakes of the game (as \( v \) increases, the impact on \( W \) increases), \( M \) is the pecuniary moral cost or benefit associated with action \( i \), \( n \) is the social norm against a behavior, and \( s \) is the level of scrutiny (where moral cost increase with higher levels of scrutiny).

2 The study of the role of non-monetary variables in individual decision making has had a long history in economics. Perhaps the earliest treatment was Adam Smith’s book The Theory of Moral Sentiments, where Smith writes that a harmony of sentiments between individuals forms the foundation for “the social regulation of personal behavior.” A code of behavior that becomes critical to the “achievement of a constructive and sustainable order of free people and free markets” (cited in Evensky 2005, p. 119). More recently, Becker (1974) introduced altruism as an explanation for why individuals cooperate when it is money-maximizing not to cooperate and Fehr and Gachter (2000a, 2000b, 2002) find altruism in public goods experiments.
increases an individual’s wealth, but doing so may cause the subject moral disutility. In a small stakes dictator game, the Levitt and List model would predict transfers from the dictator to the other subject despite the wealth maximizing Nash equilibrium of the dictator not transferring any money to the other subject.

In this study, we begin by accepting Levitt and List’s (2006) point that moral costs or benefits matter in an individual’s decision making process both inside and outside of the laboratory environment (admittedly, to different degrees). We attempt to capture an individual’s “moral” data by having each of our research subjects complete an emotional intelligence assessment. An emotional intelligence assessment records the extent to which subjects are aware of their own emotions, how they are able to manage their own emotions, how sensitive they are to the emotions of others, their ability to respond to and negotiate with other people emotionally, and whether they are able to use their own emotions to motivate themselves. The matters addressed in the emotional intelligence assessment are similar to some of those that Levitt and List (2006) suggest might matter in an economic decision-making environment. Moreover, we have reviewed the literature, and we believe that this paper is the first to integrate an emotional intelligence assessment and a behavioral experiment.

After each subject in our experiment completed an emotional intelligence assessment, he or she participated in a simple dictator game in which subjects decided how much, if any, of an endowment to give to another subject in a one-shot environment. Our purpose is to observe whether emotional intelligence or its component attributes (which we suggest are proxies for moral attributes) play a role in the dictator’s behavior in a simple dictator experiment.

The rest of the paper is organized as follows. The first section sketches out the history of emotional intelligence research and describes the emotional intelligence assessment. Section two details the dictator experiment used in this study. Section three reports the experimental results and the results of the emotional intelligence assessment. The last section concludes the paper.

Emotional Intelligence and the EQi

Throughout the years, psychologists such Edward Thorndike in the 1920’s, David Wechsler and R.W. Leeper in the 1940’s, and Albert Ellis in the 1950’s explored the concepts of “social intelligence,” “emotional factors,” and “emotional thoughts.” More recently, Howard Gardner with his highly influential work on “multiple intelligences” in the 1980’s, and Daniel Goleman and Pete Savoy (who formally coined the term “emotional intelligence”) in the 1990’s explored the concept of emotional intelligence, EQ, as important and as distinct from cognitive intelligence, IQ. Cognitive intelligence refers to an individual’s ability to think logically, to reason, “to concentrate and plan, to organize material, to use words and to understand, assimilate and interpret facts” (Stein & Book, 2003). Emotional intelligence, on the other hand, is a “type of social intelligence which involves the ability to monitor one’s own and others’ emotions, to discriminate among these emotions, and to use the information to guide one’s thinking and action” (Salovey & Meyer, 1990). Emotional Intelligence incorporates five principal features: (1) being aware of one’s own emotions; (2) being able to manage one’s own emotions; (3) being sensitive to the emotions of others; (4) being able to respond to and negotiate with other people emotionally; and (5) being able to use one’s own emotions to motivate oneself (Salovey & Meyer, 1990).
Emotional Intelligence and Leadership

Not surprisingly, emotional intelligence has been directly linked to leadership effectiveness (Goleman, 1998). Leaders cannot solely depend on their cognitive and technical abilities to ensure their success. Their capacity to handle emotions and work with others also plays a key role. A leader’s level of emotional intelligence has been found to impact his or her ability to have influence over others, make effective decisions, communicate, and demonstrate a high level of integrity (Goleman, 1998). Leaders who fail to develop their emotional intelligence experience difficulty building relationships with peers, clients, subordinates, and others (Goleman, 1998).

The EQi

The EQi, the Emotional Intelligence Quotient Inventory, was developed by Reuven Bar-On in 1985. Bar-On defined emotional intelligence as “an array of non-cognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (Stein & Book, 2003). The EQi is one of the leading tools used to measure emotional intelligence today and is used within many capacities, including leadership development, team building, recruitment of high performers, performance management, career planning, and others. The instrument was designed to measure not only overall emotional intelligence (Total EQi) but also a series of distinct yet related and overlapping attitudes and skills that comprise emotional intelligence and which fall into the five broad areas: Intrapersonal, Interpersonal, Adaptability, Stress Management, and General Mood (Table 1).

The Intrapersonal Dimension refers to one’s ability to know and manage oneself. The Interpersonal Dimension, on the other hand, examines the capability to interact with others and establish and maintain relationships with them. Bar-On’s third dimension, Adaptability, deals with an individual’s ability to be realistic and flexible and solve problems effectively. Stress Management, the fourth dimension, measures the capacity to handle stress and control one’s impulses. And the fifth and final scale, General Mood, evaluate the individual’s ability to motivate him or herself, be happy, and maintain a positive outlook on life. These five core areas can be further subdivided into fifteen components, as shown in Table 1.

The instrument consists of 125 items. Respondents are asked to rate each item on a five-point Likert scale ranging from “Not True of Me” (1) to “True of Me” (5). Responses to the items corresponding to each of the dimensions described above are assigned ‘points’ from one to five to the responses based on the participants’ answer on the five-point Likert scale (e.g. If the respondent answered “Very true of me” for a positively phrased item, he or she would receive a 5; if he or she responded “Often true of me” to this same item, the person would receive a 4; and for negatively phrased items, the points are reversed, 1 point for “Very true of me”) to arrive at the raw score for each of the fifteen subscales and five core areas. The raw score for the Total EQi is calculated by summing the scores for all of the subscale items. A mathematical transformation is then conducted of the raw scores, taking the respondent’s age and gender and the normative sample data into account, to arrive at the standard scores to ensure that all of the standard scores have a mean of 100 and a standard deviation of 15 (EQi technical manual).
Table 1: The EQ-i Scales and The Factors They Assess
Source: Bar-On (2005)

<table>
<thead>
<tr>
<th>EQ-i SCALES</th>
<th>The EI Competencies and Skills Assessed by Each Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intrapersonal</td>
<td>Self-awareness and self-expression:</td>
</tr>
<tr>
<td>i. Self-Regard</td>
<td>To accurately perceive, understand and accept oneself.</td>
</tr>
<tr>
<td></td>
<td>Subscales of Self-Regard:</td>
</tr>
<tr>
<td></td>
<td>1. Internal Confidence: To feel secure, a sense of</td>
</tr>
<tr>
<td></td>
<td>inner strength, self assured, self confident, and</td>
</tr>
<tr>
<td></td>
<td>self adequate</td>
</tr>
<tr>
<td></td>
<td>2. External Body: To accept positive and negative</td>
</tr>
<tr>
<td></td>
<td>aspects of one’s physical body.</td>
</tr>
<tr>
<td>ii. Emotional Self-</td>
<td>To be aware of and understand one’s emotions.</td>
</tr>
<tr>
<td>Awareness</td>
<td>Subscales of Emotional Self-Awareness:</td>
</tr>
<tr>
<td></td>
<td>1. Know My Own: To know what one is feeling and why.</td>
</tr>
<tr>
<td></td>
<td>2. Express To Others: To be able to express what</td>
</tr>
<tr>
<td></td>
<td>one is feeling to others.</td>
</tr>
<tr>
<td>iii. Assertiveness</td>
<td>To effectively and constructively express one’s emotions and oneself.</td>
</tr>
<tr>
<td>iv. Independence</td>
<td>To be self-reliant and free of emotional dependency on others.</td>
</tr>
<tr>
<td>v. Self-Actualization</td>
<td>To strive to achieve personal goals and actualize one’s potential.</td>
</tr>
<tr>
<td>2. Interpersonal</td>
<td>Social awareness and interpersonal relationship:</td>
</tr>
<tr>
<td>i. Empathy</td>
<td>To be aware of and understand how others feel.</td>
</tr>
<tr>
<td>ii. Social Responsibility</td>
<td>To identify with one’s social group and cooperate with others.</td>
</tr>
<tr>
<td>iii. Interpersonal Relationship</td>
<td>To establish mutually satisfying relationships and relate well with others.</td>
</tr>
</tbody>
</table>
Table 1, continues: The EQ-i Scales and The Factors They Assess  
Source: Bar-On (2005)

<table>
<thead>
<tr>
<th>3. Stress Management</th>
<th>Emotional management and regulation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Stress Tolerance</td>
<td>To effectively and constructively manage emotions.</td>
</tr>
<tr>
<td>ii. Impulse Control</td>
<td>To effectively and constructively control emotions.</td>
</tr>
<tr>
<td></td>
<td>Subscales of Impulse Control:</td>
</tr>
<tr>
<td></td>
<td>1. Anger: To be able to control aggression and hostility.</td>
</tr>
<tr>
<td></td>
<td>2. Impulsiveness: To be able to control impulses and irresponsible behavior.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Adaptability</th>
<th>Change management:</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Reality-Testing</td>
<td>To objectively validate one’s feelings and thinking with external reality.</td>
</tr>
<tr>
<td>ii. Flexibility</td>
<td>To adapt and adjust one’s feelings and thinking to new situations.</td>
</tr>
<tr>
<td>iii. Problem-Solving</td>
<td>To effectively solve problems of a personal and interpersonal nature.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. General Mood</th>
<th>Self-motivation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Optimism</td>
<td>To be positive and look at the brighter side of life.</td>
</tr>
<tr>
<td>ii. Happiness</td>
<td>To feel content with oneself, others and life in general.</td>
</tr>
</tbody>
</table>
The Experiment

Students at the University of Tampa participated in an online dictator experiment. Before the online experiment, each subject read and signed an informed consent document and their digital photo was downloaded from the university network. In a subsequent email, subjects were told the start date of the experiment and were provided with a unique user identification code, which they needed to access the online experiment. Subjects began by completing an emotional intelligence assessment. After completing the assessment, subjects exited the website. Each subject was then contacted by e-mail to logon to the experimental website and begin the second phase of the experiment: the dictator game. When a subject entered the website he or she observed one of the following two treatments:

Instructions for treatment one.

Welcome to the experiment!
This experiment has been designed to study economic decision-making. The instructions are simple. If you follow them carefully and make good decisions, you may earn a considerable amount of money. The money will be paid to you after the experiment has concluded. You will receive an email with information about where and when to pick up your earnings.

You have been randomly matched with another person in the experiment. You are to make all decisions individually.

You have earned $10 by completing the online assessment. The other person does not have a decision to make - what happens depends on you alone.

On the next screen, we will ask you to make a proposal about how to divide the $10 between you and the other student. You can either leave the payment unchanged, or decrease your own increasing the other person's payment.
Anonymity
Your identity will not be revealed to the other student. The person who will pay you will not know about your decision. They have simply been instructed to pay you the amount written on a standard form. The other student will not know who has done what or how the payments were generated. You will be asked to sign a receipt for the amount, but this is only for accounting purposes.

Allocation Decision
You have earned $10 by completing the online assessment. Your task is to divide the $10 between you and the other person. The two amounts must add up to $10. You must choose amounts that are in $1 increments (i.e., $0, $1, $2, $3, ..., $9, $10). You will be paid that amount, and the other person will be paid the amount you decided.

Instructions for treatment two.
Welcome to the experiment!
This experiment has been designed to study economic decision-making. The instructions are simple. If you follow them carefully and make good decisions, you may earn a considerable amount of money. The money will be paid to you after the experiment has concluded. You will receive an email with information about where and when to pick up your earnings.

You have been randomly matched with another person in the experiment. You are to make all decisions individually.

You have earned $10 by completing the online assessment. The other person does not have a decision to make - what happens depends on you alone.

On the next screen, we will ask you to make a proposal about how to divide the $10 between you and the other student. You can either leave the payment unchanged, or decrease your own increasing the other person's payment. The other person's digital photo will be on the decision page.
Anonymity
Your identity will not be revealed to the other student. The other person will not see your digital photo. The person who will pay you will not know about your decision. They have simply been instructed to pay you the amount written on a standard form. The other student will not know who has done what or how the payments were generated. You will be asked to sign a receipt for the amount, but this is only for accounting purposes.

Allocation Decision
You have earned $10 by completing the online assessment. Your task is to divide the $10 between you and the other person. The two amounts must add up to $10. You must choose amounts that are in $1 increments (i.e., $0, $1, $2, $3, …, $9, $10). You will be paid that amount, and the other person will be paid the amount you decided.

<table>
<thead>
<tr>
<th>YOUR DECISION</th>
<th>THE OTHER PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of dollars for you</td>
<td></td>
</tr>
<tr>
<td>Number of dollars for the other person</td>
<td></td>
</tr>
</tbody>
</table>

In both treatments subjects were told that they earned their endowment by completing the emotional intelligence assessment. In treatment two, the dictator was confronted with the picture of another subject; in treatment one, the dictator is not confronted with the picture of another subject. In both treatments, after the subject makes an allocation decision, they click the submit button. At this point, the experiment is over and they exit the webpage. Upon completion of the experiment, an e-mail was sent the subjects to pick up their earnings from the office of Kench or Beekman.

Data and Results
Subject Characteristics
Subjects were recruited between March and April of 2006 from all disciplines at the University of Tampa by a global email to all students. A total of 89 subjects participated in the experiment (Table 2). There were 60 female subjects and 29 male subjects. The average age of our subjects is 20 years. And subjects were distributed across majors and academic level (Table 2). Each of the 89 subjects played the role of dictator once in a one shot game. Many subjects were also used as the other subject, in which case they received a surprise payment at the end of the study.
Table 2: Subject Characteristics

<table>
<thead>
<tr>
<th></th>
<th>All Subjects (N=89)</th>
<th>Treatment 1 (N=42)</th>
<th>Treatment 2 (N=47)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>60</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>Age</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>21</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Sophomore</td>
<td>28</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Junior</td>
<td>17</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Senior</td>
<td>20</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Graduate</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Non-Degree</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>36</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Finance/Accounting</td>
<td>12</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Economics</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Liberal Arts (x-eco)</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Science</td>
<td>17</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

*Treatments and Gender*

Dictators who participated in treatment one, were not able to observe the other subject. In treatment two, dictators were able to observe the digital picture of the other subject. The mean (median) allocation of the dictator to the other subject is $2.88 ($4.00) in treatment one and $2.32 ($2.00) in treatment two (Table 3). Although not statistically significant, on average, dictators who are able to observe the other subject allocated fewer dollars to the other subject. The frequency of an allocation by the dictator, to the other subject, is reported in Figure 1. Table 4 contains a series of regressions, each with the amount the dictator allocated to the other subject as the dependent variable. Although not statistically significant, in each of the seven regressions, treatment two dictators allocate fewer dollars to the other subject relative to treatment one.

In treatment one, the mean (median) allocation to the other subject by male dictators is $1.69 ($0), while females had a mean allocation of $3.41 ($5.00) (Table 3). In treatment two, the mean allocation to the other subject by male dictators is $2.50 ($3.00), while females had a mean allocation of $2.26 ($2.00) (Table 3). Although not statistically significant, in each of the seven regressions in Table 4, female dictators allocate more dollars to other subjects relative to male dictators. The median allocation of males increased when the other subject’s photo is observed (treatment 2) and the median allocation of females decreased when the other subject’s photo is observed.
Table 3: Mean Allocation of the Dictator by Gender and Treatment

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Gender</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>treatment 1</td>
<td>male</td>
<td>1.69</td>
<td>13</td>
<td>2.213</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>3.41</td>
<td>29</td>
<td>1.991</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2.88</td>
<td>42</td>
<td>2.189</td>
<td>4.00</td>
</tr>
<tr>
<td>treatment 2</td>
<td>male</td>
<td>2.50</td>
<td>16</td>
<td>2.160</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>2.26</td>
<td>31</td>
<td>2.190</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2.34</td>
<td>47</td>
<td>2.160</td>
<td>2.00</td>
</tr>
<tr>
<td>Total</td>
<td>male</td>
<td>2.14</td>
<td>29</td>
<td>2.183</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>2.82</td>
<td>60</td>
<td>2.159</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2.60</td>
<td>89</td>
<td>2.178</td>
<td>3.00</td>
</tr>
</tbody>
</table>

Figure 1: Frequency of the Allocations to the Other Subject
Table 4: Allocation by Dictator (out of $10) to Other Subject

<table>
<thead>
<tr>
<th>Model</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(s.e)</td>
<td>(s.e)</td>
<td>(s.e)</td>
<td>(s.e)</td>
<td>(s.e)</td>
<td>(s.e)</td>
</tr>
<tr>
<td>Constant</td>
<td>1.520</td>
<td>-0.866</td>
<td>3.367</td>
<td>2.629</td>
<td>1.445</td>
<td>0.260</td>
</tr>
<tr>
<td></td>
<td>(1.91)</td>
<td>(3.62)</td>
<td>(2.14)</td>
<td>(2.53)</td>
<td>(2.302)</td>
<td>(2.11)</td>
</tr>
<tr>
<td>Treatment 2</td>
<td>-0.522</td>
<td>-0.126</td>
<td>-0.388</td>
<td>-0.535</td>
<td>-0.559</td>
<td>-0.454</td>
</tr>
<tr>
<td></td>
<td>(0.460)</td>
<td>(0.481)</td>
<td>(0.471)</td>
<td>(0.476)</td>
<td>(0.479)</td>
<td>(0.462)</td>
</tr>
<tr>
<td>Female</td>
<td>0.660</td>
<td>0.534</td>
<td>0.743</td>
<td>0.662</td>
<td>0.765</td>
<td>0.780</td>
</tr>
<tr>
<td></td>
<td>(0.490)</td>
<td>(0.520)</td>
<td>(0.527)</td>
<td>(0.501)</td>
<td>(0.522)</td>
<td>(0.530)</td>
</tr>
<tr>
<td>Total EQi</td>
<td>0.015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two stage Least Squares adjusted total EQi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-3.069***</td>
<td>(1.225)</td>
</tr>
<tr>
<td>Independence</td>
<td>-0.039*</td>
<td></td>
<td></td>
<td></td>
<td>-0.053**</td>
<td>(0.023)</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know my own</td>
<td>-0.954**</td>
<td></td>
<td></td>
<td></td>
<td>0.861*</td>
<td>(0.460)</td>
</tr>
<tr>
<td></td>
<td>(0.505)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Express to others</td>
<td>-0.037</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.492)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal confidence</td>
<td>-0.215</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.609)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External body</td>
<td>-0.095</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.414)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assertiveness</td>
<td>0.010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self actualization</td>
<td>0.040**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathy</td>
<td></td>
<td>-0.041</td>
<td></td>
<td></td>
<td>-0.037*</td>
<td>(0.020)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.028)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social responsibility</td>
<td></td>
<td>0.023</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.025)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal relationship</td>
<td></td>
<td>0.111</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.021)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reality testing</td>
<td></td>
<td></td>
<td>0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.020)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexibility</td>
<td></td>
<td></td>
<td>0.006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.021)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem solving</td>
<td></td>
<td></td>
<td>-0.003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.023)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress tolerance</td>
<td></td>
<td></td>
<td></td>
<td>0.013</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.019)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.098</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.329)</td>
<td></td>
</tr>
<tr>
<td>Impulsiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.011</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.421)</td>
<td></td>
</tr>
<tr>
<td>Optimism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.024)</td>
<td></td>
</tr>
<tr>
<td>Happiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.024)</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.044</td>
<td>0.144</td>
<td>0.060</td>
<td>0.037</td>
<td>0.043</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.024)</td>
<td>(0.019)</td>
<td>(0.020)</td>
<td>(0.024)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Durbin-Watson</td>
<td>2.011</td>
<td>1.959</td>
<td>1.914</td>
<td>1.987</td>
<td>2.027</td>
<td>2.039</td>
</tr>
<tr>
<td></td>
<td>(1.10)</td>
<td>(1.05)</td>
<td>(1.01)</td>
<td>(1.03)</td>
<td>(1.02)</td>
<td>(1.02)</td>
</tr>
<tr>
<td></td>
<td>1.913</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* (***) Statistically significant at the 10% (5%) [1%] level.
**Emotional Intelligence Data**

Model 1 in Table 4 reports the relationship between the independent variables treatment, gender, and the dictator’s total emotional intelligence score (or Total EQi) and the dependent variable the amount that the dictator allocated to the other subject. None of the independent variables are statistically significant in this model. Therefore, we decisively conclude that a dictator’s emotional intelligence score is not a determining variable in the economic decision of how much she or he allocates to the other subject.

Next, in an effort to capture some of the moral elements of individual decision making behavior, we separately analyzed the five core areas of the emotional intelligence quotient inventory: intrapersonal, interpersonal, stress management, adaptability, and general mood. For each of the core areas, we analyzed the relationship among the independent variables treatment, gender, and each of the factors and the dependent variable the amount that the dictator allocated to the other subject. The results of this process are reported in model 2 through model 6 in Table 4.

When analyzing the five core areas, the only core area to generate statistically significant results is model 2, which contains the factors for the core area named “intrapersonal,” which measures an individual’s self-awareness and self-expression. The five factors for the dictator’s core area named intrapersonal are self-regard, emotional self-awareness, assertiveness, independence, and self actualization. And for emotional self awareness, we analyzed its subscales: know my own, and express to others.

We observe the following about the dictator’s behavior. First, the more independent the dictator, the fewer dollars she or he allocates to the other subject. Independent in this measure is defined to be self-reliant and free of emotional dependency on others (Salovey & Meyer, 1990). Second, the more the dictator claims that she or he knows what she or he is feeling and why (know-my-own), the less they allocate to the other subject. We view these results as a supporting the classic view of selfish homo economicus. Third, the more the dictator claims that they strive to achieve personal goals and actualize their potential – the factor named self-actualization, the more she or he allocates to the other subject. We classify self-actualization, therefore, as a moral variable – as it increases, using Levitt and List’s (2006) language, an individual’s pecuniary moral benefit associated with a given action increases.

Finally, we analyzed the relationship among the independent variables treatment, gender, and the factors independence, know my own, empathy and an adjusted emotional intelligence variable and the dependent variable the amount the dictator allocated to the other subject. We selected the independent variables independence, know my own, and empathy, and not others, because of their importance in discovering the moral motives of the dictator, and not because of their significance in the other regressions. Table 5 reports the items from the EQi assessment on the three individual dimensions used in model. The results are reported in Table 4, model 7.

By analyzing the dictator’s behavior in this way, we observe the following four results. First, the more independent (self-reliant and free of emotional dependency) the dictator is, the less she or he is allocates to the other subject. Second, the more the dictator claims that she or he knows what she or he is feeling and why, the more they allocate to the other subject.

---

3 Definitions for the factors of the intrapersonal scales are in table 1.

4 We used two stage least squares to adjust for the endogenous variables independence, know my own, express to others, and empathy. Thus, the adjusted EQi score is equal to the total EQi score adjusted for the scores of the three other EQi dimensions included as independent variables (independence, know my own, and empathy).
Third, the more the dictator claims that he or she is aware of and understands how others feel – i.e., empathy, the less they allocate to the other subject. This outcome is interesting because it offers a result that is counter to conventional wisdom – the more empathic an individual, the fewer dollars they allocate to another subject in a simple dictator game. If one categorizes empathy as a moral attribute, then it is one that leads to more self-interested behavior in this study. And fourth, the higher the adjusted emotional intelligence number (adjusted for independence, know my own, and empathy), the less she or he allocates to the other subject.

Table 5: Items for Specific Dimensions

<table>
<thead>
<tr>
<th>Independence</th>
</tr>
</thead>
<tbody>
<tr>
<td>I prefer a job in which I’m told pretty much what to do.</td>
</tr>
<tr>
<td>When working with others, I tent to rely more on their ideas than my own.</td>
</tr>
<tr>
<td>I prefer others to make decisions for me.</td>
</tr>
<tr>
<td>It’s hard for me to make decisions on my own.</td>
</tr>
<tr>
<td>I’m more of a follower than a leader.</td>
</tr>
<tr>
<td>I tend to cling to others.</td>
</tr>
<tr>
<td>I seem to need other people more than they need me.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’m unable to understand the way other people feel.</td>
</tr>
<tr>
<td>I’m good at understanding the way other people feel.</td>
</tr>
<tr>
<td>My friends can tell me intimate things about themselves.</td>
</tr>
<tr>
<td>I would stop and help a crying child to find his or her parents, even if I had to be somewhere else at that time.</td>
</tr>
<tr>
<td>I care what happens to other people.</td>
</tr>
<tr>
<td>I’m sensitive to the feelings of others.</td>
</tr>
<tr>
<td>It’s hard for me to see people suffer.</td>
</tr>
<tr>
<td>I avoid hurting other people’s feelings.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Know My Own - Emotional Self Awareness subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’m in touch with my emotions.</td>
</tr>
<tr>
<td>It’s hard for me to understand the way I feel.</td>
</tr>
<tr>
<td>I’m aware of the way I feel.</td>
</tr>
<tr>
<td>Even when I’m upset, I’m aware of what’s happening to me.</td>
</tr>
</tbody>
</table>

All respondents are asked to rate each item on a five-point Likert scale ranging from “Not True of Me” (1) to “True of Me” (5).

---

5 The sign on this variable changed relative to model 2. However, in model 7 we control for all other EQi measures in the adjusted EQi variable; this was not done in model 1-6.
Summary and Conclusion

A goal of this paper is to determine if moral factors captured in an emotional intelligence assessment play a role in economic decisions made by student subjects in a simple dictator game. We do not find a statistically significant relationship between the total EQi score and the amount that the dictators contributed to other subjects. Neither the dictator’s gender nor the treatment (providing a picture of the other subject) was found to alter contributions to the other subject at a statistically significant level. We did find a statistically significant relationship between the amount of the dictator’s contribution and the EQi Intrapersonal Dimensions: independence (to be self-reliant and free of emotional dependency on others), know-my-own (to know what one is feeling and why), and self actualization (to strive to achieve personal goals and actualize one’s potential). When we test the intrapersonal elements of the EQi measure (along with treatment and gender) against contribution behavior we observed that those subjects who were more independent and were more aware of their own emotions were more likely to allocate smaller contributions to the other subject. On the other hand, those who were more self-actualized (strive to achieve personal goals) were more likely to contribute more to the other subject in the game. These results should be useful to researchers studying how much weight to place on moral factors versus monetary factors in understanding economic decision making.

We also found a significant relationship between dictator contributions and an adjusted EQi score, and measures of independence, self awareness and empathy (to be aware of and understand how others feel). Because of the results of this model (model 7), it appears that there may be valuable predictive information provided in the factor and sub-factor scores that make up the total EQi score. We find the adjusted EQi score to be a highly significant predictor of dictator contributions. The higher a subject scores on the adjusted EQi, the lower the contribution to the other subject. That is, if we control for not only gender and treatment but also independence, self-awareness of emotions (know my own) and empathy then higher scores on the remaining dimensions of the EQi predict that the dictator will act in a more self-interested manner. Subjects behave in a similarly self-interested way if they score high on independence and empathy. Only those with those with higher know-my-own scores are positively correlated with higher amounts given to the other subject.

These results are relevant to economists and experimental researchers in other disciplines who are concerned about experimental design protocols. A message of this paper is that we must account for the moral attributes revealed in an emotional intelligence assessment – experimental data are not simply reporting the self-interested actions of homo economicus. As Levitt and List (2006) suggest, the moral attributes or economic actors are so very important and we must attempt to control for them in laboratory and field experiments. We suggest that researchers in experimental decision making should consider having their subjects complete an EQi assessment prior to decision making experiments. The marginal cost of this activity is modest because the assessment takes less than 30 minutes to complete, and it may be purchased for a modest emolument. On the other hand, if one finds the entire assessment is too costly, we suggest using the subset of EQi questions pertaining to know-my-own, independence, and empathy (listed in Table 5) in a pre-experiment survey.
References:


Levitt, Steven, and John List (2006). “What do Laboratory Experiments Tell Us About the Real World?” University of Chicago and NBER.
