

**An Educational Note on Locus of Control and Personality
Type in the Formation of Students= Attitudes Toward
Economic Institutions**

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There is substantial and growing evidence that economic and political institutions play a central role in determining the rate of economic growth and development. The determinants of economic and political institutions across cultures and governments is less well understood, but are in part the consequence of beliefs and attitudes toward alternative forms of economic organization. Boulding (1969) suggests that the link between economic and political attitudes and the social process is an important topic for economic education research. Pro-market attitudes have been shown to impact success in the principles economics course (Breedon and Lephardt, 2002). Research on locus of control and personality types as influences in the formation of students= attitudes toward economic institutions is consistent with that research direction.

Specifically addressed in this study is the role of personality type and locus of control in the formation of attitudes toward economic and political institutions. The measure of economic and political attitudes is obtained from responses to two personality tests, the Locus of Control and Myers-Briggs. The attitudes toward economic and political institutions were obtained from responses to questions on economic conservatism. The elicited economic beliefs are then correlated with self-reported locus of control responses and self-reported personality types. The 214 survey respondents consisted

of first and second year college students enrolled in a university-required macroeconomics principles class at a regional state university. The unique data set allows the empirical estimation of the relationships of interest. The empirical results provide preliminary support for the conclusion that these measures partially determine students' beliefs and attitudes about economic institutions. However, the overall explanatory power of the attitudinal measures is rather weak. This suggests an opportunity for research to develop measures of attitudes involving a locus of economic control as well as an individual's economic predisposition.

Locus of control and personality type

The locus of control concept (Rotter, 1966, 1990) was devised to assess the extent to which an individual believes they can control events. The Internal-External Locus of Control Scale (I-E) requires choices between statements conveying internal locus of control and those conveying external locus of control. Internal locus of control indicates an individual believes they have a command of their environment. They see a reasonable chance of success and are not troubled by change, even if change is seen as being from external causes. They believe they can influence the impact of change and feel confident with their coping skills. Individuals with a strong external locus of control are more inclined to believe that success is from luck, accident or coincidence.

According to Jungian psychological theory, information is received and processed differently by different personality types (Jung, 1971). In the area of economic decision-making personality type is significantly related to the framing on choices involving risk (Parker and Spears, 2002). Pietrykowski (1995) finds that personality types are correlated with the social dimension of market exchange. An individual's personality type has predictive power for situational behavior and predisposition to actions. When personality traits are linked to practices through which the individual defines wants and formulates decisions, they impact political and economic institutions.

Personality types are also related to economic education. Borg and Shapiro (1966) and Ziegert (2000) show that personality

type influences students' success in understanding economic decision-making. Their analysis of learning and teaching styles investigates the relationship between personality types and propensity for studying economics.

One of the more common approaches used to measure personality is the Myers-Briggs-Type Indicators: Extravert or Introvert, Sensor or Intuitive, Thinker or Feeler, and Judger and Perceiver. Myers-Briggs-Type Indicators, based on Jungian personality theory, is used as a framework to discuss personality types and their influence on decision-making (Myers, 1962; Myers and McCaulley, 1989). Although both frameworks contain internal and external dimensions, the Extravert-Introvert index is a distinct measure and a separate literature from that of locus of control. For example, a successful sales person might be an extrovert with an internal locus of control.

Method

A survey instrument was developed to capture perspectives on the free enterprise system, attitudes about control, and personality measures. Thirty questions on free enterprise were taken from Jackstadt, Brennan and Thompson (1985). These questions capture views on the market allocation of resources, efficiency of the free enterprise system, the role of private ownership, and the ability of competition to limit abuses of private power. These elements are consistent with Stigler's (1959) definition of economic conservatism as related to student beliefs and attitudes on these issues. A twenty-question instrument (Pettijohn, 2001) was incorporated that measures the locus of control based on Rotter (1966). Measuring the individual's personal preferences and disposition, self-reporting dimensions were used to classify people by Myers-Briggs-Type Indicator topology.

The survey was administered via the course *WebCt* site to a large introductory economics class yielding two hundred fourteen usable responses. Demographic information on age, gender, and undergraduate major was also collected. The descriptive statistics are given in Table 1.

From the survey responses two sets of factor analysis are conducted. First factor analysis is applied to the thirty questions on economic attitudes and free enterprise. Principal factors estimation is applied and the coefficients are saved. Three factors are extracted. The interpretations of this analysis are discussed in the following section. The same procedure is then used to analyze the locus of control portion of the instrument.

A regression analysis is performed to examine the correlations from the locus of control factors extracted and the personality traits reported on each set of component factors that represent these students' free enterprise attitudes. The regression results are presented in Table 2.

Factor analysis of students' attitudes toward economic institutions

To ascertain the relationship between dependent variables, economic attitudes and the independent variables, locus of control and personality characteristics, it is necessary to identify student attitudes. This is accomplished by applying factor analysis to students' responses to thirty questions on attitudes toward economic institutions. The factor analysis identified three distinct groups of students that we have labeled, Pro-market (PM), Anti-government (AG) and Anti-market (AM).

The PM group consistently responded positively to questions that supported market institutions and private property as the preferred means of organizing production and allocating resources.

For example, they agreed with the statements, "A free economy is better than a planned economy," and "A private ownership of property is necessary for economic progress." Students in the AM group took the opposite position. They supported the statements, "A free enterprise has been responsible for most of the evils in our society," and "The government should own and operate all public utilities." These two groups appear to represent opposing views on preferred economic institutions.

The third group, AG, appears to be closer to the PM group but their focus is on limiting the role of government. This anti-government stance however does not carry over into support for markets per se. For example, this group supported the statements, "A government should keep its hands off private business operations," and "The country needs less government regulation of business." But, had mixed support for free market institutions supported by the PM group. Each of these groupings are first regressed against the explanatory variables of locus of control. The regression is then repeated including personality type.

Factor analysis of students= attitudes toward locus of control

Maximum-likelihood factor analysis was performed on students= responses to statements concerning perceptions of their control over their environment and ultimate outcomes of individual actions. The analysis identified four groupings of students that we have labeled: Merit, Controllers, Chance and Losers. The groupings range from strong internal locus of control to strong external locus of control. It seems reasonable to hypothesize individuals with internal locus of control will be more supportive of economic institutions that reward incentives, merit, and productivity.

Students categorized in the Merit group agree with the statements, "A persistence and hard work usually lead to success," and "I earn the respect and honors I receive." They support the idea

that hard work and merit are rewarded. Somewhat different, but related to the Merit group's perspective, is the Controllers group. Controllers support the statements, "I usually get what I want in life," and "I usually convince others to do things my way." These individuals think of themselves as possessing the ability to affect their environment to their advantage.

Distinct from the Merit and Controllers groupings are Chance and Losers groupings. The Chance group believes that much of the world is random and hence chance plays a substantial role in determining outcomes. For example, the Chance grouping agrees with the statements, "My life seems like a series of random events," and "Success is largely a matter of chance." The Losers grouping agrees with the statement that, "If I do not succeed on a task, I tend to give up," and "I never know where I stand with other people." However, they also supported the somewhat contradictory statements that, "I do not believe in luck or chance," and "I think I could easily win the lottery." *A priori* one would expect that the first internal groupings, Merit and Control, would be more supportive of free market institutions while the external groupings would tend to support government intervention.

Empirical results

The three measures of attitudes toward economic institutions—Pro-market, Anti-government, and Anti-market—were individually regressed on measures of locus of control. The regressions were then repeated using personality type as additional explanatory variables. The results are reported in Table 2.

The Pro-market group regression identifies the Merit and Controllers as statistically significant and positively related. This result is consistent and intuitively appealing. Those individuals who think that merit is rewarded and/or they can control their environment supported market institutions. The only other dependent variable to enter the estimation equation is the personality characteristic Extravert/Introvert, which is negatively signed. This suggests that individuals who are more inwardly focused in the formulation of goals and rewards are more supportive of market

institutions. This result supports the idea that extroverts prefer group or social action to individual or private action.

The second equation regresses the Anti-government group with only the Sensor/Intuitive personality trait emerging from the regression as significant. The primary focus is on limiting government as an emotional response. There is little evidence of support for markets *per se*.

The third equation regresses the Anti-market group with Losers and Extrovert/Introvert entering the equation. The locus of control Loser group has a positive sign. Individuals who are unwilling to accept responsibility for their own success are expected to think that government control or a social response is preferable to reliance on individual action. The Extrovert/Introvert variable is positively signed. This is interesting because it is negatively signed in the Pro-market equation. Thus, this personality characteristic appears to be uniformly related to individuals' attitudes toward economic institutions. This consistent empirical relationship suggests that further exploration is in order.

The independent variables explain a relatively small portion of the variation in students' economic attitudes. This, of course, can result from a number of reasons. One explanation is that locus of control and personality characteristics are not particularly important in determining attitudes about economic institutions. However, there are several less damaging explanations. First, the measurement of dimensions of personality and their application to economic attitudes and behaviors is relatively new. Consequently, the personality measures have not been designed to capture personality characteristics that determine economic beliefs and decisions. Second, the information is self-reported and may contain systematic errors that are not reflective of individuals' actual behaviors. Rather than using these problems to ignore the impact of locus of control and personality characteristics, we think they represent an unusually attractive direction for research.

Conclusion

The empirical results provide support for the hypothesis that attitudinal factors such as locus of control and personality measures

student predisposition toward economic institutions. The psychological measures employed were significant but had limited explanatory power. It is the task of economic education researchers to develop and validate reliable measures focused on economic personality determinants. Predetermined attitudes have the potential to impact the effectiveness of economic education in informing beliefs and students' attitudes about alternative economic institutions and also influence successful completion of the principles economics course. Understanding these economic attitudes and their impact is an emerging research opportunity.

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