



**Rational
addiction theory
– a survey of
opinions**

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Abstract

This paper reports briefly on some of the results from a survey of academics who have written about the theory of rational addiction. The topic is important in itself because if the literature is viewed by its participants as an intellectual game, then policy makers should be aware of this so as not to derive actual policy from toy models. More generally, the answers shed light on the nature of economics and how many economists think about model building, evidence requirements and the policy relevance of their work. A majority of the respondents believe the literature is a success story that demonstrates the power of economic reasoning. At the same time they also believe the empirical evidence to be weak, and they disagree both on the type of evidence that would validate the theory and the policy implications. Taken together this points to an interesting gap. On the one hand most of the respondents claim that the theory has valuable real-world implications. On the other hand they do not believe the theory has received empirical support.

Keywords

Rational addiction theory, survey of opinions of economists, disagreement on evidence criteria and interpretation of evidence.

1 INTRODUCTION

It has been argued that rational addiction theory is a success story that demonstrates the power of applying economic analysis to topics that used to be viewed as outside the realm of economics. In the words of Orphanides and Zervos (1998) the literature initiated by Becker and Murphy (1988) shows that “harmful addictive behaviour is largely consistent with the standard axioms of rational, forward looking utility maximization and should no longer be considered a challenge to standard economic analysis.” In contrast to this, it has also been claimed that rational addiction theory is “absurd”, that “the silliness of theories such as rational addiction raises the question of how it can be taken seriously” and that the literature is more an intellectual “game” than a true effort to understand addiction (Rogeberg 2004).

Given the importance of explaining addiction as a phenomenon in itself, and as a case study of economic imperialism in general, it was decided to investigate how economists working within this area viewed their work and the literature. This is important because if the literature really is viewed by its participants as an intellectual game, then policy makers should be aware of this so as not to derive actual policy from toy models. More generally, the answers shed light on the nature of economics and how many economists think about model building, evidence requirements and the policy relevance of their work.

To examine what the field itself thinks about rational addiction theory, we conducted a survey among authors who had published one or more articles about rational addiction. Three main topics are covered. First, do economists take rational addiction seriously as plausible theory of addiction? Second, do they agree on the kind of

evidence that is relevant to test the theory and the extent to which the rational addiction literature provide this evidence? Third, what, if any, implications do they believe the theory has?

Previous research on the opinions of economists has already established that there is significant normative and positive disagreement on many economic issues (Alston 1992, Davis 1997, Frey 1992). It also seems that ideology is not the only or major driving force behind these disagreements (Caplan 2002, Mayer 2001). No previous survey has been conducted on the topic of rational addiction, but there is some relevant related research. For instance, Goldfarb et al (2001) have shown that theories of addiction may be underdetermined in the sense that existing data may not be sufficient to distinguish between competing theories. Also, Yuengert (2006) has demonstrated that multiple research goals can lead to different evaluations of rational addiction theory. Hence, the contribution of the current survey is not mainly to argue that there is disagreement or express surprise at the fact that there seems to be a tendency to arrive at different conclusions when faced with the same evidence. Instead, and in contrast to previous surveys of economists, the current survey is limited to rational addiction and this allows it to focus explicitly on the links between overall views of the literature, evidence requirements and policy implications. By focusing on one topic and combining and contrasting the answers in these three categories it becomes possible not only to discover disagreements, but to reveal puzzling internal tensions. For instance, one of the major results from the survey is the puzzling finding that the theory of rational addiction represents a success story with quite strong implications, while at the same time it is admitted that the empirical evidence is often very weak.

2 METHOD

The survey was limited to researchers who had published articles with the phrase "rational addiction" in the title, as a keyword or in the abstract of the article. Working papers, books and publications in languages other than English were excluded. In order to create a list of the most important papers and authors, we created a database with the top 200 references from google.scholar using the search phrase "rational addiction" and combined this with the results from searches in EconLit, ISI Web of Science and PubMed using the phrase "Rational Addiction." In the end, these searches yielded a list of 111 articles with 156 authors or co-authors.

Both e-mail and regular mail was used to make the selected sample aware of the survey. 34 authors were lost because of incomplete contact information. This means that 122 were invited to participate in the survey. 64 of these responded by answering our questions (52%). The survey consisted of 25 questions and most of these were in the form of statements to which respondents indicated their extent of agreement/disagreement a scale from 1 to 5 where 1 was "I completely disagree" and 5 was "I completely agree."

3 RESULTS AND DISCUSSION

It has been argued that "Economics has increasingly become an intellectual game played for its own sake and not for its practical consequences for understanding the economic world" (Blaug 1998). This may be true, but from the survey it seems clear that the sentiment is not shared by many economists. Few - but not insignificantly so - agreed to the statement that rational addiction theories is part of an intellectual game

with no practical significance (17%). Instead, a large majority of the respondents, 72%, believed that rational addiction theory “illustrates the power of economic analysis.” This is comforting in the sense that it indicates that the participants really do believe in their work as having importance beyond getting papers published.

However, for those who argue that rational addiction theories are patently absurd, the dominant belief that the theory illustrates the power of economic analysis may be more unsettling than comforting. In order for a theory to be powerful it should ideally have a solid empirical foundation and important implications. Unless these conditions are satisfied, the strong belief in the theory may be unsettling as a sign of ideological arrogance in the face of empirical facts. For this reason it is interesting to examine exactly what it is that makes the respondents believe the theory and which implications they believe it has.

Testing a theory requires consensus on the kind of evidence that is relevant and the interpretation of that evidence. There are many possible model selection criteria (Goldfarb 2001, Yuengert 2006), but the rational addiction literature has typically focused on whether the theory is consistent with the data on the demand for drugs and price changes. There seems to be a general consensus about the relevance of this type of evidence (see Table 1). For instance, a large majority agreed that the theory should be consistent with macro-level evidence on the demand of addictive goods (74%). Interestingly, the kind of evidence believed to be most relevant, was also the area in which many respondents believed the data gave the weak support to the theory. Only 27% agreed that the theory was consistent with the macro-evidence on elasticities and consumption patterns.

Table 1: Evidence relating to theory

<i>In general, rational addiction theory should be/is consistent with</i>	<i>Yes, rational addiction theory should be ...</i>	<i>Yes, the data indicate that the theory really is ...</i>
... the standard axioms of economic choice-theory	52 %	53 %
... what we know about how people make decisions	57 %	27 %
... the actual beliefs of real consumers or consistent with what is known about such physical and other effects of drugs	61 %	22 %
... data on the market demand for addictive goods (elasticities, usage patterns, etc.)	74 %	27 %

There was less agreement on the relevance of evidence at the individual level about how people actually make decisions. A majority, 57%, believed the theory should be consistent with evidence of this kind, but 20% disagreed. To some extent this reflects the attitude that all that matters is whether the model acts “as-if” it is compatible with macro implications that comes out of the model as opposed to the behavioural assumptions that goes into the model.

As for the assumptions that go into that model, there was, surprisingly, no general consensus on whether rational addiction theory should be based on the standard axioms of economic choice theory. The contribution by Becker and Murphy (1988) claims to be an extension of this framework, but the respondents are divided about whether this is how we should model addiction. Part of the reason for this may be that interpretations of standard theory differ. For instance, following Becker and Murphy (1988) the standard approach often employs exponential discounting. Other

contributions emphasise hyperbolic discounting, weakness of will or related mechanisms that can create time inconsistent behaviour (Ainslie 1991; Loewenstein 1999). One might argue that the precise functional form of time preferences is not an essential axiom of the standard rational choice frame, but since opinions on this differ, the respondents also differ in their answers.

One of the questions that divided the field most was whether the theory of rational addiction should be interpreted as an “as-if” theory. The rational addiction literature has often been criticised for making very strong assumptions about the rationality of the individuals who engage in substance abuse. Typically the users are not only seen as capable of responding to incentives, but being able to create a long term plan of how much drugs to use taking into account how the use will affect their future desire to use drugs (i.e., rational taste planning). When confronted with the criticism that many substance users seem not to have such a plan for their career, the usual defense is Friedeman’s (1953) “as-if” justification: All that matters is whether the agents act as if their behaviour is determined by a rational plan of how much to consume at various points in time, not whether the addicts actually make a rational plan. 38% of the respondents in the survey agreed with this “as-if” argument, while 43% disagreed. Moreover, even those who agreed that an “as-if” model was enough for the theory to be relevant, did not believe that consumers of addictive goods actually behave “as-if” the models were correct. Only 27% of the sample agreed that the consumers behave “as-if” the model was correct.

Table 2: Economists' opinions on rational addiction and implications

<i>The Rational Addiction literature ...</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>
... provides insights into how addicts choose that are relevant for psychologists and treatment professionals	42 %	19 %	39 %
... contains insights on the welfare consequences of addictive goods and public policies towards these	22 %	22 %	56 %
... provides evidence that addictions are actually a sequence of rational choices maximising welfare/utility	53 %	20 %	27 %
... provides useful tools for predicting how addicts in the aggregate will respond to incentives	25 %	30 %	44 %
... extends and enriches consumer theory	16 %	11 %	73 %

Given the hesitation to agree that the theory is empirically verified, one might expect similar hesitation about the insights the theory has to offer or its usefulness in policy analysis (Table 2). In fact, the respondents split into two roughly equal and opposing factions when asked whether the rational addiction literature provided insight that were relevant for how to treat addictions: 39% agreed and 42% disagreed. To some extent one might expect that those who are reluctant to draw treatment implications from the theory are the same individuals who only take the theory as an “as-if” theory since they focus more on predictive success than explanatory success. However, a cross-tabulation of the answers show that almost half of the “as-if” adherents also argued that the rational addiction literature had implications for treatment of addicts.

The same puzzling gap between the empirical evidence behind the theory and claims about the theories insights can be seen when the respondents are asked about aggregate policy implications. A majority agree that the theory gives insight into the welfare

consequences of addictive goods (56%) at the same time that they do not believe one of its major assumptions - that addicts rationally choose an optimal and welfare maximizing path of consumption over time (27% agreed with this). Similarly, while agreeing that the empirical basis was weak, 73% agreed that the literature extends and enriches consumer theory.

4 CONCLUSION

There are at least two main possible interpretations of the results from this survey. The charitable interpretation is that although the participants judge the theory to be empirically shaky, what is believed to be true yields enough insight to judge the literature as an overall success. The less charitable interpretation would be to argue that the survey reveals a puzzling belief that theories can be used to derive important and valid policy implications even when its assumptions are not believed and the theory is admitted to have weak empirical support. To distinguish between these two interpretations would require a more subjective assessment the value of the insights and whether they are enough to qualify as a success story. This survey has only identified what may be an interesting gap and as such it only constitutes the raw material for further investigation and discussion.

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