

Personality and Ideological Factors of Alternative Learning Favorability

John Vandivier^a

^a4400 University Dr, Fairfax, VA 22030

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.

Keywords: education economics, alternative education, debt crisis, personality

2010 MSC: I21, I22, J20

Email address: `jvandivi@masonlive.gmu.edu` (John Vandivier)

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.

30 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
35 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
40 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
45 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.

50 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.
55

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

60 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
65 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.

70 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. Being a college graduate is a signif-
75 icant 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
80 familiarity ($p < 0.005$). If this factor is replaced with simple grit, the negative direction of effect is maintained but significance is reduced ($p < 0.17$). Marginal familiarity effects also become insignificant and exhibit an unexpected negative sign in that case. Notice that the negative direction of effect is opposite in sign when compared with conscientiousness.

85 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. This effect is not reproduced when conscientiousness is interacted
90 with familiarity.

A well-cited meta-study in 2017 concluded that grit is essentially repack-
aged 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
95 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 alone the short scales. For modern ap-
100 plied purposes, and for economic survey administration, grit appears as if it has
independent economic importance.

Mental effort was not significant in the multiple regression. Adding four
mental effort variables to the preferred model yields insignificant coefficients in
the expected directions. One variable is mental effort. The second variable is
105 an inter [UPDATE PREFERRED MODEL]

The paper replicates prior findings that manager preferences are insignifi-
cantly different from the population at large. Industrial effects, age, income, eth-
nicity, status quo bias, Ideological effects appear robust to inclusion of person-
ality. This indicates the popular correlation between regulation an alternative
110 education is not rooted in personality, and therefore appears to be ideological,
if incoherently so.

how does this relate to hiring and firing or industry growth trends? answer:
personality answer: managers tend to have certain personality traits do they
also tend to have a certain ideology...? idk industry growth isn't really effected
115 bc personality is taken as socially stable, this info could be relevant for product
marketing; some personalities being more friendly to alt education however,
preliminary analysis indicates these effects are small

ai favorability is lower among low regulation supporters highly significant and
positive relation found, but total r^2 is low this is counterintuitive because in-

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***
Expectation ³	0.003***	-0.007*	-0.007*	
Familiarity ³				
Familiarity-Grit				-0.192**
Income ³				-0.002*
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

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

tellectual conservatives should embrace technological advancement and the free market potential solution: as a matter of personality, or Kahneman’s System 1 response, conservatives may exhibit anti-innovation bias raising more regulation and ai (eg techno-liberal or scientistic progressive) is associated with a reduction in alt ed cred support reducing ai and reducing regulation (eg anti-innovation conservative) is associated with more support for alt ed cred (indicates ideological dominance over personality at survey time) but, both of these effects are weak. ideological dominance over personality is consistent with results in this paper: weak personality effects relative to ideology (2:1, without multiple regression).

4. Conclusions

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)

References

- [1] J. Vandivier, Preliminary attitudinal trends in alternative postsecondary learning, *Applied Economics Letters* (2020) 1–4.
- [2] R. Candela, R. E. Wagner, Vilfredo pareto’s theory of action: an alternative to behavioral economics, *Il Pensiero Economico Italiano* 24 (2) (2016) 15–28.
- [3] K. Q. Hill, S. Hanna, S. Shafqat, The liberal-conservative ideology of us senators: a new measure, *American Journal of Political Science* (1997) 1395–1413.

- [4] R. M. Perhac Jr, Does risk aversion make a case for conservatism, *Risk* 7 (1996) 297.
- 150 [5] A. Chirumbolo, L. Leone, Personality and politics: The role of the hexaco model of personality in predicting ideology and voting, *Personality and Individual Differences* 49 (1) (2010) 43–48.
- [6] K. Teghtsoonian, Neo-conservative ideology and opposition to federal regulation of child care services in the united states and canada, *Canadian*
 155 *Journal of Political Science/Revue canadienne de science politique* 26 (1) (1993) 97–121.
- [7] J. Vandivier, Attitudinal survey on alternative credentials (2019). doi: 10.17632/75T88S6SDT.1.
 URL <https://data.mendeley.com/datasets/75t88s6sdt/1>
- 160 [8] F. T. Schmidt, G. Nagy, J. Fleckenstein, J. Möller, J. Retelsdorf, Same same, but different? relations between facets of conscientiousness and grit, *European Journal of Personality* 32 (6) (2018) 705–720.