Personality and Ideological Factors of Alternative Learning Favorability

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Abstract

This paper investigates an original data set to understand public and employer disposition toward alternative postsecondary learning. This study builds on the literatures of alternative learning and personality to solve an apparent contradiction where conservatives reject alternative learning. This paper specifically tests whether personality is a solving mechanism.

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1. Introduction

Education economics has sought to explain favorability to alternative education. One paradoxical result is that conservatives favor accredited education[1]. The result holds after correcting for a variety factors including status quo bias, religiosity, and standard controls. This paper hypothesizes that the paradox is a case of non-logical survey response and omitted variable bias. This paper seeks to resolve the paradox by introducing new controls. Specifically, this paper hypothesizes that after correcting for personality and mental effort, conservatism will not be negatively related to support for alternative education. [ONE LINER ON RESULTS]

This paper follows prior survey method closely, then adds new controls. Controls are added for personality and mental effort. Grit and Big Five personality traits are captured as measures of personality. Survey completion time is used as a proxy of mental effort and intelligence.

In a behavioral approach, constraints to mental effort are associated with classically inefficient results. With respect to such results, this paper prefers the label of non-logical to irrational. This amounts to a boundedly rational explanation[2].

Risk aversion is a key theoretical reason to control for personality and mental effort. Conservatism is an aggregate symbol reflecting many factors[3]. High levels of risk aversion among conservatives is one such concern of economic importance[4]. Personality relates directly conservative identification[5] and also to risk tolerance.

Conservatives oppose regulation as a matter of ideological principle[6]. Decisioning on ideological principle, however, may tend to occur with high mental effort. Under conditions of low mental effort, risk aversion may dominate in conservative thought process. These hypothetical conditions explain the response in favor of accreditation on the part of a conservative. This paper seeks to test whether such hypothetical conditions exist in the real world.

2. Description of Data

This paper uses a combination of existing and original survey data. The survey for this paper is based on the Attitudinal Survey on Alternative Credentials[7]. Original observations were obtained through a new administration of that survey with two new questions. Respondents were instructed to take online versions of the Big Five personality assessment and the Short Grit Scale and report their results. Grit is scored from 1 to 5 and Big Five traits are scored from 0 to 100. See Appendix A for wording of these questions. [ADD APPENDIX A]

Survey data is investigated using multiple regression. The dataset includes 2175 observations, but 201 samples are relevant in the preferred model. Personality effects turn out to be important, and only 201 samples include such information.

The dependent variable is favorability to alternative credentials. This study defines alternative credentials as those issued by a non-governmental body. Respondents are primed with the definition of alternative credentials. Appendix A contains the wording of the priming message.

The first independent variable of interest is favorability to regulation. The inverse of this variable is taken as a measure of conservative economic preference. Favorability questions are rated from 1 to 10. The second independent variable of interest is survey completion time in minutes.

Other variables include standard controls for age, gender, ethnicity, income, and level of education. Employment status including whether an employed respondent is a manager is reported. If employed, the industry of employment is recorded for the respondent.

Favorability to artificial intelligence technology is observed. This is interpreted as a measure of innovation bias. Innovation bias is interpreted as isomorphic to inverse status quo bias.

Two other important right-hand variables exist. Respondents are asked whether they have heard of five popular alternative learning providers. Familiarity is the count of confirmed known providers. Expectation is a response from

1 to 10 to the question "It will soon become fairly conventional for high school graduates to obtain alternative credentials instead of going to college."

3. Results

The first main result involves replication of prior work. Table 1 provides selected coefficients across four models of interest. Selected variables emphasize representation of each category of effect, significant effects, and variables shared across models. M-2018 and M-2019 are preferred models from a prior paper which used the public Attitudinal Survey on Alternative Credentials dataset[1]. M-2019-2 is a replication of M-2019 using new data obtained for the present research.

M-2019-2 involves a larger sample size compared to M-2019. Coefficient significance and direction of effect is replicated. Coefficient magnitude varies with a general lack of importance. The coefficient on being a college graduate changes notably, but it is not a significant factor.

M-2020 introduces factors of personality. Mental effort was not a significant factor. Being a college graduate is a significant and important factor in this specification. Including factors of personality improves total and adjusted explanatory power by about 5 percent. Grit, conscientiousness, and openness were important in the model. These factors were significant at the $p < .18$ level.

The most significant personality factor is an interaction between grit and familiarity ($p < 0.005$). If this factor is replaced with simple grit, the negative direction of effect is maintained but significance is reduced ($p < 0.17$). Notice that the negative direction of effect is opposite in sign when compared with conscientiousness.

Familiarity bias is associated with a positive favorability response. This bias is reproduced in the work on alternative credentials, but in the present data we see that the favorability response is heterogeneous by personality. Specifically, concurrently higher grit and familiarity yield lower favorability to alternative credentials.

Table 1: Table of Multiple Regression on Enrollment, Selected Variables

	M-2018	M-2019	M-2019-2	M-2020
AI	0.700*			-0.708*
AI^2	-0.065*			0.061**
Conscientiousness				0.014*
$Expectation^2$		0.113**	0.106***	0.038***
$Familiarity^2$	0.038	0.146	-0.024	0.111*
Familiarity-Grit				-0.192**
Is College Graduate		0.933	0.493	1.059***
Is Male		-2.458*	-1.579*	0.388
Is Manager		-0.475	-0.424	0.251
Is STEM	-1.212*			
IT Industry	1.830**			0.859*
$Nationalism^2$	0.011*			
Pro Regulation	1.161*	0.268***	0.244***	0.659*
Religiosity	0.120*			
R-sqr	0.5971	0.5257	0.4182	0.4427
Adj. R-sqr	0.5016	0.4373	0.3528	0.3703
N	168	192	298	201

* $p < 0.10$, ** $p < .01$, *** $p < .001$

The grit-familiarity interaction effect is not reproduced when conscientiousness is interacted with familiarity. A well-cited meta-study in 2017 concluded that grit is essentially repackaged conscientiousness[8]. The meta-study found that grit, measured without scale normalization, was strongly related to conscientiousness ($\rho = 0.84$). The consistency facet of grit showed greater independence ($\rho = 0.61$). The strong correlation between conscientiousness and grit is replicated in the present data set ($\rho = 0.73$). The present data also shows a strong correlation between grit and neuroticism ($\rho = -0.66$). This paper does not dispute that grit may be considered a facet of conscientiousness. That facet, however, does not yet exist in standard long Big Five scales, let along the short scales. For modern applied purposes, and for economic survey administration, grit appears as if it has independent economic importance.

4. Conclusions

how does this relate to hiring and firing or industry growth trends? answer: personality answer: managers tend to have certain personality traits

We assume independence of personality and ideology, along with stability of both over time. These assumptions are necessary because multiple regression of both sets of effects cannot be accomplished with the present data set.

We have ideological effects, which I am distinguishing from cultural effects. Cultural effects include regional and ethnic effects.

Non-cultural ideological effects include religiosity, christianity, favorability to regulation, favorability to AI (conservatism and anti-innovation bias proxy), STEM employment measure (scientism proxy), and whether American education is important (nationalist / anti-foreign prox)

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