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The social and ethical consequences of a calculative mindset

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ABSTRACT

Rational choice models suggest that decisions should be both deliberate and calculative. In contrast, the current research suggests that calculations may lead to unintended social and moral consequences. We tested whether engaging in a calculative task would lead decision makers to overlook the social and moral consequences of their subsequent decisions and act selfishly and unethically. In each of the first four experiments, participants first completed either a calculative or a comparable, non-calculative task followed by an ostensibly unrelated decision task (either a Dictator or a modified Ultimatum Game). Compared to the non-calculative tasks, completing the calculative tasks led people to be consistently more selfish in the Dictator Game and more unethical in the modified Ultimatum Game. A final experiment tested whether the calculative task led to more self-interested behavior through increased utilitarian judgments and dampened emotional reactions; it also examined whether a subtle, social intervention might mitigate these effects.

Introduction

Organizational decision makers who hope to make optimal financial decisions must take great care as they engage in extensive, deliberate calculations of costs, profits, and risks. Thus, the role of analysts, who spend much of their time and attention on numerical calculations, seems to have become increasingly prevalent within organizations. Rational choice theory suggests that their calculations are both appropriate and effective, as maximizing profits and expected utilities is essential to organizational decision making and organizational success (Scott, 2000; Simon, 1986). Calculations are also an essential element in all sorts of market exchange interactions that involve prices and profits.

Many market exchanges, e.g., the sales of stocks and bonds, can be completely impersonal because their most important characteristics tend to be money and other quantitative metrics. Interpersonal relationships in organizations, however, are not limited to market exchanges. Fiske's (1992) classic analysis of human relations, for example, suggests that organizational members engage in many kinds of non-quantitative social relationships, from altruistically sharing resources to creating systems that provide transparency, consistency, and fair treatment. While calculative approaches fit market pricing interactions well, they may be less effective in other types of social relationships, particularly when concerns for altruism, fairness, reciprocity, and other social values cannot be readily translated into monetary or numeric metrics (Tetlock, Kristel, Elson, Green, & Lerner, 2000).

In the current research, we suggest that repeated exposure to calculations can predispose people to adopt a calculative mindset, i.e., an unintended cognitive predisposition to analyze (non-quantitative) problems mathematically. In common parlance, this is a "crunch the numbers" approach to problems with people reducing "all the relevant features and components under consideration to a single value or utility metric that allows the comparison of many qualitatively and quantitatively diverse features" (Fiske's, 1992, p. 691). We suggest that the nature of many organizational roles compels people to take a calculative approach to non-quantitative problems, thereby reducing their consideration of the interpersonal, social, and moral aspects of their decisions (Bennis, Medin, & Bartels, 2010; Haidt, 2001; Zhong, 2011). To test this prediction, we conducted five experiments to examine the effects of engaging in a calculative task on people's moral decisions in two different social interactions. We predicted that a calculative mindset would lead people to be more selfish and unethical than if they had engaged in a comparable, non-calculative task. We also tested two potential mechanisms for these effects.

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The rational limits of calculativeness

Rational choice theory, arguably one of the most important theories in economics (Sugden, 1991) and other social sciences (Scott, 2000), assumes that the use of calculative strategies is essential to decision-making. From Edgeworth's "economical calculus" (1881) to the central notion of utility maximization, classical economics assumes that rational individuals assess and calculate the costs and benefits of their available options in "a cognitively intensive, calculating process of maximization of self-interest" (Smith, 1991, p. 878). Prescriptively, this approach suggests that people should calculate the costs and benefits of their alternatives to maximize their outcomes (Rabin, 1988; Shafir, Simonson, & Tversky, 1993).

Rational calculations hold a central place in organizational decision making: financial decisions depend on the evaluation of options; behavioral decisions often depend on the evaluation of appropriate action (March, 1978); strategic decisions depend on the evaluation of the Net Present Value of potential ventures (Besanko, Dranove, Shanley, & Schaefer, 2009); and ethical decisions depend on evaluations of a choice's potential for harm and good (e.g., Epicurus, Bentham, Stuart; Balot, 2001). Thus, a variety of approaches and disciplines assume, at least implicitly, that optimal choices require deliberate, calculative strategies (Scott, 2000).

Although formal models of rational choice are rigorous and can easily generate testable implications, they encounter conceptual and empirical challenges because people tend to be less calculative than rational models prescribe (Rabin, 1988; Simon, 1986). In essence, a calculative conception of choice does not accurately reflect how people normally make their decisions (Shafir et al., 1993; Weirich, 2008). Reports on a variety of complex decisions (e.g., the Cuban missile crisis; Allison, 1971), for example, suggest that people's decision processes are often non-quantitative. In addition, even when decision makers try to conform to the prescriptions of rational choice, their attempts to calculate expected values tend to exclude non-quantifiable factors and values that may be particularly important (Dierksmeier, 2011). As Keynes (1936; 297–298) noted, "too large a proportion of recent 'mathematical' economics are mere concoctions, as imprecise as the initial assumptions they rest on, which allow the author to lose sight of the complexities and interdependence of the real world in a maze of pretentious and unhelpful symbols." Similarly, von Hayek mentioned in his Nobel prize lecture (1974) that the "failure of the economists to guide policy more successfully is closely connected with their propensity to imitate as closely as possible the procedures of the brilliantly successful physical sciences – an attempt which in our field may lead to outright error." Thus, Simon (1986) suggested that rational utility maximization should only be a small part of economic reasoning and Gigerenzer (1996) suggested that consistency and maximizing are insufficient because they overlook the diverse nature of interpersonal and organizational interactions.

Calculation and morality

How to precisely translate moral values into an analytical calculus creates an even more vexing challenge (Dierksmeier, 2011) because moral values are often orthogonal to monetary values. Immanuel Kant (1785), for example, noted that "Everything has either a price or dignity. Whatever has a price can be replaced by which is equivalent; whatever, on the other hand, is above all price, and therefore admit of no equivalent, has a dignity." Similarly, Blau (1967) noted that "by supplying goods that moral standards define as invaluable for a price in the market, individuals prostitute themselves and destroy the central value of what they have to offer (p. 63)." Thus, a calculative, market-price approach to non-marketable goods can jeopardize their moral values. Titmuss (1970), for example, argued that commercializing blood donations can change the giving of blood from a sacrosanct gift to a profane commodity. More recently, Falk and Szech (2013) have shown that market interactions erode moral values that are attached to harm and damage done to third parties.

Gneezy's (2005) analysis of the economics and the philosophy of lying also suggests a divergence of morality and calculations. He found that people have a natural aversion to lying, even when lying can benefit others (i.e., white lies): when people were given a choice to lie, many of them avoided white lies that could make both themselves and another person economically better off (Erat & Gneezy, 2012). This suggests that people consider more than just numerical, consequential calculations when they decide whether they will lie. Instead, values that are not reflected in economic and numerical metrics seem to drive their choices (e.g., lying is both morally wrong and emotionally repellent).

Indeed, social and moral judgments are often broad and non-calculative. For example, Williamson (1993) suggested that, although economics treats decisions to trust as calculative, personal trust is not calculative because people suppress their calculative tendencies in their personal interactions. Similarly, Haidt's (2001) social intuitionist model suggests that moral judgments generally do not require deliberate calculations because people's immediate moral intuitions, rather than their subsequent rational reasoning, drive their moral judgments. Haidt also suggested that people naturally rely on their moral intuitions, experiencing quick, affective, moral reactions that are both evolutionarily rooted and socially adaptive. For instance, he and his colleagues have observed that people tend to make harsher moral judgments when they experience disgust, even when disgust was incidentally induced (Schnall, Haidt, Clore, & Jordan, 2008; Wheatley & Haidt, 2005).

Given the potential incompatibility between morality and calculation, some researchers have noted that the use of market pricing approaches to model broad social and moral relationships is socially ignorant or even morally contemptible (Falk & Szech, 2013; Tetlock et al., 2000). When people face moral dilemmas, a calculative approach may not be able to adequately incorporate a problem's most critical – non-calculable – contingencies. Bennis et al. (2010), for example, suggest that calculating reduces the impact of intrinsic and moral values, especially values that are not easily quantified (Tetlock et al., 2000) or are related to a person's emotions (Haidt, 2001). Although people tend to use monetary and utility calculations when they make organizational and social decisions (March, 1978), many of their decisions may depend on social and moral values that cannot be easily or precisely calculated or quantified (Kelman, 1981; Marcuse, 1964). Thus, cost and benefit calculations do not always lead to optimal results (Bennis et al., 2010). In particular, when morals and economics conflict, e.g., when achieving social welfare is costly, overemphasizing economic values can subdue moral considerations. Indeed, economic assumptions of utility maximization often lead economics students to be self-interested (Frank, Gilovich, & Regan, 1993) and even positively inclined toward greed (Wang, Malhotra, & Murnighan, 2011).

Research on the negative consequences of deliberative thinking also suggests an inverse relationship between calculation and morality. Small, Loewenstein, and Slovic (2007), for example, found that priming people to think deliberatively through a simple calculation task (vs. an affect-laden task) reduced donations towards identifiable but not towards statistical victims, suggesting that deliberative thinking dampened the effects of sympathy towards individual victims. Similarly, Zhong (2011) found that deliberative decision making increased unethical behavior and reduced altruism because it crowded out moral intuitions that are necessary for moral judgments and decisions. In addition, using Small