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RESEARCH ARTICLE

The innovative personality? Policy making and experimentation in an authoritarian bureaucracy

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Summary

Why do local officials in an authoritarian bureaucracy experiment with policy, even when directed not to do so by central-level officials? This study suggests that policy experimentation in this institutional environment can best be understood as an interaction between the structure in which local officials are embedded and individual-level personality attributes. Leveraging a new data set from a series of original surveys with local policy makers in mainland China, conducted between 2016 and 2018, we discern three baseline personality types: authoritarian, consultative, and entrepreneurial. We thereafter examine the individual-level characteristics of local officials who will innovate irrespective of a centralization of bureaucratic power and interests, as currently experienced under Chinese President Xi Jinping. We find that local policy makers engage in policy innovation when they are more focused on resolving governance problems and that increased risk reduces but does not eliminate their willingness to innovate. Based on these findings, we contend that future studies of policy innovation should use an evolutionary framework to examine the interaction between preferences and selection pressures.

KEYWORDS

authoritarian institutions, China, governance, local government, policy innovation, policy makers' personality, risk tolerance

1 | INTRODUCTION

Although policy makers may desire to change policy, this process often involves incremental experimentation, whereby a new policy is tested before being adopted more broadly (Kingdon, 1995). This is often the case because achieving policy change is difficult, but nevertheless, a worthwhile venture because it may solve governance problems by allowing policy makers to create focused policies to tackle persistent problems (Mintrom & Norman, 2009). This is especially beneficial for states deciding between different models of social services, transitioning the economy, or bringing in voices and perspectives traditionally not represented in policy making.

Although much of the literature on policy experimentation is based on the study of Western electoral democracies (see Roberts & King, 1991; Shipan & Volden, 2008), scholars have increasingly

researched this topic in authoritarian states such as China (see Hammond, 2013; Teets, Hasmath, & Lewis, 2017; Zhu & Zhang, 2016). Most studies analyzing policy experimentation in authoritarian regimes have a tendency to look at the behavior of the bureaucratic state as the primary actor, without factoring in other actors such as private businesses and civil society organizations in this process and thus, mostly focus on the role of officials in promoting policy experiments (see Gel'man & Lankina, 2008). These studies generally examine the structural context of local officials and draw upon Max Weber's (1964) seminal work looking at how lower level bureaucrats are risk-averse rule followers rather than policy innovators or problem solvers. In an authoritarian environment such as China, local policy experimentation is thus commonly explained by the preferences and directives of central-level officials (Heilmann, 2008; Zhu & Zhang, 2016).

Policy experimentation in China can arguably account for the disastrous Maoist policies in 1950s to 1970s that reorganized the economy at a macrolevel and the ineffective policies on education and social welfare (see Hasmath, 2011; Heilmann and Perry, 2008). At the same time, policy experimentation can be directly linked to some of the remarkable successes in the contemporary era (see Florini, Lai, & Tan, 2012), such as lifting over half a billion individuals out of extreme poverty and improving the material livelihood of the vast majority of the nation's citizenry in the past four decades. This was specifically achieved by what scholars suggest is a "China model" of development policy, embracing central bureaucratic-led experimental policies ranging from population control (via the now defunct one child policy), to restrictions on human mobility (via the *hukou* system—household registration), to macrostructural market reforms from 1978 onwards (see Hasmath, 2017; Hsu, 2015).

Despite the dominant explanation of central-level directives supporting policy innovation, we also see cases where local Chinese officials experiment with policy even when directed not to do so by central officials (Fewsmith, 2013). This is a puzzle because an authoritarian bureaucracy, with strong top-down control mechanisms and incentive structures to encourage central-level directive compliance, should not foster this behavior. We suggest that this empirical outcome can best be explained by drawing upon recent theoretical developments advocating for analytical attention away from solely the structural perspective (dominant in analyses of authoritarian regimes), or an agency perspective (dominant in analyses of democratic regimes) in isolation, to an analysis rooted in the interactions between structure and agency.

Our study thus explores how policy experimentation in an authoritarian bureaucracy such as China can best be understood as an outcome of the interplay between structure (the bureaucratic institutional environment) and agency (individual-level personality attributes). Leveraging a new data set from a series of original surveys with local policy makers in China conducted between 2016 and 2018, we analyze the population ecology of policy makers within the authoritarian bureaucracy. We first discern baseline personalities using our sample and operationalize three distinct personality types: authoritarian, consultative, and entrepreneurial. We hypothesize that there is a particular individual personality that will innovate irrespective of central government preferences. Using our personality typology, we examine the characteristics of local officials who respond that they will continue to innovate under conditions of increasing institutional risk, such as the one being experienced under President Xi Jinping characterized by less local experimentation and more top-level policy design (see Ahlers, 2018; Chen & Gobel, 2016). We find that the authoritarian personality follows central directives but that the consultative and entrepreneurial officials continue to experiment with policy although at reduced levels. Risk, as predicted by studies of bureaucracies, does reduce innovation, but not uniformly. This variation in willingness to experiment with policy, even under conditions of increasing risk, is best explained by understanding the interaction between the structure in which local officials are embedded and individual-level personality attributes. Based on our findings, we contend that studies

of policy innovation must focus more on how selection mechanisms, whether elections or authoritarian promotion systems, interact with the personalities of policy makers, namely, the sources of policy learning and authority perceived to matter most. This suggests that most research should use an evolutionary framework (Lewis & Steinmo, 2012; Ang, 2016; Shue & Thornton, 2017).

2 | THEORETICAL FRAMEWORK

2.1 | Policy innovation

We define policy innovation as the "introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group organization or wider society" (West & Farr, 1990, p. 3). As Brown and Osborne (2013, p. 188) further elaborate, there can also be a differentiation between incremental and continuous change (developmental change) and change that has a transformational or discontinuous form (innovative change). Policy innovation effectively invites a new qualitative variance in relationships, behavior, and/or governing procedures to execute a particular policy. The process of policy experimentation might introduce or test either of these forms of innovation but through a slower process of using the effects of the policy change in one geographical area to advocate for broader change. In China, these concepts are often used interchangeably by local officials, and as such, we do not differentiate between continuous and discontinuous policy changes in the surveys.

2.2 | Authoritarianism versus consultative governance

China is commonly perceived as an authoritarian state with hierarchical top-down policy making from the center. It is premised on the view that a single actor, the government, holds and wields ultimate power and control either tacitly or overtly (see Hsu & Hasmath, 2014), including in the form of corporatist arrangements whereby the state manages and controls all sectors of society (see Hsu & Hasmath, 2013). Following the turn toward informational models in the general comparative authoritarianism literature, scholars have advanced the "consultative governance" approach to policy making, which draws attention to a complex and diverse multiactor web of networks, processes, and actors who are critical to providing information for optimal policy making (van Asselt and van Asselt & Renn, 2011, p. 434). These actors may include those from the market and civil society sectors, such as private businesses and nongovernmental organizations, and consult with government officials mostly at the local level to provide societal information leading to better governance under authoritarianism (see Hasmath & Pomeroy, 2017; Teets, 2014). The consultative governance approach does not dispute, however, that government officials are the primary policy makers, but does note an increasing tendency to consult with societal actors and to include them in policy formulation and experimentation.

Although the large-scale bureaucracy governing local officials in China does not appear conducive to policy innovation using a Weberian logic, we have witnessed high levels of policy experimentation at the subnational level in the contemporary era—albeit at a declining rate¹—ranging from village- and township-level elections to targeted social welfare entitlements for vulnerable populations (see Hasmath & MacDonald, 2018; Heilmann & Perry, 2011; Teets, 2015). This is commonly explained in two ways: the risk is offset by the encouragement of central officials who use local experimentation to advance policy change nationally (Heilmann, 2008), or the risk is acceptable because a certain area is currently ungovernable (Fewsmith, 2013). In both cases, risk is reduced so that local officials are willing to innovate. The underlying motivation for these explanations is that local officials are motivated by career promotion incentives to satisfy higher level officials or effectively govern their region and score highly on the cadre evaluation system (Heberer & Trappel, 2013). Either a high score on the annual evaluation or the active sponsorship of higher level patrons then secures promotion (Kou & Tsai, 2014). These explanations would expect local policy innovation to stop if central officials no longer reward it.

2.3 | Psychological profiles of government policy entrepreneurs

Borrowing from management and entrepreneurship literature, the assumption is that the psychological profile of the individual who is undertaking a policy experimentation is one who is confident or proactive—in other words, have a high degree of self-efficacy—and is a risk taker (see Kim, 2010; Littunen, 2000). Further, the inherent motivation for policy innovation is the hope of cultivating improved organizational performance. This holds true irrespective if this is a Weberian bureaucracy (see Hopfl, 2006) or whether we are operating within a Western democratic or authoritarian government structure.

In the context of policy innovation in China, individual-level attributes can be discerned to provide a baseline understanding of the extent to which local officials vary in their personalities, policy preferences and decision-making style, and how that impacts preferences for policy experimentation. Establishing the existence—and the extent of—variation in personalities, preferences and decision-making style is the first step in understanding the complexity of policy making at the individual level, and how it interacts with structural factors that have long been dominant in our understanding of contemporary China.

In structuring questions about individual willingness to innovate, we must also look at how individual preferences interact with the structural mechanisms outlined in the literature. In evolutionary terms, selection mechanisms refer to anything that narrow the scope of variation within the system (Lewis & Steinmo, 2012). In political institutions, selection mechanisms generally refer to rewards or punishments, for example, cadre evaluation system. We posit that the influence of the selection mechanisms is moderated by individuals' risk tolerance and feelings of

personal efficacy or what we call “policy entrepreneurship” in this study (Kahneman & Tversky, 1979; Mercer, 2005). This means that officials with high “entrepreneurship” may perceive the benefits of successful policy experimentation to be higher and those punishing failure to be lower, whereas officials with lower risk tolerance and lower personal efficacy perceive the same set of incentives in the opposite direction. If this is true, then we should expect to see distinct patterns in the interrelationships between the influence of top-down selection and individual entrepreneurship. Overall, we argue this type of framework can better inform empirical information on the variation in local agent preferences, and allows for more robust analysis of the interaction between these preferences and the incentive structure facing policy entrepreneurs. To wit, inside Weber's iron cage, variations in individual preferences interact with structural incentives to create variations in willingness to experiment with policy, even under conditions of increasing institutional risk.

3 | METHODOLOGY

3.1 | Data collection

Between 2016 and 2018, we surveyed over 900 local government officials querying their willingness to conduct policy experimentation. Given the difficulties of collecting this type of individual-level data in China, due to political sensitivities and the current institutional environment at large, we collaborated with partners in Beijing and Zhejiang and mainly collected data from local officials who participated in cadre training programs.

This effectively means that while the survey is not a full representative sample of all local officials in China, a review of basic demographic variables with respect to position, region, gender, and age shows significant variation in terms of these key control variables. Our sample covers participants from eight different provinces throughout China, representing a range of developmental and sociopolitical subnational environments. Our data are not evenly distributed across all of these provinces: 35% of our sample comes from Shandong province, 20% from Guangdong, and 15% from Hebei province. The remaining five provinces (Anhui, Gansu, Hubei, Yunnan, and Zhejiang) individually account for between 5% and 10% of our total sample, respectively. This means our sample is skewed toward the more developed parts of China. Nevertheless, the remaining five provinces represent a heterogeneous range of developmental and sociopolitical subnational environments, and in general, serve to counterbalance the data from the more developed regions.

In sum, we are confident that the sample allows us to make general inferences about a large subsection of local officials throughout China. All surveyed officials generally operate under the same structural conditions and incentives inside China's authoritarian bureaucracy, and we examine individual variation through questions about risk tolerance, solving local governance problems, and the importance of the cadre evaluation system on their willingness to conduct policy innovation.

¹Chen and Gobel (2016) analysis found that policy innovation in the contemporary era declined from 2008 and bottomed out in a steady fashion in the current Xi Jinping era (2013–present).

TABLE 1 Personality operationalization in survey instrument

Personality type and characteristics
<p>Authoritarian</p> <ul style="list-style-type: none"> • High importance of cadre evaluation system • High importance of concerns for career advancement • High importance of directives from the central government • High importance of senior allies • High aversion to uncertainty in policy making • High reliance on internal information sources • High reliance on central government information sources • High reliance on party schools as information sources • High agreement that central government should drive policy • High agreement that the state should drive policy
<p>Consultative</p> <ul style="list-style-type: none"> • High importance of concerns for government legitimacy • High importance of peer esteem • High concern for societal backlash • High importance of participation by societal stakeholders in policy process • High reliance on academic sources of information • High reliance on international contacts as information sources • High reliance on professional networks as information sources • High reliance on NGOs as information sources
<p>Entrepreneurial</p> <ul style="list-style-type: none"> • High risk tolerance • High aversion to the effort required in doing something new • Strong feelings of personal efficacy

Abbreviation: NGO, nongovernmental organization.

3.2 | Analytical strategy

Following our theoretical framework, we first operationalize three distinct personality types: authoritarian, consultative, and entrepreneurial. The authoritarian personality is based on the classic Weberian, hierarchical rule taker. That is, they generally share a hierarchal orientation with government as the central actor, with power and control infused in this top-down fashion. The consultative personality seeks social input and cooperation from government and society-at-large in policy making. In other words, they generally seek to utilize complex multiactor networks and processes in the policy formulation and decision-making process. The entrepreneurial is individually confident displaying a high degree of self-efficacy and has a higher willingness to take risk. Table 1 outlines the relevant survey questions, with variables based on a 5-point Likert scale (see Lewis, Teets, & Hasmath, 2018 for further discussion on our survey instruments).

We then utilize a principal component methodology² to evaluate the extent to which local officials in China vary in their personalities, preferences, and decision-making style. If the prevailing assumptions hold, then we expect to see robust variation across personality types,

²Principal component analysis, such as factor analysis, measures the degree of clustering and correlation amongst the variables in the data set. Depending on how the results are defined, the process calculates "components" that are defined by significant correlation—or factor loading—amongst different constellations of variables. This is both a means of reducing the complexity of the relationships in a data, as well as a means of inductively identifying systematic patterns in responses. In our framework, we label these components "personality types" and construct a typology based on the patterns in the data.

TABLE 2 Maximum observations analysis

Variable	Component 1: "Authoritarian cadre"	Component 2: "Entrepreneurial cadre"	Component 3: "Consultative cadre"
Central directives	0.5862		
Senior allies	0.3916	-0.3713	
Concerns for career advancement	0.3568	-0.4457	
Center dominance	0.3882		-0.4946
State dominance	0.3160		-0.3767
Government legitimacy	0.3439	0.3573	0.4712
Societal input		0.4296	0.5392
Personal efficacy		0.4595	

Note. Number of observations: 88; Rho: 0.63; minimum eigenvalue for components 1.

even under conditions of strong authoritarian, bureaucratic structural pressures. Finally, we conduct a series of ordered logit models to look at the interrelationships between individual-level personality and bureaucratic structural factors.

4 | FINDINGS AND DISCUSSION

4.1 | Personality types

In Table 2, we present the results of our maximum observation model using a principal component methodology. Our analysis centers on components that meet a minimum eigenvalue of 1—a reasonable threshold for measuring the centrality of the constituent factors in each component. We restrict the variable list results to three components—or personality types—that meet this minimum level of centrality. The factor loading of each variable for each component is listed in Table 2. The results highlight the most significant variables in each component.³

The results demonstrate clear sorting around authoritarian and consultative policy making preferences and highlight the interaction of individual-level characteristics with particular types of decision-making styles.

As to be expected, the first component labeled the "authoritarian cadre" has a significant and positive factor for all measures of authoritarian preferences. In addition, we find positive factor loading on concerns for government legitimacy within this cohort. Indeed government legitimacy concerns appear to be a universal concern amongst Chinese officials, which suggests that it may not be as clear

³As a general rule of thumb, a factor loading ± 0.3 is considered to be a strong relationship, and as such, the results presented only shows factor loadings within this range. Consistent with standard practice, we present only those scores that have an eigenvalue greater than 1. Eigenvalues can be considered as a measure of the variance in the data explained by that particular component.

an indicator of consultative policy preferences as initially hypothesized.

The second component labeled the “entrepreneurial cadre” has a strong interaction between individual-level entrepreneurship and policy making characteristics. The strong and positive factor loading on feelings of personal efficacy and our measures of consultative policy making suggests how the two may interact to drive policy innovation. Indeed, we see that entrepreneurship is distinctly *negatively* associated with the primary arguments in the literature: concern for career advancement and desire for protection from senior allies. This may suggest a greater degree of risk acceptance, which is considered to be a key trait of the innovative personality.

Finally, for the third component labeled “consultative cadre,” we find large and positive factor loading on our measures of consultative policy making and large and distinctly negative factor loading on measures focused on the state's importance in driving innovation. This reflects much greater concern for societal involvement in the policy process.

Overall, these results provide strong support for the inference that there is significant variation in policy preferences amongst local officials in China and suggest how individual-level characteristics interact with broader structural selection mechanisms to drive policy innovation.

4.2 | Relationship between individual-level personality and bureaucratic structural factors

Next, we employ a series of ordered logit models to examine the interrelationships between individual-level personality and bureaucratic structural factors.

The first set of models further analyzes the determinants of the authoritarian personality and accompanying preferences. Table 3 summarizes the results from a series of models using concerns for hierarchy and the reward or punishments of professional evaluation as the dependent variables. Those displaying higher concerns for reward and punishment professionally were also far more likely to be influenced by the approval of the regime—the central government and peers. The importance of central government directives are correlated, as one may expect, with hierarchical concerns of the cadre evaluation system and the importance of allies further up in the bureaucracy. Older cohorts are more likely to be concerned with top-down hierarchy as well. The greater prevalence of autocratic personality types in the more fully specified max variable analysis indicates that these individuals make up a larger proportion of the sample population, thus they may have more of an overall impact.

The determinants of the consultative personality and accompanying preferences are detailed in Table 4. In general, policy entrepreneurship seems to be more closely associated with consultative types of policy making. Here, we also received the strongest and most robust relationships between concerns about government legitimacy, namely, a variety of governance challenges. Consistent with expectations, many of these preferences are associated with greater societal input

TABLE 3 Determinants of authoritarian preferences

	(1)	(2)	(3)
	– Influence concerns about career advancement	+ Influence cadre evaluation system	+ Influence of higher level allies
+ Influence clear central government directives	1.217 (0.403)	5.476*** (2.797)	2.823*** (0.836)
+ Influence of local competition	1.202 (0.291)	1.203 (0.466)	0.581** (0.134)
+ Influence of higher level allies	1.609** (0.365)	1.650 (0.744)	
+ Influence peers	1.002 (0.274)	0.629 (0.253)	1.713** (0.436)
+ Influence concerns about government legitimacy	0.809 (0.211)	0.713 (0.345)	0.527** (0.142)
+ Influence of local governance challenges	0.776 (0.168)	1.591 (0.617)	1.102 (0.250)
+ Influence of NGOs	0.681* (0.140)	1.201 (0.473)	1.412 (0.306)
– Influence concerns about career advancement		1.518 (0.583)	1.664** (0.410)
+ Belief policy should be formulated by central level	1.308 (0.276)	1.304 (0.484)	0.971 (0.217)
+ Belief policy is solely the choice of government decision makers	0.879 (0.207)	1.026 (0.351)	0.855 (0.194)
Gender	0.983 (0.530)	0.272** (0.176)	1.206 (0.645)
Age	0.938 (0.280)	0.790 (0.360)	1.882** (0.588)
Education	1.004 (0.465)	1.236 (0.783)	0.937 (0.397)
CPCCC member	0.319 (0.340)	1.304 (1.574)	0.625 (0.676)
Observations	82	48	82
Pseudo-R ²	0.0736	0.208	0.0995
Chi-square test	20.83	37.48	30.66
Prob > χ^2	0.0763	0.000624	0.00378

Note. Standard errors in parentheses.

Abbreviation: NGO, nongovernmental organization; CPCCC, Communist Party of China Central Committee member.

* $p < .1$. ** $p < .05$. *** $p < .01$.

and a multistakeholder approach. This is best seen on the coefficients with respect to nongovernmental organizations as a source of information. Admittedly, the dependent variables here should ideally operationalize consultative preferences based on the degree of societal input rather than government legitimacy. As we have seen, it is not clear that government legitimacy can be neatly associated with consultative preferences, because it is important for all the personality types. We find that “openness to societal input” is a more precise metric that should be used.

TABLE 4 Determinants of consultative preferences

	(1)	(2)	(3)	(4)
	+ Influence concerns about government legitimacy	+ Influence concerns about government legitimacy	+ Influence of NGOs	+ Influence of NGOs
+ Influence concerns about government legitimacy			2.071*** (0.554)	3.677*** (1.686)
+ Influence clear central government directives	2.551*** (0.768)	5.027*** (2.232)	0.553** (0.165)	0.311*** (0.138)
+ Influence of local competition	0.571** (0.139)	0.472** (0.176)	1.833*** (0.412)	2.501** (0.891)
+ Influence of higher level allies	0.640* (0.149)	0.274*** (0.124)	1.436 (0.337)	2.554** (1.191)
+ Influence peers	1.573* (0.417)	2.168** (0.802)	1.002 (0.250)	1.126 (0.407)
+ Influence of local governance challenges	1.599** (0.340)	2.176** (0.823)	0.960 (0.208)	1.084 (0.415)
+ Influence of NGOs	1.791*** (0.388)	2.475** (0.991)		
- Influence concerns about career advancement	0.883 (0.216)	0.977 (0.398)	0.662* (0.159)	0.499* (0.179)
+ Belief policy should be formulated by central level	1.008 (0.222)	0.575 (0.199)	0.859 (0.191)	1.055 (0.363)
+ Belief policy is solely the choice of government decision makers	0.834 (0.188)	1.186 (0.399)	1.038 (0.237)	0.728 (0.230)
Gender	1.277 (0.698)	0.984 (0.602)	1.702 (0.889)	1.674 (1.074)
Age	1.886* (0.630)	2.027 (0.913)	0.960 (0.305)	0.658 (0.286)
Education	0.730 (0.315)	0.892 (0.553)	0.716 (0.283)	0.470 (0.296)
CPCCC member	0.417 (0.445)	0.372 (0.450)	3.815 (4.236)	6.744 (8.700)
Observations	82	48	82	48
Pseudo-R ²	0.122	0.213	0.0796	0.214
Chi-square test	34.71	37.56	25.85	40.07
Prob > χ^2	0.000938	0.000607	0.0178	0.000249

Note. Standard errors in parentheses.

Abbreviation: NGO, nongovernmental organization; CPCCC, Communist Party of China Central Committee member.

* $p < .1$. ** $p < .05$. *** $p < .01$.

Finally, we present a series of models looking at the policy entrepreneur personality and accompanying preferences. As indicated previously, we operationalize entrepreneurship along two dimensions: feelings of personal efficacy and risk tolerance. The findings on personal efficacy are presented in Table 5. The dependent variable for each of these models is operationalized by questions looking at the importance of one's own personality or skill as a main factor influencing their decision to innovate. The only significant finding is that individuals voicing a personal commitment to innovation are most likely to be influenced by local governance challenges and problems. This interaction between personal efficacy and functional challenges is part of a

broader pattern within the data and reveals the strong technocratic biases in Chinese policy making.

Table 6 uses two questions to operationalize concerns about risk. Both questions link risk and uncertainty to policy action. As with the first set of models, there are not many explanatory factors for risk tolerance. Significant relationships lie at the intersection of individual preferences and local challenges, with a significantly positive relationship between the importance of local government challenges and risk acceptance behavior. Secondary findings point to overlap between feelings of personal efficacy and risk tolerance, which supports the literature on innovative personality.

TABLE 5 Determinants of entrepreneurial preferences (personal efficacy)

	(1)	(2)
	Personal preference for innovation	My skill most important
+ Influence clear central governance directives	0.938 (0.280)	0.820 (0.367)
+ Influence of local competition	1.103 (0.260)	0.735 (0.251)
+ Influence of higher level allies	1.348 (0.305)	1.377 (0.586)
+ Influence peers	0.892 (0.235)	0.686 (0.214)
+ Influence concerns about gov. legitimacy	1.181 (0.306)	0.870 (0.386)
+ Influence of local governance challenges	1.507* (0.320)	1.690 (0.588)
+ Influence of NGOs	1.192 (0.254)	1.281 (0.466)
- Influence concerns about career advancement	0.906 (0.217)	0.844 (0.291)
+ Belief policy should be formulated by central level	1.162 (0.248)	1.572 (0.524)
+ Belief policy is solely the choice of government decision makers	0.624** (0.149)	0.729 (0.234)
Gender	0.808 (0.460)	0.519 (0.299)
Age	1.587 (0.505)	0.883 (0.340)
Education	0.515 (0.237)	1.717 (1.061)
CPCCC member	4.105 (4.837)	1.485 (1.674)
Observations	82	48
Pseudo-R ²	0.101	0.0563
Chi-square test	28.37	10.55
Prob > χ^2	0.0127	0.721

Note. Standard errors in parentheses.

Abbreviation: NGO, nongovernmental organization; CPCCC, Communist Party of China Central Committee member.

* $p < .1$. ** $p < .05$. *** $p < .01$.

5 | IMPLICATIONS AND CONCLUSION

This study represents an initial test of individual-level variation amongst government officials with respect to fundamental personality characteristics and preferences. If top-down hierarchical selection mechanisms are dominant, as much of the literature on an authoritarian policy change suggests, then we should see very little variation in how local officials think about the problem of policy innovation. If on the other hand, there is substantial variation in how officials perceive top-down and bottom-up pressures, then an evolutionary approach would be more appropriate.

TABLE 6 Determinants of entrepreneurial preferences (risk tolerance)

	(1)	(2)
	Percentage of acceptable policy risk	Negative perception of uncertainty and risk
+ Influence clear central government directives	0.579 (0.267)	0.986 (0.419)
+ Influence of local competition	0.918 (0.320)	1.748 (0.663)
+ Influence of higher level allies	1.673 (0.783)	1.759 (0.756)
+ Influence peers	0.633 (0.241)	1.022 (0.372)
+ Influence concerns about government legitimacy	0.938 (0.409)	1.099 (0.457)
+ Influence of local governance challenges	3.195*** (1.400)	1.362 (0.545)
+ Influence of NGOs	1.184 (0.473)	1.638 (0.606)
- Influence concerns about career advancement	1.003 (0.384)	1.380 (0.534)
+ Belief one's skill is most important	0.623* (0.178)	0.949 (0.263)
+ Belief policy should be formulated by central level	1.169 (0.410)	1.615 (0.558)
+ Belief policy is solely the choice of government decision makers	1.073 (0.343)	1.168 (0.367)
Gender	1.359 (0.869)	0.573 (0.345)
Age	1.141 (0.522)	0.744 (0.293)
Education	1.984 (1.325)	0.819 (0.525)
CPCCC member	0.423 (0.584)	0.880 (1.285)
Observations	48	48
Pseudo-R ²	0.122	0.107
Chi-square test	14.34	20.87
Prob > χ^2	0.500	0.141

Note. Standard errors in parentheses.

Abbreviation: NGO, nongovernmental organization; CPCCC, Communist Party of China Central Committee member.

* $p < .1$. ** $p < .05$. *** $p < .01$.

The study demonstrates that individuals fundamentally vary in terms of base-level preferences—displaying distinct personalities even under conditions of strong authoritarian institutions. These personality characteristics give us insight into why certain policy makers have a penchant to innovate, and others do not, regardless of acting in the same policy making ecology. Future research should categorize individuals based on this typology in order to assess relative proportions within the policy community population. This is a logical step to identify how

prevalent these different personality types are and may allow some inferences about the impact of elevated risk on policy innovation.

According to seminal studies of bureaucrats, we expect local officials to be uniformly risk adverse. We further expect that these more risk-adverse officials will be less likely to be willing to innovate and would only do so if directly ordered (Heilmann, 2008; Heilmann, Shih, & Hofem, 2013). Our findings suggest that this is not necessarily the case. Although authoritarian bureaucrats face strong structural top-down institutional pressures, their risk preferences are heterogeneous as demonstrated by our personality typology.

Our findings have important implications for analyzing policy innovation both in China and beyond. First, according to the dominant argument regarding policy experimentation in China, local officials innovate when they think that it might accelerate promotion (Author B, 2015; Zhu & Zhang, 2016). Our findings suggest officials who indicate that they innovate due to the cadre evaluation system are more likely to express a willingness to innovate. Second, according to the literature on policy experimentation in China, local officials innovate to solve local problems that render their area ungovernable (Chen & Yang, 2009; Fewsmith, 2013). We again find that officials who indicate that they innovate to solve local problems are more likely to express willingness to innovate. These explanations are both supported in our data, but only explain part of the population, and thus, are incomplete explanations on their own.

Second, lost in the narrative in the authoritarian context is the role that the individual—the local policy maker—plays in engineering and fostering policy innovation. As Heilmann (2008) aptly points out in China, the cadre evaluation system, which offers promotion and punishment incentives within a tightly woven bureaucratic structure, encourages local officials to innovate in response to governance challenges, and then integrate the local experiences back into a national platform. This approach allows bottom-up policy experimentation, and the innovative lesson learned can provide a basis for justifying horizontal policy diffusion nationally. Even here, this scenario downplays the interactive role that individual personalities play in undertaking riskier policy innovations and erroneously elevates a controlling bureaucratic institutional structure as the main bearer for policy innovation and change. Successful innovation requires individuals and the bureaucracy to engage in positive risk taking, which, in many public service arenas in China can present significant barriers. We find that risk, as predicted by studies of bureaucracies, does reduce innovation but not uniformly. This variation in willingness to experiment with policy, even under conditions of increasing risk, is best explained by understanding the interaction between the structure in which local officials are embedded and individual-level personality attributes. Based on our findings, we contend that studies of policy innovation must adopt an evolutionary framework to focus more on how selection mechanisms, whether elections or authoritarian promotion systems, interact with the personalities of policy makers, namely, the sources of policy learning and authority perceived to matter most.

Yet the overall view that policy innovation is a positive aspect to policy making and the subsequent delivery of services may belie the difficulties associated with incorporating an individual policy makers'

appetite for risk taking within a highly centralized bureaucratic structure with strong control mechanisms. This is aptly the case in an authoritarian structure such as China, where policy experimentation has been a hallmark because the establishment of the Communist Party as the governing body. We argue that it is important to understand the determinants of policy innovation in a single-party, authoritarian bureaucracy, because, as seen in cases ranging from village-level elections to environmental regulations, this experimentation has the potential to reshape policies and institutions across the nation (Heilmann & Perry, 2011). This is an area that is vital to understanding authoritarian regime resilience and the ability to adapt to social and economic changes. Although received academic wisdom suggests when there is a misalignment between an individual's incentives and bureaucratic interests it can hinder progress toward solving complex societal problems and improve social delivery (see Swann & Kim, 2018), what are the attendant consequences when an individual's appetite for policy innovation is misaligned with bureaucratic interests? This requires greater conceptual development and empirical testing in future studies looking at the evolution of authoritarian bureaucracies such as China.

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