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Rationality, information search and choice in higher education: evidence from Greece

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Abstract The paper presents the findings of a study of the decision-making process which precedes the choice of a university in Greece. Specifically, the degree of rationality exhibited by prospective students is assessed in an attempt to provide a test for the economic approach to the explanation of human behaviour. Information search is used as an indication of rationality and measured through a survey conducted among 220 university students in the academic year 2003/2004. The findings provide weak support for the rationality postulate in that they indicate that more than 40% of respondents could not be classified as information seekers. Logistic regression analysis was used in order to identify characteristics associated with the propensity to engage in information search: high socioeconomic status students, students who perceived the decision as important, and students who had acquired information prior to the choice of a university were found to be more likely to engage in information search. The paper draws attention to the limitations of the economic rational man model of human behaviour and discusses the implications of the findings for the promotional strategy of universities.

Keywords Decision making · Economics · Information search · Rationality · University choice · University promotion

Introduction and aims of the study

Post-compulsory education is characterised by new decision-making situations for prospective students in comparison to previous levels. The two decision-making

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situations that have received the greatest attention in the literature are the choice between higher education and employment, and the choice of a field of study and a higher education institution among several alternatives. Of the two, the first one has been the subject of more investigations as a result of its link to policy issues regarding access and equity in higher education. In this framework, a number of studies have examined the influence of a large number of factors on the decision to enter higher education including demographic, psychological, sociological and institutional characteristics (see, for example, Borus & Carpenter, 1984; Guppy & Pendakur, 1989; Hayden & Carpenter, 1990; Jimenez & Salas-Velasco, 2000; Kodde & Ritzen, 1988; Menon, 1998; Meyer, 1970; Nelson, 1972; Sander, 1992).

As regards economic variables, relevant studies (Hung, Chung, & Ho, 2000; Menon, 1997; Psacharopoulos & Sanyal, 1981, 1982; Williams & Gordon, 1981; Wong, 1989) have attempted to study the decision of secondary education graduates to pursue higher studies in the context of human capital theory by examining the perceived costs and benefits of higher education. Their findings have generally provided support for the economic interpretation of human behaviour associated with human capital theory in that they found higher education candidates to have relatively accurate perceptions and expectations with respect to the monetary benefits of additional education. This appears to support the economic model of human behaviour as it suggests that prospective students behave rationally in choosing higher education over employment. In this framework, a similar model is expected to apply to other decisions involving higher education outcomes such as the choice of a university and the choice of a field of study.

However, there are grounds for caution with respect to the adoption of the rationality assumption in the explanation of human behaviour in education: First, the number of available studies is small and their authors have relied on different and often complex methodological approaches; second, the rationality postulate has been strongly criticised both in economics and other disciplines. In economics, criticism has originated from various sources, including the institutional school, the Austrian school and behavioural economists such as Herbert Simon. In psychology and sociology, scholars have challenged the view of a rational utility-maximising student consumer, often citing relevant empirical findings. This points to the need for further investigation of the topic, especially in relation to the choice of a higher education institution by prospective students, an area where research is lacking at present. In undertaking a relevant study in Australia, James, Baldwin, and McInnis (1999) note that ''surprisingly little research'' has been conducted in the country with respect to how and why individuals select a particular university.

The present paper presents the findings of a study on the choice of a higher education institution in Greece. The following aims guide the investigation reported in the study: First, an attempt is made to determine the nature of the decision-making process which precedes the choice of a higher education institution in Greece, especially in relation to the degree of rationality exhibited by potential students. Specifically, we investigate the extent to which prospective students engage in information search prior to the choice of an institution. Information search is used as an operative measure of rationality based on the hypothesis that high information seekers will exhibit a greater degree of rationality in their decision-making than low information seekers. In this context, the study aims to provide an empirical test of the assumption that individuals act as rational decision makers in choosing a specific course of action in education. This allows for the testing of the rationality postulate, as put forward by the proponents of human capital theory.

Second, we attempt to specify some characteristics likely to be associated with information search and hence rationality in this decision-making situation. A logistic regression model is employed to examine both demographic (sex, socioeconomic status) and individual/psychological characteristics (self-confidence in one's ability to make the best choice, perceived importance of the decision etc.) as predictors of the tendency to engage in information search.

The present study is based on a similar investigation (Menon, 2004), which took place in Cyprus[1] 4 years prior to the present project. The Cyprus study also examined the degree of rationality associated with the choice of a higher education institution. It found weak support for the rationality postulate in that about half the respondents included in the study engaged in considerable information search prior to their final decision on the matter. Given the results of the Cyprus project, it was decided to further test the economic approach to human behaviour through the collection and analysis of data in a different country (Greece). Beyond their theoretical significance, the results are expected to provide valuable information on a little researched subject, the decision-making process that precedes entry into a higher education institution. Information on individual decision making with respect to the choice of higher education institutions can serve a basis for more informed planning and policy making in higher education both on the part of public policy makers and tertiary education institutions.

The remainder of the paper is organised as follows: In the next section, we provide the background for the study through an examination of the economic approach to the explanation of human behaviour and its main criticisms. We then proceed to the context through a presentation of the Greek educational system. This is followed by the methodology and the findings of the study. Finally, we draw the main conclusions from the findings and discuss the relevant policy implications for higher education institutions.

The background: the economic approach to human behaviour and its critics

The rationality postulate is generally associated with neoclassical economics and its portrayal of human beings as rational, utility-maximising consumers, who allocate their money to the purchases that will provide them with the maximum satisfaction, given their preferences, budget constraints and product prices. According to Becker (1976), the economic approach to human behaviour assumes maximising behaviour to a greater extent than is the case with other disciplines. He points out that the economic approach does not assume all participants to have complete information or to be conscious of their attempts to maximise. Incomplete information is not viewed as an indication of irrational or volatile behaviour. The failure of firms or individuals to take advantage of what appears to be a profitable opportunity is attributed to the presence of costs which eliminate the profitability of opportunity, costs that are not known to outside observers.

The rational model of human behaviour dates back to Adam Smith's description of human beings as economic seekers of self-interest. In the work of Keynes, the

[1] Cyprus is a European Union country since May 2004. The population mainly consists of Greek Cypriots (82%) and Turkish Cypriots (18%). The educational system of the Republic of Cyprus has been heavily influenced by the Greek model.

rational economic man was no longer an abstraction or a postulate but a description of actual human behaviour (Blaug, 1992). In education, the rationality assumption was highlighted by the proponents of human capital theory, which emerged in the early 1960s. Under this theory, prospective students act as rational decision makers in that they choose to invest in additional education when the benefits they expect to derive from it exceed the costs to be incurred in its acquisition. The human capital school has provided educational planners and policy makers with tools for analysing the demand for higher education, the most influential of which are private and social rates of return (Leslie, 1990).

Previously mentioned studies of the perceived rate of return to higher education have provided support for individual rationality in the pursuit of higher education in that they found higher education candidates to have relatively realistic expectations regarding the monetary benefits of additional education. However, the reluctance of economists to collect subjective data has limited this body of evidence. The lack of strong empirical support resulted in strong criticism for the neoclassical account of human behaviour, both from economists and non-economists. Of the former, the institutionalists have been most critical, claiming that standard neo-classical theory provides an unrealistic account of behaviour (Langlois, 1986). Langlois and Csontos (1993), for instance, view rationality as reasonableness, which stands for the ability of an individual to provide reasons for his/her actions. In a similar vein, Simon (1978, 1986) rejects the ''objective'' form of rationality found in neoclassical economists and draws attention to the distinction between substantive (objective) and procedural rationality in an attempt to point out that the idea of rationality relates to the procedure used in decision making and not in its outcome.[2] Finally, Hayek (1967, 1973), the best-known among the members of the Austrian school, criticises what he describes as 'constructivist rationalism' in mainstream economics for implying that human beings can make decisions after fully evaluating the consequences of all possible action alternatives and with full awareness of all possible circumstances. This, he claims, is 'not only a colossal presumption concerning our intellectual powers, but also a complete misconception of the kind of world in which we live.' (Hayek, 1967, p. 90)

In higher education, attempts to develop models of the university-selection process (see, for example, Chapman, 1981; Hossler & Gallagher, 1987; Hossler, Schmit, & Vesper, 1999; Litten, 1982; Martin & Dixon, 1991; Paulsen, 1990) have produced some evidence that is not fully consistent with the version of the rationality postulate advanced by neoclassical economists. These models commonly divide the selection process in three main stages, namely, predisposition, search and choice. Hossler and Gallagher (1987) found that in the search stage, applicants made initial university choices without taking into account the critical attributes of the selected institutions. Paulsen (1990) reported that students adopted different approaches to final decision-making based on the institutional characteristics they considered important and their own personal characteristics. More recently, James et al. (1999) examined the factors influencing the choices of prospective undergraduate students in Australia. They found that many applicants were under-informed on important matters regarding

[2] According to Simon (1986), neoclassical economics treats rationality differently from the other social sciences in three main ways: '(a) in its silence about the content of goals and values; (b) in its postulating global consistency of behaviour; and (c) in its postulating ''one world''—that behavior is objectively rational in relation to its total environment, including both present and future environment as the actor moves through time.' (p. S210)

their choice of a higher education institution. University applicants reported generally low levels of knowledge of specific characteristics of universities and the courses offered by them. Paradoxically, they also reported that they had been influenced to a great extent by certain university characteristics (e.g. the approaches to teaching and learning used in a specific institution) on which their knowledge was limited. Word-of-mouth communication exerted a major influence on student decision making, which led the authors to describe the students' evaluations of their preferred universities as ''vaguely reputational, idealistic, or limited to impressions of the campus buildings and surrounds'' (James et al., 1999, p. 1). The findings were in agreement with those of another recent study conducted in the same country (Harvey-Beavis & Elsworth, 1998).

Additional criticisms of the rationality postulate have emerged from the fields of psychology and sociology Consumer psychologists point to the limited ability of individuals to perceive, process and store information relevant to their needs and wants (see, for example, Assael, 1987; Jacoby, 2000). Such criticisms are supported by empirical evidence, which point to limited rationality in consumer decision making prior to purchase. Furthermore, sociological accounts of human behaviour differ markedly from the orthodox economic model. According to the sociological model of man, individual behaviour is often habitual and routinised as past experience informed by trial and error is used to guide individual thought and action (Vanberg, 1993). Recent studies in sociology have provided us with evidence which appears to support this view: Studies of the career and education choices made by young people in the United Kingdom have found relevant decisions to be pragmatic, based on partial information, context-related, opportunistic and only partially rational (Hodkinson, 1995, 1998; Hodkinson & Sparkes, 1997). In the same country, Ball, Macrae, and Maguire (1999) reported that only higher socioeconomic status families tended to formulate clear strategies with respect to further education. Consequently, it appears that more research on the topic is necessary in order to shed more light on the degree of rationality associated with student decision making in higher education.

The context: the Greek educational system

Greece is one of the 25 members of the European Union. It population was approximately 11,000,000 in 2001, of which 4,000,000 resided in the capital city of Athens. In 2000/2001, around 4% of the country's GDP was spent on education.

Education in Greece includes a 9-year compulsory education cycle, of which the first 6 years refer to primary education and the remaining 3 to lower secondary education. Post-compulsory secondary education is available in the form of Eniaia Lykeia (Unified Upper Secondary Schools) and Technical Vocational Educational Schools. Public higher education is divided into Universities and Technological Education Institutes. The duration of programmes in the former is 4 to 6 years, while in the latter it is between 3 and 4 years. The State is responsible for the finance and supervision of public higher education.

The number of public university places is not sufficient to meet the extremely high demand for higher education in Greece. At the same time, the Constitution prohibits the operation of private higher education institutions, which means that the several private colleges found in the country do not enjoy state accreditation. This makes

access to higher education highly competitive. The fact that only 1 in 3 successful students is offered a place at public universities has resulted in a large population of Greek students in other European countries. Greece presents one of the highest records of students in higher education studying abroad in relation to its population (Psacharopoulos, 1990). In fact, in the mid-1980s, Greece had the highest ratio of foreign to domestic university enrollment in the world.

There is a total of 19 public universities in Greece. One of these is the Harokopio University, which is divided into the following three departments: The Department of Home Economics and Ecology, the Department of Dietetics and Nutritional Science, and the Department of Geography. In addition to undergraduate degrees, the university offers graduate degrees in Sustainable Development and Human Nutrition. The students are admitted to the university on a competitive basis. The starting point for the admission process is the inclusion of the university in the prospective student's list of preferred universities. Thus, at the beginning of the admission process, prospective students enter a choice situation involving public higher education institutions in the country, private colleges in the country and universities abroad.

There are considerable differences between available higher education options in terms of both expected benefits and expected costs, which calls for at least some involvement in decision-making on the part of prospective students and their families. Public higher education is free of charge but is subject to quantity rationing, making it extremely difficult for students to become admitted to the most popular fields of study. Private higher education comes at a cost and is available in the form of non-accredited institutions. The fact that private universities are prohibited in the country has led to a deterioration in the quality of public institutions resulting from the lack of competition (Psacharopoulos, 2003a). Thus, at least some private institutions can be considered to be of higher quality than public universities. Moreover, the very high number of Greek students abroad means that prospective students also consider this option before deciding on a university. The individual decision-making process is further complicated by the fact that various institutional alternatives exist within each of the three main higher education options (public higher education in Greece, private higher education in Greece, higher education abroad).

The high demand for third-level education has resulted in an increase in the number of unemployed graduates (Tsamadias, 2002). In a discussion of the effect of the provisions of the Greek constitution on higher education, Psacharopoulos (2003a) points to several problems including 'quantity rationing, quality degradation, graduate unemployment, massive student exodus abroad, brain drain, foreign exchange loss, resources misallocation, regressive social transfers, reduced human capital investment and social unrest' (p. 125). Graduate unemployment, in particular, is a major source of concern since the unemployment rate among tertiary education graduates under 24 in Greece is more than double that of the European Union—28.5% for Greece as opposed to 12.18% for the European Union as a whole (Eurostat, 2000). In an overview of the Greek education system, Psacharopoulos (2003b) points to the fact that the link between education and earnings is not as strong in Greece as in other European countries, citing the relatively high proportion of low-paid workers with higher education (23%).

Despite the widespread concern over rising graduate unemployment and underemployment rates, most Greeks continue to place a high value on tertiary education, viewing it as the key to secure employment and upward social mobility. Thus, each

year thousands of young people compete for a place in public universities. Entrance to universities and technological institutes depends on the results obtained in the leaving certificate awarded by the unified upper secondary schools. These results are based on the performance of students in examinations covering 9 general education subjects offered in the 2nd and 3rd grades of the upper secondary schools.

Methodology

Sampling

Primary data for the study were collected through surveys conducted in the academic year 2003/2004. A total of 220 questionnaires were completed by students of the Harokopio University enrolled in first or second year courses.

The Harokopio University was selected for the study after a pilot study indicated that its students had gone through a choice process before deciding to enroll at the university. Specifically, open-ended questionnaires were distributed to a sample of students at the Harokopio University and the University of Athens. In both cases, students were asked to comment on the extent to which they had considered other universities before the enrollment decision. The analysis of the data indicated that Harokopio University students had considered other alternatives such as private colleges or universities abroad to a much greater extent than University of Athens students. This could be attributed to the higher status enjoyed by the University of Athens, which is associated with the degree of difficulty of being admitted to this institution. In contrast, the Harokopio University is less popular as a higher education destination among prospective entrants, making it more likely for accepted students to consider other alternatives before the final enrollment decision.

The sample was restricted to first and second year students only. This sampling criterion was used to select students who had a relatively accurate recollection of the decision-making process which had preceded their entry into higher education. It was expected that it would be difficult for more senior students to recall and report accurate information on this process due to the lapse of time since their involvement in decision making. To minimise self-selection problems, first and second year courses were chosen randomly from a list of courses offered at the University. Finally, questionnaires were distributed to all students enrolled in these courses.

The use of information search as an indicator of rationality

As previously mentioned, the degree of rationality in the choice of a university was assessed through the measurement of information search incurred in the choice process. Information search was used as an indication of rationality for the following reasons: First, there are many different approaches to the definition of rationality in economics and social science.[3] The different perspectives adopted in these

[3] In economics, a rational decision is commonly considered to be the best possible decision for the individual decision maker. In this context, rationality is defined in terms of the choice it produces (Simon, 1986). However, there are different approaches to the definition of the concept in social science, which have resulted in several types of rationality being suggested. These include bounded (Etzioni, 1992; Simon, 1978), procedural (Langlois, 1986; Simon, 1978, 1986) and expressive (Hargreaves Heap, 1992; March, 1978) rationality.

approaches have not allowed for the operationalisation and measurement of the concept, which has in turn resulted in the absence of relevant empirical work. The use of information search as an indicator for rationality can help circumvent this difficulty in that the former renders itself more easily to operatioanalisation and measurement than the latter. For instance, research in consumer psychology has used objective manifestations of behaviour (such as the number of alternatives considered at the outset of the decision process or the number of stores visited before purchase) in order to measure information search (Assael, 1987). It must be noted, of course, that the measurement of information search also presents difficulties in that there are many different approaches to its measurement, resulting in the absence of a single objective measurement criterion. Also, recall problems make it difficult to obtain accurate data on information search from consumers. Despite such limitations, prior research provides a basis for the operationalisation and measurement of information search to a much greater extent than is the case with rationality.

Second, information search is considered a necessary condition for (rational) decision making in mainstream economics. For instance, Becker's (1976) account of human behaviour includes the accumulation of an ''optimal'' amount of information. Consumer psychologists also consider decision making to involve information search even though they point out that this is only the case for purchases that are important for the consumer (known as high involvement purchases) (see, for example, Assael, 1987). The consumer is thus considered likely to engage in information search prior to a (purchase) decision that is associated with high financial or psychological risk. Given that the decision to enroll in a higher education institution is an important one for the individual, the use of information search as an indicator for rationality in the investigation of this decision appears to be in agreement with both the economic and the psychological accounts of consumer behaviour.

In using information search as an indicator of rationality, we do not assume that the former is a sufficient condition for the latter. It is of course possible that some people engage in information search but do not proceed to evaluate the collected information in a rational and systematic manner, choosing instead to rely on ''irrational'' motives such as the desire to impress friends and/or neighbours (Assael, 1987; Schiffman & Kanuk, 2004; Solomon, 1991). Thus, we do not assume that any given individual who gathers information prior to a decision will use this information in a rational decision-making process. Information search is not considered to be a ''perfect'' predictor of rationality in that the two concepts are not identical. However, information search can be used as a satisfactory indicator of rational behaviour if the former is generally associated with rational choices on the part of decision makers. The link between rationality and information search, as found in both economics and consumer psychology, suggests that it is reasonable to assume that individuals who collect information generally proceed to evaluate it and utilise it as a basis for decision making. Consequently, in this study, information search is used as a satisfactory, but not a perfect, indicator of rationality. This calls for the allowance of a margin of error in the interpretation of our findings.

It is important to note the distinction between different types of information in relation to their associated information-search processes. Consumer psychologists generally draw a distinction between external and internal information search. The former refers to the collection of information from one's external environment while the latter relates to the use of information already stored in an individual's memory.

In the case of important decisions, such as the choice of a higher education institution, individuals can be expected to engage in some external information search. Research findings have shown that the extent of external information search on the part of decision makers is associated with a number of personal and situational characteristics.[4]

Questionnaire design

A questionnaire was designed to measure the extent of external information search on the part of respondents. Specifically, an attempt was made to employ methods of external information search measurement previously used in consumer psychology. Thus, questions on search behaviour prior to the choice of a university were included. Specifically, in the questionnaire, respondents were asked to state the following: the number of institutions they had visited before deciding where to enroll; the number of institutions for which they had requested additional information before this decision; the amount of time they had spent on the decision. Numerical codes were assigned to their responses, which were added in order to determine a final score on the ''information search'' variable. Based on the sum total of their codes, respondents were classified into two groups: ''no information search'' and ''information search''. Respondents with a total score of 6 or below in the three questions were classified in the no search category, while those with scores of 7 and above were classified in the search category.

The instrument also included questions on demographic and individual characteristics such as the respondents' gender, and socioeconomic status (SES).[5] Moreover, a 5-point Likert scale was employed to measure respondents' preferences and attitudes towards several aspects of information search such as the perceived importance of the university choice decision and the perceived differences between universities. The following five points were used in the scale: 5 = Fully Applicable to Me, 4 = Applicable to a Great Extent, 3 = Somewhat Applicable, 2 = Applicable to a Small Extent, 1 = Not at all Applicable.

In order to examine the relationship between the respondent's individual characteristics, preferences and attitudes towards aspects of information search, on the one hand, and the degree to which he/she had engaged in information search, on the other, we employed logistic regression analysis. The individual data collected were

[4] The most important findings of relevant studies in psychology are as follows: information search will be greater for important decisions and especially for decisions where the consumer lacks sufficient information about the purchase (Punj & Staelin, 1983; Schiffman & Kanuk, 2004); however, consumers engage in less information search than expected, even in the case of important decisions such as the purchase of major appliances or cars (Beaty & Smith, 1987; Claxton, Fry, & Portis, 1987; Furse, Punj, & Stewart, 1984; Hawkins, Best, & Coney, 1992); high information seekers are younger, have higher incomes and better education than low information seekers, and are more likely to read newspapers and magazines (Cole & Balasubramanian, 1993; Moore & Lehmann, 1980; Schiffman & Kanuk, 2004; Thorelli & Engledow, 1980).

[5] SES was a composite variable based on the students' responses regarding occupation and education of their parents. Numbers were assigned to different educational and occupational levels for both parents. The number which represented the education of a respondent's mother and father was added to the number which represented their occupation. The new total was then recoded. Scores of 21 and above were considered to represent high socioeconomic status and were assigned the code of 1. Scores below 21 were considered to represent low socioeconomic status and were assigned the code of 0.

used as independent variables in logistic regression analysis, with the respondents' score on the information search variable serving as the dependent variable. The dichotomy of the dependent variable (respondents divided into a search and no search group) called for the use of the logistic regression model. Under this model, the predicted value of the dependent variable is interpreted as the probability that an individual will choose a course of action (in our case, engage in information search), given his/her individual characteristics and attitudes (the independent variables). In this context, the model can be used to identify the individual characteristics most likely to be associated with information search, thus specifying the conditions under which the rationality assumption is applicable to human behaviour. Subsequently, the analysis employed in the present study can serve as a test for the economic approach to human behaviour in that it can be used to determine the extent to which the rationality postulate is representative of actions and events in the real world.

Results

Background characteristics

The sample consisted of 24.5% male and 75.5% female students, in accordance with the higher representation of the latter in the population. All three undergraduate departments were represented in the sample, with Home Economics and Ecology, Dietetics and Nutritional Science, and Geography accounting for 30%, 42.3% and 27.7% of respondents, respectively. About two in three respondents (67.4%) came from low socioeconomic backgrounds, while the remaining (32.6%) were assigned to high socioeconomic backgrounds.

The degree of information search

According to the findings, the vast majority of respondents (75.9%) had not visited any university prior to the choice of a tertiary education institution. Of the remaining, most visited one university (14.5%). A very small number visited two universities (6.4%), with only 3.2% reporting that they had visited more than 2 institutions. The results point to limited active information search on the part of the respondents. It is obvious that most respondents and/or their families did not consider it necessary to personally become involved in external information search.

A similar picture emerges with respect to the number of universities for which information was requested prior to the enrollment decision. A very high percentage (41.8%) had not requested information on any university before deciding where to seek enrollment, making this the most common decision-making pattern among respondents. It was followed by those who sought information on two universities (21.8%) and those who sought information on one (13.6%). Only 22.3% requested information on more than two universities before enrollment. Consequently, the results point to a reluctance on the part of many respondents to become involved in information search that would allow systematic comparisons between higher education institutions.

As regards the time respondents spent on the choice of a university, a surprising 25% (one in four respondents) spent 0–7 days on the university selection decision.

About 30% required either 8–24 days or 25–40 days to reach a decision on the matter. At the same time, a large number (44.6%) devoted more than 40 days to this decision. It is interesting to note that of these, 15.5% spent more than one year on this decision, which indicates that the choice of a university was considered extremely important by them.

The responses to the three questions regarding the degree of information search were used to classify respondents into two groups, those who engaged and those who did not engage in information search. The application of the classification criteria resulted in 125 respondents (56.8%) being classified as information seekers and the remaining 95 respondents (43.2%) being considered not to be information seekers.

The findings presented above point to limited active information search on the part of many respondents before the decision to seek enrollment in a specific university. Taken together, the results presented in the present study suggest that the decision-making behaviour of a large number (and, in some cases, the majority) of respondents in the selection of a university was indicative of limited external information search. The majority of respondents applied to institutions they had never visited, when it can be reasonably argued that the costs of a visit could outweigh the potential benefits. At the same time, more than 40% did not attempt to collect additional information on any university before making a decision. It can be argued, of course, that higher education candidates did not consider a visit necessary because of prior knowledge received through school counsellors, friends and other reference individuals and/groups. However, given the relatively small size of the Harokopio University, it is unlikely that 40% of prospective entrants had friends or relatives studying at the institution. Even if this were the case, it is difficult to reconcile the lack of interest in additional information characterising these students with a strong version of the economic, rational man account of human behaviour. For a decision as important as the choice of a higher education institution in a country offering diverse options, rational decision makers would be expected to engage in at least some active information search. Thus, the findings presented in this paper do not provide unequivocal support for the rational choice model, leaving room for different explanations to (some) human behaviour such as the consumer psychology view of an ''unmanageable consumer'' (Gabriel & Lang, 1995).

The fact that the rational choice model is weakened by the findings does not mean that it should be dismissed or that its contribution to the understanding of human behaviour should not be acknowledged. Our findings suggest that even though most respondents did not actively seek information that would allow them to make comparisons between higher education institutions, a considerable number (44.1%) sought information on 2 or more universities, which indicates the desire to approach the decision in a relatively systematic and rational manner. Also, the fact that a similar percentage (44.6%) spent more than 40 days on the choice of a university shows that a significant number of individuals considered this decision to be very important. The results thus appear to support a weaker version of the rationality postulate, according to which rationality is likely to characterise some (but not all) decision makers. This version calls for further investigation of the circumstances in which rational behaviour is more likely to manifest itself. In the present paper, we attempt to do this by focusing on the characteristics more likely to be associated with information search and rationality in the university choice process.

Individual characteristics and information search

In order to investigate the individual characteristics associated with the propensity to engage in information search, we used a logistic regression model. Specifically, the propensity to be an information seeker was defined as a function of the following variables: GENDER (male/female), SES (low/high), and the extent of agreement with the following 5 statements (1–5 scale): ''The university choice decision was important to me'' (IMPORTANCE); ''Most universtities offer similar things to students'' (SIMILARITY); ''I had enough information about universities in Greece before making the choice decision'' (PRIOR-INFO); ''In general, the decisions I make are proven to be the right ones'' (CONFIDENCE); ''When it came to information search about universities, I relied on my parents (or other people)'' (DEPENDENCE).

The results of the regression estimation are shown in Table 1. The logistic coefficients (B) are interpreted as the change in the logarithm odds of the dependent variable associated with a one-unit change in the independent variable. As seen in the table, the following three variables had a significant effect on the propensity to engage in information search: the student's socioeconomic status, the importance of the decision for the student, and the extent to which students had acquired sufficient information prior to the university choice decision. All variables carried the expected signs. Thus, higher socioeconomic status students were more likely to engage in information search. Also, students who considered the decision important were more likely to be information seekers. These results are in agreement with reported findings in consumer psychology: Higher socioeconomic status consumers have been reported to engage in greater information search before the purchase of a product. Moreover, in the same context, the perceived importance of a decision has been associated with greater information search. Our findings show that these behavioural patterns apply to decision making in education.

As regards the third significant variable, its sign indicates that students who had acquired sufficient information on universities before the choice was made, were more likely to engage in information search. This was expected as students who felt that their information was sufficient for an informed choice, were more likely to have been involved in a prior systematic search effort compared to those who did not report possessing sufficient information. In this respect, the findings point to a group of individuals who place significant value on the collection and acquisition of

Table 1 Standardised regression coefficients, standard errors and Wald statistics

Independent variables	B	S.E.	Wald
SES	0.08	0.04	5.34*
IMPORTANCE	0.26	0.13	4.19*
PRIOR-INFO	0.44	0.16	7.58**
DEPENDENCE	0.19	0.12	2.35
SIMILARITY	0.16	0.14	1.33
GENDER	0.26	0.36	0.22
CONFIDENCE	0.06	0.17	0.14
Constant	–4.99	1.39	12.83
N	220		

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

information prior to the choice of a university. The findings reported in the present paper are similar to those obtained in the previous study of the same choice situation in Cyprus (Menon, 2004).

Conclusions

The present study aimed at investigating the extent to which prospective higher education students act as rational decision makers in choosing to enroll in a specific university. Using information search as an indication of rationality, we found that more than 40% of our survey participants could not be classified as information seekers. This was less than expected under traditional economic theory, especially if we take into account the importance of the decision for the subsequent career prospects of the decision makers. Moreover, in evaluating the results, we must keep in mind that information search is not a ''perfect'' indicator for rationality in that some information seekers may not utilise the collected information, choosing to rely instead on the opinion of reference individuals and/or groups. Thus, taken together, the findings suggest that the rationality postulate cannot fully explain the behaviour of a large number of individual decision makers in education. In the case of those who do not seek information, it is important to identify alternative frameworks for the explanation of their decision-making processes, resorting perhaps to fields of study such as psychology and sociology.

The second aim of the study concerned the identification of the characteristics associated with the propensity to engage in information search among prospective students. Three characteristics were found to increase the probability of information search on the part of respondents, namely, the student's socioeconomic status, the importance of the decision for the student, and the extent to which students had acquired sufficient information prior to the university choice decision. In agreement with findings in consumer psychology, higher socioeconomic students and students who considered the decision important were more likely to engage in information search. Moreover, students who reported having acquired sufficient information on universities before the choice was made, were more likely to engage in information search. Consequently, the findings point to a case of situational rationality, which is framed by specific individual characteristics. These characteristics may vary across different macro and microenvironments, making the study of the topic context-specific.

The findings have several implications for educational policy: First, they suggest the need to take into account alternative frameworks in the attempt to explain human behaviour in education. It is clear that, despite its limitations, the economic, rational man model can explain the behaviour of a large number of prospective students to a considerable extent. However, the model may be less applicable to some individuals and/or to some decision-making situations. It is thus necessary to also consider other approaches to the understanding of individual decision making in relation to higher education. In the context of psychology and sociology, it may be important to study the role of individual/attitudinal characteristics (student ability, extent of involvement in decision making, subconscious feelings and values etc.) and context/background characteristics (social class, reference individuals/groups etc.).

A second implication of the findings concerns the need for stimulating information search among higher education candidates. This appears to be a necessary strategy for higher education institutions in order to enable prospective students to make more informed decisions based on an awareness of the main differences among educational offerings. If students make uninformed, hasty decisions on the choice of a university, they are more likely to experience cognitive dissonance after enrollment as they come to realise that the reality at their chosen institution is different from their expectations. In this case, universities may be faced with problems of low academic performance and/or high student turnover.

The encouragement of information search is more necessary for universities providing higher quality offerings to students. Such universities need to initiate an information search process, which allows prospective students to identify their strengths and at the same time, perhaps, become aware of the weaknesses of competing institutions. The resulting decision will thus better reflect the reality of the educational market, allowing for a better match between the university and its students. Possible strategies for encouraging information search among prospective students include various promotional campaigns, such as the distribution of print material, invitations to prospective students for visits of the university premises or for participation in events, organisation of community events, well-designed websites, information offering toll-free numbers etc.

In this context, it is also important to address the lower propensity of low socioeconomic status students to engage in information search. It has been well documented in education that students of lower social backgrounds are at a disadvantage in the educational market, both in terms of their performance and in terms of their choices. Even high-performing students are known to choose lower status institutions if they come from low social backgrounds. The present findings point to one possible explanation of this phenomenon, i.e., the tendency of lower socioeconomic status students to collect less information than their high socioeconomic status counterparts before a choice in education. This tendency calls for measures aimed at providing lower class students with additional information. Given that the strategies for encouraging information search mentioned above may not be equally effective in the case of lower class students, it is important to design specific measures for reaching this target group. One way of doing this would be at the secondary school level, where career counsellors could schedule additional meetings with students of lower social backgrounds in order to provide them with information on higher education options, with emphasis on the offerings of different universities.

In order to plan more effective measures for encouraging information search on the part of students, policy makers need to link the choice of a higher education institution to other decisions made by prospective higher education students. The decision-making patterns associated with the decision to enter higher education are likely to bear some similarity to those of subsequent decisions such as the choice of an institution and field of study. Consequently, an in-depth examination of student decision-making patterns requires the study of the higher education decision process in its totality, which includes both the decision to pursue higher studies and the choice of an institution. Previous research in the Republic of Cyprus, the education system of which is similar to that of Greece, has found that the students' intention to pursue higher education was influenced by both financial (pay, occupational considerations) and non-financial variables (individual and institutional characteristics) (Menon, 1998; Papanastasiou & Papanastasiou, 1997). It appears that the choice of a

higher education institution is also influenced by a variety of factors; some of these relate to psychological/individual attributes (e.g. the importance a prospective student attaches to the decision), while others are more financially grounded (e.g. the socioeconomic status of the student).

On a theoretical level, the present study has attempted to shed some light on the robustness of the economic, rational man model in relation to the choice of a higher education institution. In addition to their theoretical significance, our findings draw attention to the need for more pro-active promotional strategies on the part of universities, aimed at stimulating information search by prospective students. The greater involvement of students in the information search process is likely to have positive results both for individual students and for universities: the former will make more informed choices, while the latter will accept students who are more likely to adjust and perform well in their new environments. It is hoped that additional research will shed more light on student choice processes in higher education, thus strengthening the base for policy decisions in this area.

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