

Personal Character or Social Expectation: a formal analysis of ‘suzhi’ in China

Haifeng Huang

University of California, Merced, CA, USA

ABSTRACT

The notion of ‘suzhi’ (素质), which roughly means human quality or character, features prominently in public and intellectual discourses in China about the country’s social and political development, including the prospects for democratization. Despite the pervasive use of the concept by both the government and society, few studies have analyzed whether suzhi is really the root cause of the myriad social issues that have been attributed to it. This article problematizes the notion of suzhi and shows through simple game-theoretic analyses of two heavily debated issues in China that such a predominant focus on suzhi is misguided and misses the crucial role of social expectations in multiple-equilibria social interactions. In fact, without good social expectations even ‘high suzhi’ people would behave as if they were of ‘low suzhi’, which perhaps best characterizes many social phenomena in contemporary China. The results of the study thus have critical implications for a successful social and political transition.

Introduction

Few concepts are more frequently invoked in public discourses about governance, politics and society in China than ‘suzhi’ (素质), which has no exact equivalent in English but can be roughly translated as human quality or character. Although speaking of people as being of high or low quality may sound dehumanizing to a Western audience, the term suzhi permeates official speech, intellectual discussions and popular parlance in China, and it has become almost common sense that the alleged low suzhi of some or many segments of the population is a significant cause of China’s ‘backwardness’ and a great impediment to her quest for modernity, civility and national advancement.¹ Countless social issues and ills, including people’s public behavior inside the country or traveling abroad, are blamed on people’s lack of suzhi. A crucial goal of the family planning policy is, thus, to enhance China’s ‘population suzhi’.²

CONTACT Haifeng Huang  hhuang24@ucmerced.edu

¹Kevin J. O’Brien and Lianjiang Li, ‘Chinese political reform and the question of “deputy quality”’, *China Information* 8(3), (1993), pp. 20–31; Hairong Yan, ‘Neoliberal governmentality and neohumanism: organizing suzhi/value flow through labor recruitment networks’, *Cultural Anthropology* 18(4), (2003), pp. 493–523; Ann Anagnost, ‘The corporeal politics of quality (suzhi)’, *Public Culture* 16(2), (2004), pp. 189–208; Andrew Kipnis, ‘Suzhi: a keyword approach’, *China Quarterly* 186, (2006), pp. 295–313; Andrew Kipnis, ‘Neoliberalism reified: suzhi discourse and tropes of neoliberalism in the People’s Republic of China’, *Journal of the Royal Anthropological Institute* 13, (2007), pp. 383–400; Tamara Jacka, ‘Cultivating citizens: suzhi (quality) discourse in the PRC’, *Positions: Asia Critique* 17(3), (2009), pp. 523–535.

²Børge Bakken, *The Exemplary Society: Human Improvement, Social Control, and the Dangers of Modernity in China* (Oxford: Oxford University Press, 2000); Anagnost, ‘The corporeal politics of quality (suzhi)’; Kipnis, ‘Neoliberalism reified’; Gary Sigley, ‘Suzhi, the body, and the fortunes of technoscientific reasoning in contemporary China’, *Positions: Asia Critique* 17(3), (2009), pp. 537–566.

An objective of education reform in China is to promote 'suzhi education' (quality-oriented education) as opposed to examination-oriented education.³ A critical component of urban middle class community-building is also to improve the suzhi of local residents.⁴

The suzhi problem has also been long said to be an obstacle to the establishment of a functioning democracy in China. Early Chinese modernizers at the turn of the twentieth century, such as Liang Qichao, though not necessarily using the term suzhi, regarded rebuilding the national character as more fundamental than creating new institutions and government: 'Once we have new citizens, there is no need to worry about whether we can have new institutions, a new government, or a new country' (然者苟有新民，何患无新制度，无新政府，无新国家?).⁵ Sun Yat-sen doubted that the level of culture and cultivation of the Chinese people was sufficient for full democracy, and argued that China must first go through a period of military rule and then a period of tutelary rule before establishing constitutional rule.⁶ Similar thinking about the importance of people's suzhi cultivation, or character, in making China a new and modern state ran through Chiang Kai-shek's New Life Movement and the more contemporary campaigns to build socialist spiritual civilization.⁷ The post-Mao era debate about how to reform the People's Congress also centered on electing more deputies with high suzhi versus enhancing broad representation and the social diversity of the deputies.⁸

The century-old debate about whether democracy is suitable for China was recently embodied in three blog-essays, respectively titled 'On Revolution,' 'On Democracy' and 'On Freedom'⁹ by China's most famous blogger, race car driver and 'youth opinion leader' Han Han.¹⁰ The three essays generated heated and long-lasting debate among intellectuals and ordinary Internet users alike in China.¹¹ The following passage from the first of Han's influential blog trilogy, 'On Revolution,' epitomizes his argument and a position that is widely accepted in China:

If you insist on asking me when the best time is for a revolution in China, I can only say that when Chinese drivers know to turn off their high beam headlights when they pass each other, we can safely proceed with the revolution. But such a country actually would not need any revolution. When the suzhi and educational level of the citizens reach that level, everything will occur naturally.

Although some excellent previous studies, such as those cited above, have examined the meaning, history, processes and sociopolitical implications of the suzhi discourse, they primarily treat it as either an ideology, governmentality or discursive reality. This study takes a new approach and analyzes the suzhi issue from the way Chinese society (including the government, ordinary people and intellectuals) think about and speak of it, i.e. a descriptive reality that shapes people's behavior, so as to see if suzhi is really the root cause of the many social issues that have been attributed to it, and whether solving the

³Andrew Kipnis, 'The disturbing educational discipline of "peasants"', *The China Journal* 46, (2001), pp. 1–24; Rachel Murphy, 'Turning peasants into modern Chinese citizens: "population quality" discourse, demographic transition and primary education', *The China Quarterly* 177, (2004), pp. 1–20; Belinda Dello-Iacovo, 'Curriculum reform and "quality education" in China: an overview', *International Journal of Educational Development* 29, (2009), pp. 241–249; T. E. Woronov, 'Governing China's children: governmentality and "education for quality"', *Positions: Asia Critique* 17(3), (2009), pp. 567–589.

⁴Luigi Tomba, 'Of quality, harmony, and community: civilization and the middle class in urban China', *Positions: Asia Critique* 17(3), (2009), pp. 591–616.

⁵Liang Qichao, *新民说 [On New Citizen]*, annotated by Song Zhiming (Liaoning People's Publishing House, 1994), p. 3.

⁶David J. Lorenzo, *Conceptions of Chinese Democracy: Reading Sun Yat-Sen, Chiang Kai-Shek, and Chiang Ching-Kuo* (Baltimore, MD: Johns Hopkins University Press, 2013).

⁷Sara L. Friedman, 'Civilizing the masses: the productive power of cultural reform efforts in late Republican-era Fujian', in Terry Bodenhorn, ed., *Defining Modernity: Guomindang Rhetorics of a New China, 1920–1970* (Ann Arbor, MI: Center for Chinese Studies, University of Michigan, 2003).

⁸O'Brien and Li, 'Chinese political reform and the question of "deputy quality".'

⁹These three essays, titled '谈革命', '说民主' and '要自由' in Chinese and collectively known as 'Han Han's three essays' (韩三篇), were posted on Han Han's personal blog <http://blog.sina.com.cn/twocold> at the turn of 2012. The web address of the first essay, 'On Revolution,' is http://blog.sina.com.cn/s/blog_4701280b0102dz5s.html (accessed 5 August 2014).

¹⁰Perry Link, 'A message too powerful to stop', *New York Times*, (29 September 2010), available at: http://www.nytimes.com/2010/09/30/opinion/30iht-edlink1.html?_r=0 (accessed 5 August 2014); Evan Osnos, 'The Han dynasty', *The New Yorker*, (4 July 2011), available at: <http://www.newyorker.com/magazine/2011/07/04/the-han-dynasty> (accessed 5 August 2014).

¹¹David Pilling, 'Lunch with the FT: Han Han', *Financial Times*, (21 April 2012), available at: <http://www.ft.com/intl/cms/s/2/3be0e84e-8896-11e1-a727-00144feab49a.html> (accessed 5 August 2014).

relevant problems requires raising citizens' *suzhi* or changing something else. Addressing *suzhi* from the perspective of the agents actually engaged in the discourse will enable us to understand the *suzhi* discourse more deeply and critically, and is also of crucial policy importance. While previous studies have admirably explored how the *suzhi* discourse reflects social bias, legitimates inequality and/or serves government objectives, it should be noted that the discourse is not just employed by those with (market and political) power and resources to justify or promote certain social relations and agendas, but virtually by the whole society. In fact, 'it is the ability of *suzhi* to speak to both the concerns of Party leaders and those of the society at large that has led to the contemporary pervasiveness of the term'.¹² Without addressing such concerns head on as genuine social reality, we will not sufficiently understand the *suzhi* discourse, its fundamental limitations and how to approach the social issues that the *suzhi* discourse refers to.

Using a rational choice approach and, particularly, tools from game theory, this article takes up this task by analyzing two prevalent social phenomena that are widely believed to originate from people's lack of *suzhi*, and generates some unique theoretical insights. The first is Chinese drivers' frequent and indiscriminate use of high beam headlights, which is prominently cited by Han Han as an indication of the incompatibility of democracy with today's China. The second is the oft-reported cases of fallen senior citizens not thanking (alleged) good Samaritans who came to their aid but rather suing them for compensation, which has been a staple of media coverage and national 'soul searching' in recent years.

By analyzing these prevalent cases involving *suzhi* (hereafter called tales for their simplicity and far-reaching implications) with formal logic, this article shows that *suzhi* does not play such a critical role in social problems as has been assumed and taken for granted in the social imagination, including policy and intellectual discourses in China. What often matters for social outcomes is not the personal quality or character of the individuals involved but social expectations about what people will do in relevant social interactions. More precisely, people's interactions in many social situations, including the two phenomena discussed here, are characterized by multiple equilibria, and which equilibrium among the multiple potential outcomes will eventually occur depends crucially on the expectations of the involved parties about what each other will do. The analysis of the two tales shows that without a good social expectation of how most people will behave in such situations, even high-*suzhi* people will act in a low-*suzhi* manner. In other words, high *suzhi* is no guarantee of socially optimal behavior, and seemingly low-*suzhi* behaviors in the society are often the result of bad social expectations rather than low personal *suzhi*. Much of the current public discourse on citizens' supposed low *suzhi* or other similar deficiencies, then, is not only reductionist, derogatory, and legitimating of social biases and inequalities, as has been argued in existing research,¹³ but it often misses the crux of the matter. Fostering positive social expectations is often more critical than cultivating citizens' personal *suzhi* for a successful social and political transition.

As is well known, the notion of *suzhi* is nuanced and has a multiplicity of meanings, and thus evades precise definition. While originally its meaning was close to the literal combination of the two composing characters—innate (素) character (质)—in post-Mao China the term has taken a much broader meaning and now refers to both innate and nurtured qualities, and covers moral, physical, psychological and intellectual aspects of human individuals and their conduct.¹⁴ This article takes a narrower approach to *suzhi* and focuses on its moral/ethical aspect. This is because physical, psychological and intellectual aspects of *suzhi* are usually prefaced with qualifiers, as in physical *suzhi* or psychological *suzhi*, and are typically not the foci of public discourses on social problems and ills. Much of the contemporary

¹² Kipnis, 'Suzhi: a keyword approach', p. 313, italics in original.

¹³ Lei Guang, 'Rural taste, urban fashions: the cultural politics of rural/urban difference in contemporary China', *Positions: Asia Critique* 11(3), (2003), pp. 613–646; Yan, 'Neoliberal governmentality and neohumanism'; Anagnost, 'The corporeal politics of quality (*suzhi*)'; Murphy, 'Turning peasants into modern Chinese citizens'; Kipnis, 'Suzhi: a keyword approach'; Wanning Sun, 'Suzhi on the move: body, place, and power', *Positions: Asia Critique* 17(3), (2009), pp. 617–642.

¹⁴ Kipnis, 'Suzhi: a keyword approach'; Jacka, 'Cultivating citizens'.

contention about *suzhi* refers to an individual's responsibility, civility and self-discipline as a citizen and member of the community,¹⁵ and is hence focused on one's moral/ethical behavior.

Because the *suzhi* discourse is deeply connected to the Confucian tradition, with its emphasis on the positive side of human nature and with shame as its psychological foundation for self-cultivation and personal improvement,¹⁶ in the following analysis *suzhi* is represented by one's sense of guilt, or psychological cost, for doing what he or she is *not* supposed to do from a moral or social perspective. Thus, a high-*suzhi* person is one who would feel very guilty for doing the wrong thing from the moral or social perspective, because he or she places a high value on being ethical and pro-social, while a low-*suzhi* person's sense of guilt or shame for doing the same thing would be low. Such an operationalization captures the essence of the moral/ethical aspect of the *suzhi* concept and, as will be shown below, is conducive to a formal analysis of people's behavior in social interactions.¹⁷

The following two sections analyze, respectively, the two above-mentioned tales to see if *suzhi* is the core issue behind the relevant social problems, and whether seemingly low-*suzhi* behavior necessarily means that the problem lies with the personal character of the involved parties. The final section discusses the findings about social expectations in the making of a good society and their relationship with culture, social capital and institutions, as well as the potential policy implications of the study.

Tale 1: Han Han's high beams

On the eve of 2012, Han Han, the well-known race car driver and, at the time, the world's most widely read blogger,¹⁸ published three influential blog posts, respectively titled 'On Revolution', 'On Democracy' and 'On Freedom'. Unlike his previous scathing criticism of the government, the blog trilogy blames the problems in contemporary China squarely on the ruling communist party and the general population: 'the shortcomings of the communist party are often just the shortcomings of the people'.¹⁹ An immediate bombshell, the trilogy ignited months-long public debate before it was derailed by controversies about whether Han was the real author of an earlier novel critical of the Chinese education system that initially brought him to national fame.

Regardless of the true authorship of some of the writings bearing Han's name, his argument that the Chinese population's *suzhi* was too low for democracy to work, best summarized in the passage quoted in the introductory section about some Chinese drivers' indiscriminate use of high beam headlights, reflects a widely shared thinking in China. To see whether Han's argument about *suzhi* accurately captures the underlying problem, this section analyzes the high beams tale with a very simple game-theoretic model.

Suppose two drivers, A and B, are approaching each other on a (divided) highway, and they each have a choice of turning off the high beam headlights or leaving them on. If they both turn off their high beams, each obtains a baseline payoff of 0. If neither of them turns off the high beams, they each receive a negative payoff, as each person's vision is impaired by the other car's high beams, and an accident may occur to either of them. We can denote this negative payoff as -1 , although it can also be represented by any other negative number. If one of them (she) turns off the high beams while the other (he) does not,²⁰ the former's vision is impaired by the latter car's light, and she also feels taken

¹⁵Yan, 'Neoliberal governmentality and neohumanism'; Jacka, 'Cultivating citizens'.

¹⁶Shaohua Hu, 'Confucianism and Western democracy', *Journal of Contemporary China* 6(15), (1997), pp. 347–363; Qinghong Lin, *Civilizing Citizens in Post-Mao China: Understanding the Rhetoric of Suzhi*, unpublished Ph.D. thesis, Griffith University, 2009.

¹⁷Alternatively, *suzhi* can be operationalized as the sense of honor/pride for taking the ethically correct action, and high- (low-) *suzhi* people are those for whom such a pride has a high (low) value. Because what matters for individuals' choices are the relative utility differences in taking different actions, these two ways of operationalization of *suzhi* are functionally equivalent.

¹⁸Osnos, 'The Han dynasty'; Duncan Hewitt, 'Han Han: world's most popular blogger', *Newsweek*, (17 October 2012), available at: <http://www.newsweek.com/han-han-worlds-most-popular-blogger-65453> (accessed 5 August 2014).

¹⁹Han Han, 'On Democracy', (24 December 2011), available at: http://blog.sina.com.cn/s/blog_4701280b0102dz84.html (accessed 5 August 2014).

²⁰The pronouns 'she' and 'he' are used to differentiate the two drivers.

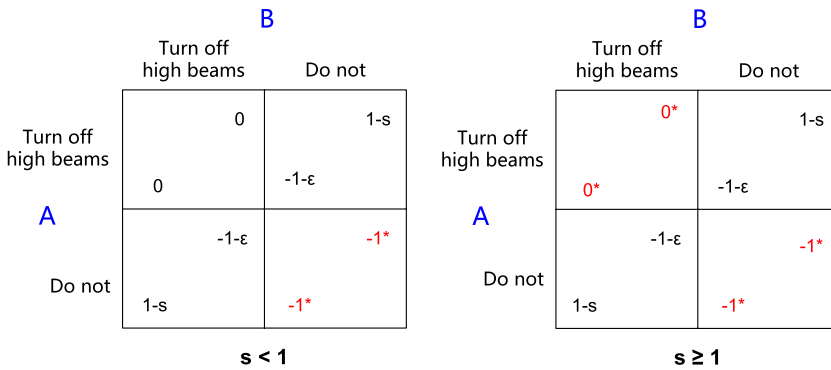


Figure 1. Drivers' interactions with regards to high beam lights.

advantage of by the other driver, and so her payoff is $-1-\epsilon$, with ϵ representing the disutility from the anger over being taken advantage of. The one who does not turn off the high beam lights, on the other hand, obtains a positive benefit for being able to see the road clearly, which can be denoted as 1, although it can also be represented by any other positive number, but he also pays a psychological cost of s , as he feels guilty for taking advantage of the other driver who has turned off her high beams. The second driver's net payoff, then, is $1-s$, with the value of s representing the driver's suzhi, as discussed in the previous section (that is, a higher s denotes higher suzhi). When neither driver turns off the high beam headlights, neither of them feels particularly guilty about themselves (because each can justify their own action by the action of the other person), and so neither pays the cost of s .²¹

Figure 1 describes the above scenario, with the grid on the left indicating the situation when the drivers' psychological cost for hurting the other is lower than the benefit of seeing the road clearly (i.e. $s < 1$), and the right grid indicating the situation in which this psychological cost outweighs or at least equals the benefit of seeing the road clearly ($s \geq 1$). In other words, the left grid describes a society in which the drivers' suzhi is relatively low, while the right grid describes a society in which the drivers' suzhi is relatively high. Each cell contains the payoffs of the two individuals when they choose the respective actions,²² with A's payoff on the lower left and B's payoff on the upper right. Naturally, each driver wants to choose an action that maximizes his or her net payoff, given the other driver's action.

From the above figure it is clear that when the drivers' suzhi is low (the left grid), both A (she) and B (he) have a dominant strategy of not turning off the high beams; i.e. one's payoff is always higher by not turning off the high beams regardless of what the other person will do: if A is not going to turn off her high beams, B does not want to turn off his either because he does not want to be taken advantage of ($-1 > -1-\epsilon$); if A is to turn off her high beam light, B still does not want to turn off his because the disutility from feeling guilty is small when people's suzhi is low, and so he is willing to take advantage of the other in order to see the road more clearly ($1-s > 0$). The same reasoning applies to A. Therefore, the unique Nash equilibrium in this case, indicated by the cell of payoffs with asterisks in the left grid, is that neither driver turns off the high beams, with each driver getting a payoff of -1 . This situation with low suzhi is, in fact, equivalent to a Prisoner's Dilemma game: if both drivers turn off their high beams, both players will actually obtain a higher payoff ($0 > -1$ for both). However, this socially optimal outcome cannot be achieved because each driver has a dominant strategy of leaving the high beams on, given that their sense of guilt is outweighed by the gain from seeing the road clearly.²³

²¹ This also fits with the notion that what is ethically/morally correct may depend on the social context. In a society where everyone is expected to turn off the high beams, not doing so is viewed as ethically wrong, but in a society where there is no such expectation, not turning off one's high beams is not regarded as ethically wrong.

²² So, for example, the payoffs in the upper right cell in each grid represent the outcome when A turns off high beam while B does not.

²³ The situation in which one driver is of low suzhi while the other has high suzhi is similar. The low-suzhi driver will always keep the high beams on, and, knowing this, the high-suzhi driver will also leave the high beams on so as not to be taken advantage of.

If people have high *suzhi* (the right grid), then the game has two equilibria, as indicated by the two cells of payoffs with asterisks in the grid: (1) both drivers turn off high beams (the good equilibrium); and (2) neither driver turns off high beams (the bad equilibrium). In other words, the interaction has multiple equilibria when people all have high *suzhi*: if you will turn off your high beams, I will want to turn off mine too since, otherwise, I will feel very ashamed of myself ($0 > 1 - s$ in the grid); but if you will not turn off your high beams, I will not turn off mine either because I do not want to be taken advantage of by you ($-1 > -1 - \varepsilon$ in the grid). Therefore, in equilibrium, either both drivers turn off their high beams, or neither driver does so. The case when s is exactly equal to 1 has the same two equilibria.

Which of the two equilibria will occur in reality depends on the social expectation of what will happen when two drivers meet each other: if the social expectation is that drivers generally do not turn off their high beams, then the bad equilibrium will be the typical outcome, but if the social expectation is that drivers will generally turn off their high beams, then the good equilibrium will occur. In other words, even if every driver has high *suzhi*, the bad equilibrium may still occur due to bad social expectations, and the drivers will behave as if their *suzhi* were low. In particular, as a 'low-*suzhi* society' transforms into one in which most people's private *suzhi* is high, people may still expect or at least worry that others have low *suzhi* and hence will not turn off their high beams, which leads the high-*suzhi* people to leave their high beams on too. When a society has been in a bad equilibrium for a long time, the social expectation when drivers meet is that each expects the other not to turn off the high beams, and each expects the other to expect that they will not turn off the high beams, and so on: hence, the continuation of the bad social equilibrium. Han Han's characterization of the high beam phenomenon as a simple result of low *suzhi* is thus incorrect or at least incomplete, since it ignores the more fundamental problem of social expectations. A challenging issue during social transition, then, is how to form positive social expectations, rather than how to cultivate good personal character or *suzhi*.

The above analysis is summarized in the following proposition:

Proposition 1. When people's *suzhi* is low and the psychological cost of doing the socially wrong thing is outweighed by the benefit of seeing the road clearly ($s < 1$), the interaction between drivers has a unique equilibrium in which neither driver turns off high beams. When their *suzhi* is high ($s \geq 1$), the interaction has two equilibria: both drivers turn off high beams or both leave them on. High *suzhi* is no guarantee of pro-social behavior.

The above game is a simple representation of drivers' interactions when they pass each other, which is meant to capture the essential elements of such interactions in general, while abstracting away specific factors, such as road conditions, that may affect outcomes in specific situations. This helps to clarify the fundamental and common issue(s) in such interactions. The model also represents the interaction as an instantaneous and simultaneous-move game. One may imagine, however, that when two drivers approach each other from afar, they can test each other out by turning off the high beams for a moment, just to see how the other will respond. Under such circumstances the likelihood of the good equilibrium may increase. At the same time, because different drivers typically notice each other at different points of time, the first driver who notices the other may take the failure of the other driver to turn off high beams as an indication that he should expect the bad equilibrium to occur, and he acts accordingly. Under such circumstances, the likelihood of the bad equilibrium may actually increase. In other words, even when the game is not instantaneous, there is still an equilibrium in which high-*suzhi* drivers keep their high beams on, as they expect the other driver to do the same. In fact, this expectation will be strengthened if they see each other keeping the high beams on from the start, with each sensing that the other will continue to do so, and therefore each continues to do so.

The issue of social expectations is fundamental to social outcomes when social interactions involve multiple equilibria. Here, for another example, we can briefly consider the recent murder case at a McDonald's restaurant in Zhaoyuan (招远), Shandong Province, in which a young woman was brutally beaten to death by members of a religious cult and no one in the crowd of witnesses intervened.²⁴

²⁴Malcolm Moore, 'China puts five cult members on trial for McDonald's murder', *The Telegraph*, (21 August 2014), available at: <http://www.telegraph.co.uk/news/worldnews/asia/china/11048859/China-puts-five-cult-members-on-trial-for-McDonalds-murder.html> (accessed 6 September 2014); 'McDonald's murder in China sparks outrage', *Reuters*, (1 June 2014), available at: <http://www.reuters.com/article/2014/06/01/us-china-murder-idUSKBN0EC15B20140601> (accessed 6 September 2014).

The incident sparked a public uproar in China, with many commentators on the Internet deploring the low *suzhi* of the onlookers: if they had not been so aloof, surely the size of the crowd was sufficient to overwhelm the relatively small number of cult members and stop the crime. But an analysis similar to the right grid in Figure 1 shows that this was also a situation with multiple equilibria, and social expectations, rather than personal *suzhi*, were the core issue. If people have low *suzhi* and do not care about other people's lives, it is hard to explain the extent of the online uproar about the tragedy. Therefore, it can be assumed that, privately, ordinary people would like to intervene and stop the attack. The problem is that no one could individually stop the fierce cult members without getting him- or herself harmed. To successfully stop the crime, the crowd needed to intervene together. Therefore, depending on the social expectation about whether other people will join an intervention, there are two potential equilibria: either the onlookers all join in the intervention, or nobody intervenes.²⁵ The tragedy occurred not because people did not care about the victim's life, but because the bad social expectation about what other onlookers would do prevented each of the onlookers from coming forward to aid the victim.

Tale 2: Helping fallen senior citizens

Background

A recurring phenomenon widely discussed in Chinese media and on the Internet in recent years in relation to *suzhi* is alleged good Samaritans getting sued for civil liabilities by people they helped, which has greatly chilled helping behavior in China. The most famous and controversial was the Peng Yu case in Nanjing, in 2006–2007. Peng Yu, a 26-year-old man, helped and accompanied to the hospital Ms Xu, a 65-year-old woman who fell to the ground near a bus. Peng also paid 200 yuan for hospital fees on behalf of Xu. Later Xu sued Peng for personal injury compensation, arguing that he caused her fall when coming off the bus. Although the plaintiff had no direct evidence proving that Peng caused her fall (nor did the defendant have sufficient proof or witnesses to show his innocence), the judge eventually held Peng liable and awarded the plaintiff about 46,000 yuan. The judge's reasoning was that, 'according to experiences from everyday life', a person would not help a stranger to the hospital and pay her hospital fees unless he were responsible for the incident and injury.²⁶ Instead, a reasonable good Samaritan should have caught the person who caused the accident, or waited for the elderly lady's family and let them send her to the hospital. Peng Yu's behavior contradicted common sense if he did not cause the accident, argued the judge.²⁷

After the ruling in the Peng Yu case, several similar judicial cases in other parts of China followed the Nanjing court's suit. Fanned by the media frenzy over these court rulings and various other cases in which fallen elderly people tried to sue those who came to help them, Chinese helping behavior suffered a serious blow. Since then the media have reported numerous cases in which bystanders were not willing to offer help to people in great need, with the tragedy of a two-year-old girl named 'Yue Yue', lying on the street in a Guangdong city after being struck by a van, with no one stopping to help her, being perhaps the most notorious case.²⁸ In December 2013, *China Youth Daily* conducted an online poll asking if people would be willing to help a senior citizen who had fallen on the street. About 56% of the respondents said that they would not offer help for fear of extortion, and only 5.4% said they would offer help without hesitation.²⁹

²⁵For a similar example regarding citizens' willingness to engage in collective actions or claim their rights against the government, see Peter Lorentzen and Suzanne Scoggins, 'Rising rights consciousness: undermining or undergirding China's stability?', *The China Quarterly* 223, (2015), pp. 638–657.

²⁶Melody W. Young, 'The aftermath of Peng Yu: restoring helping behavior in China', *Pacific Rim Law & Policy Journal* 22(3), (2013), pp. 691–711.

²⁷Mengyun Tang, 'Does China need good Samaritan laws to save Yue Yue?', *Cornell International Law Journal* 47(1), (2014), pp. 205–231.

²⁸Young, 'The aftermath of Peng Yu'; Tang, 'Does China need good Samaritan laws to save Yue Yue?'.

²⁹Tang, 'Does China need good Samaritan laws to save Yue Yue?'.

While the legal profession has debated the soundness of the Nanjing judge's ruling, given that the plaintiff at the time had no evidence showing that Peng Yu was responsible for the fall, it is clear that his ruling was based on prevailing social expectations, namely that a person not responsible for a stranger's fall would not go out of his way to help the fallen person. Similar reasoning is, in fact, the most common rationale given by the people who sued others who helped them.³⁰

Years later, it turned out the Nanjing judge's reasoning was correct, as Peng Yu himself admitted that he did accidentally bump into Ms Xu when he got off the bus, and that was why he eventually reached a settlement with her rather than appeal the ruling.³¹

The general public, including intellectuals, however, still ignore the social expectation problem, and instead focus on the 'low suzhi' of those fallen people who sue the helpers. Because most of the plaintiffs in such seeming extortion cases have been senior citizens, the general lament has been 'have old people become bad, or have bad people become old' (是老人变坏了, 还是坏人变老了).³²

The following model analyzes the relative role of personal suzhi versus social expectations in the kind of social interaction that involves helping a fallen senior citizen.

Model

A senior citizen (S) and a young passerby (Y) are walking down the street. The senior citizen falls to the ground, either on her own or due to a collision with Y, for which Y is at least partially responsible.³³ Assume that in the normal course of a society, a share of π of all cases of senior citizens falling to the ground is caused by collisions with passersby, and the rest $(1-\pi)$ are of their own fault. Because of her age and frightened mental state after the fall, it can be assumed that S does not know or remember whether she fell on her own or due to a collision.³⁴ This is a more reasonable assumption than the many Internet opinions that assume that the senior citizens involved in such cases must be knowingly trying to extort the people who have helped them. As has been well observed, these senior citizens were generally very ordinary people who had not previously been involved in any extortion cases.³⁵ While a few of such cases may have been deliberate extortions, more often than not the senior citizens are genuinely not sure about the cause of their fall.

While S does not know if she has fallen on her own, Y, on the other hand, knows whether he was responsible for the fall. After the fall, Y, whether responsible or not for the incident, has two choices: help S (e.g. helping her to get up or sending her to a hospital for treatment of any injury) or just walk away. If Y walks away, the interaction ends and he will feel guilty for not helping someone in need, and his utility will be $-\alpha$ if he collided with S and $-\beta$ if S fell on her own, with $\alpha > \beta > 0$ meaning that he would feel guiltier if he was responsible for the fall of S. If Y walks away, there is nothing that S can do and her utility in this case will not affect the outcome of the interaction. For completeness, S can be assigned a utility of $-\eta$ which reflects the possible anger she feels because nobody helped her ($\eta \geq 0$). If Y decides to help S, S updates her belief about the probability that her fall was caused by a collision with Y, and assigns such a probability to be p . She then decides whether or not to sue Y for compensation. If she does not sue, both Y and S receive a baseline payoff of 0: Y does not feel guilty because he has helped

³⁰Yunxiang Yan, 'The good Samaritan's new trouble: a study of the changing moral landscape in contemporary China', *Social Anthropology* 17(1), (2009), pp. 9–24.

³¹彭宇案真相再调查 ['Re-investigating the truth of the "Peng Yu" case'], 瞭望新闻周刊 [Liaowang News Weekly], (16 January 2012), available at: <http://news.sina.com.cn/o/2012-01-17/025923811007.shtml> (accessed 8 August 2014); Adam Minter, 'China's infamous "good Samaritan" case gets a new ending', *Bloomberg View*, (18 January 2012), available at: <http://www.bloombergview.com/articles/2012-01-17/china-s-infamous-good-samaritan-case-gets-a-new-ending-adam-minter> (accessed 8 August 2014).

³²Tanya, 'Chinese: old people becoming bad, or bad people becoming old?', *China Smack*, (5 December 2013), available at: <http://www.chinasmack.com/2013/stories/chinese-old-people-becoming-bad-or-bad-people-becoming-old.html> (accessed 8 August 2014).

³³To distinguish the two people, S will be referred to as 'she' and Y as 'he', without any gender implications.

³⁴The model can also allow S to have some recollection of what happened, without being completely sure. Such a specification, while more realistic, will unnecessarily burden the model without changing its basic logic.

³⁵Yan, 'The good Samaritan's new trouble'.

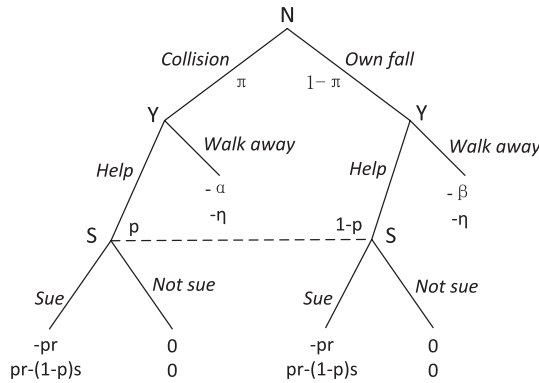


Figure 2. Helping a fallen senior citizen.

her, and S does not experience anger from having no one help her. If S sues Y, with probability p the judge will rule that Y has civil responsibility for the fall of S and needs to provide a compensation of r to S (for treatment of her injury, for example). The value of r will depend on the seriousness of the fall (and injury). The probability that Y will be held responsible for the fall by the judge is the same as the probability that S assigns to the event that her fall was caused by a collision, because the society including the judge did not observe how the fall occurred and hence updates their belief the same way as S, as the above-mentioned Nanjing judge’s reasoning process about ‘experiences from everyday life’ indicates.³⁶ The senior citizen also knows that, with probability $1-p$, Y was not responsible for her fall, and she would feel guilty for wrongly accusing him. Her sense of guilt in this case will be s , as in the high beam headlights tale. In sum, the utility of S if she sues Y will be $U_S = pr - (1-p)s$, while the utility of Y will be $U_Y = -pr$, which is the expected compensation he needs to pay. These outcomes do not depend on whether S actually fell due to collision or on her own, but on the belief of the society as well as S about the probability that her fall was due to a collision, given that somebody had come up to help her, because the uncertainty about the cause of the incident is not resolved by the judicial process.³⁷

The above scenario is depicted in Figure 2, with N at the start of the interaction denoting ‘nature’, i.e. the exogenous event that determines whether the fall was due to a collision or the senior’s citizen’s own fault. The dashed line connecting the two nodes of S indicates that S is not sure whether the passerby who helped her was responsible for the fall or not, but she believes that he was responsible with probability p . In each pair of payoffs, the first one is that of Y and the second is that of S. To avoid unnecessarily adding variables without providing additional insight, it is assumed that suing itself is costless for the senior citizen (or alternatively, the seriousness of the fall or the expected compensation is worth the trouble of suing). The article also restricts consideration to cases in which the seriousness of the fall is not too trivial, i.e. $r > \beta$ (the potential compensation if one is sued after providing help outweighs an innocent passerby’s sense of guilt for not helping); if the fall is trivial so that the potential compensation is small and not a concern to anyone, then whether one will/should help the senior citizen will be a non-issue.³⁸

While s , α and β can all in some way represent ‘suzhi’ in this tale, the analysis here is focused on s , and the values of α and β will be fixed. This is because the current public discourse on fallen senior citizens and good Samaritans almost always focuses on the suzhi of the fallen citizens rather than the

³⁶ The Chinese legal system is mostly based on the Continental system, and the jury’s role is very limited. As such, models of juries where information aggregation features prominently in the court’s decisions do not apply here.

³⁷ If the judicial process can resolve the uncertainty and clear an innocent passerby of responsibility, then, clearly, the innocent passerby would help and the social issue at hand would not arise. But the problem of an innocent passerby not willing to help for fear of extortion arises precisely because the judicial process cannot resolve the uncertainty and establish the correct responsibility, or at least that is the concern of the public. See also the previous footnote.

³⁸ Everyone would be expected to help in this case, but even if not, it does not matter since the fall is trivial.

passersby, as evidenced by the popular lament: 'Have old people become bad, or have bad people have become old?'

The situation described above has three natural potential equilibria: one in which the passerby Y provides help whether he was responsible for the fall or not ('always help'); one in which Y always walks away regardless of the cause of the fall ('never help'); and one in which Y provides help if and only if he was responsible for the fall ('selectively help'). The remaining potential outcome, in which Y provides help if he was not responsible for the fall but does not help if he was responsible ('reverse selection'), will not occur in equilibrium, as will be shown in the proof. The equilibrium concept appropriate for this model is perfect Bayesian equilibrium, which is a refinement of Nash equilibrium for extensive form games with imperfect information, such as the current model. Analyzing the above interaction yields the following proposition:

Proposition 2. In the social interaction about helping a fallen senior citizen, both 'always help' and 'selectively help' are perfect Bayesian equilibria when the senior citizen's *suzhi* is relatively high, i.e. $s \geq \pi r / (1 - \pi)$, and the fall is not serious ($\beta < r \leq \alpha$). The senior citizen will not sue in the 'always help' equilibrium and will sue in the 'selectively help' equilibrium. When $\pi r / (1 - \pi) \leq s < p r / (1 - p)$ and $p > \alpha / r$, which will be satisfied when p is high and the fall is serious ($r > \alpha$), then both 'always help' and 'never help' can be equilibrium outcomes; the senior citizen will not sue in the 'always help' equilibrium and will sue anyone that somehow decides to help in the 'never help' equilibrium.

If the senior citizen's *suzhi* is low, i.e. $s < \pi r / (1 - \pi)$, the 'always help' and 'selectively help' equilibria will still hold as long as $\pi r \leq \beta < r \leq \alpha$, even though the senior citizen will sue. If $s < \min\{\pi r / (1 - \pi), p r / (1 - p)\}$ and $p > \alpha / r$, which again requires $r > \alpha$, then both 'always help' and 'never help' can be equilibrium outcomes, and the senior citizen will sue.

For proof of this proposition, see the Appendix.

In other words, there are multiple equilibria in this interaction about helping a fallen senior citizen whether the senior citizen's *suzhi* is high or low. In particular, even when the senior citizen's *suzhi* is high, there can be a good equilibrium in which the passerby always helps regardless of responsibility and the senior citizen does not sue; a bad equilibrium in which the passerby will help only if he caused the fall (and the senior citizen will sue); and a very bad equilibrium in which the passerby never helps regardless of responsibility and the senior citizen will sue anyone that somehow decides to help. When the fall is not serious, both 'always help, not sue' and 'selectively help, sue' can be equilibria, and when the fall is serious, both 'always help, not sue' and 'never help, sue' can be equilibria. Which equilibrium occurs in reality, then, crucially depends on the social expectation about what is likely to happen in such interactions.

Although the full proof of the proposition is in the Appendix, it is helpful to explain here the main intuition of the result, especially for the case of high-*suzhi* senior citizens. High *suzhi* here means that one's psychological cost for accusing a wrong person is sufficiently high that she does not want to sue the passerby for compensation if she thinks that the probability her fall was caused by the passerby is just the same as the ex-ante probability that a random senior citizen's fall to the ground was caused by some passerby. For such a high-*suzhi* person, if the social expectation when a senior citizen falls to the ground is that every passerby will offer help regardless of responsibility, then she has no reason to believe that the passerby who offered help must have caused her fall; in fact, she knows it is likely that she fell on her own. Therefore, she will not sue, and, anticipating this, a random passerby near her will indeed offer help, hence the good equilibrium of 'always help, not sue'.

If, however, the social expectation is that only those who are responsible for someone's fall will provide help, then the same high-*suzhi* senior citizen has sufficient reason to believe that the passerby who helped her caused her fall in the first place, and therefore she will sue. A passerby not responsible for the fall will then indeed be discouraged from helping, while a passerby who caused the fall (and thus has a higher sense of guilt for not helping) will help if the fall is not too serious and the expected compensation is not too high, hence the equilibrium of 'selectively help, sue'. If the fall is serious and the social expectation is that passersby will not help regardless of their responsibility, and in case anyone helps, the person was highly likely responsible for the fall, then nobody will be expected to offer help,

and a senior citizen will sue anyone who somehow decides to provide help, even though her *suzhi* is fairly high;³⁹ hence the worst equilibrium of ‘never help, sue’.

Thus, the fact that nowadays many senior citizens in China sue those who help them for compensation does not necessarily indicate their low *suzhi*; rather, it can very well be that these ordinary people are just acting in response to the prevailing social expectation about what kind of people will offer help, vividly illustrated by the reasoning of the Nanjing judge in the Peng Yu case. The fact that it is a normal phenomenon that passersby simply walk or rush away when a senior citizen falls to the ground does not say much about their *suzhi* either, since they are also reacting to the social expectation that discourages helping behavior. In all of these outcomes, the two parties’ behavior in response to the social expectation vindicates and reinforces that social expectation, making it a self-fulfilling and self-sustaining prophecy.

Discussion and conclusion

The notion of *suzhi* permeates public discourses in China and informs a wide spectrum of policy and intellectual debates about the country’s social and political development, including the prospects for democratization. While the previous literature has examined the meaning, history and sociopolitical implications of the *suzhi* discourse, it has largely treated *suzhi* as an ideology or discursive reality, without analyzing whether it really is the root cause of the myriad social issues that have been attributed to it by both the government and the society at large. This is an important question, since addressing it will not only enable us to understand the *suzhi* discourse more deeply and critically, but also will have crucial policy implications, i.e. to see whether solving the many social and political problems that have been attributed to *suzhi* requires raising citizens’ individual *suzhi* or changing something else.

This article takes a new approach and addresses the *suzhi* issue in terms of how Chinese society thinks about and speaks of it. It first supposes that such a thing called *suzhi* is a descriptive reality, as seems to be the consensus in China,⁴⁰ and then shows that sub-optimal social outcomes do not necessarily mean that the involved parties have low personal *suzhi*; instead, what often shapes the results of social interactions are social expectations about what people will normally do in relevant situations. When social expectations are unfavorable, even high-*suzhi* people will behave as if they were of low *suzhi*. In the tale of high beam headlights, for example, if it is expected that an average driver in the society will keep high beams on when approaching another driver, then a high-*suzhi* driver will also keep them on so as not to be taken advantage of by the other. In the case of a senior citizen falling to the ground, if the social expectation is that passersby not responsible for the fall (or even those responsible) will not offer help, then a high-*suzhi* senior citizen indeed has reasons to suspect that a passerby who actually helped her was very likely responsible for the fall, and she would, therefore, sue for compensation. Anticipating this, ordinary passersby will not dare to offer help, thus vindicating and reinforcing the prevailing social expectation.

This is not to say that *suzhi*, to the extent that it exists, does not influence social outcomes. As the analysis of the two tales indicates, low *suzhi* will indeed make positive social outcomes less likely. But the analysis has also shown that raising people’s *suzhi* without changing social expectations will often not bring about fundamental social changes. As North and others have pointed out, social beliefs and expectations are often sticky and difficult to change, even when people’s tastes and preferences (e.g. *suzhi*) and social institutions change.⁴¹ Cultivating favorable social expectations, then, is often more fundamental, and a more daunting task, in the making of a good society than cultivating good personal *suzhi*. It follows that the popular, intellectual and government discourse that blames China’s ‘backwardness’ or failure to democratize on citizens’ low *suzhi* or other similar deficiencies, is not only reductionist and derogatory, but it often fails to capture the crux of the matter.

³⁹The *suzhi* condition in this case, $\pi r / (1 - \pi) \leq s < pr / (1 - p)$, can be rather weak if p is high.

⁴⁰Woronov, ‘Governing China’s children’.

⁴¹Douglass C. North, *Institutions, Institutional Change and Economic Growth* (Cambridge: Cambridge University Press, 1990).

The discussion of personal character versus social expectations in this article is somewhat related to the analysis in the economics literature of mass values versus societal beliefs as components of a society's culture and their respective roles in shaping social outcomes,⁴² since the psychological cost of doing something socially wrong reflects a person's value and preferences, while social expectation is shared social belief. While values and beliefs may be both important in affecting social outcomes, the current *suzhi* discourse in China almost entirely ignores the belief/expectation side of the story. The purpose of this article, then, is to draw attention to this much neglected but crucial factor in social interactions.

The article is also related to the idea of social capital, which in the formulation of Putnam can be seen as a combination of values (e.g. public-spiritedness) and beliefs (e.g. trust).⁴³ The value component of social capital is thus similar to *suzhi*, while the belief component is related to social expectations. The belief component of the social capital theory, however, focuses on citizens' participation in associational life and networks of civic engagement, as well as norms of reciprocity in symmetric relationships, while the social expectations discussed in this article refer to beliefs among strangers in both symmetric and asymmetric relationships about what people will normally do. Perhaps more importantly, the notion of trust in social capital theory can refer to both the equilibrium level of trust in a society due to appropriate social expectations, as well as to people's innate character or value for being trustworthy. This article disentangles the two and emphasizes the social equilibrium aspect of social trust rather than personal character or values. A policy implication of this study, then, is that fostering favorable social expectations and beliefs among strangers will go a long way toward the making of a good society. The catchphrase 'positive energy' (正能量) that has recently gained traction in Chinese social media,⁴⁴ which is meant to encourage people to stay optimistic and hopeful in a pessimistic and cynical social environment, and the corresponding grassroots movement to retweet inspiring stories, including stories of good Samaritans, in order to 'spread positive energy', should be encouraged. At the same time, the state should not turn such spontaneous online phenomena into propaganda campaigns, since they can backfire and arouse more cynicism.⁴⁵

While this article focuses on examining the *suzhi* discourse, the study would be amiss without a brief discussion of institutions, which have been frequently cited as the reason for bad social outcomes. Much of the public discussions in China on Han Han's three essays has centered on institutions versus *suzhi*. In the debates about reforming the composition of people's congresses to raise deputies' *suzhi*, the criticism has also been that 'it is not the people, like so many say; it's the system.'⁴⁶ Therefore, one can argue for the establishment of good institutions and laws to enforce good behavior. While, in the tale about helping a fallen senior citizen, some laws protecting good Samaritans may indeed encourage pro-social behavior,⁴⁷ it is difficult to guarantee that two drivers approaching each other on a remote highway without the presence of law enforcement personnel would necessarily do what the law says.

More generally, institutions, defined as humanly devised rules of the game,⁴⁸ are just parchment,⁴⁹ without implementation power by themselves, and they have to be enforced by human agents. Once we include all social players, including agents of the state, in the analysis of the larger social interaction, then it is clear that there are no third-party enforcers; every player is endogenous to the interaction.⁵⁰

⁴²Luigi Guiso, Paola Sapienza and Luigi Zingales, 'Does culture affect economic outcomes?', *Journal of Economic Perspectives* 20(2), (2006), pp. 23–48; Alberto Alesina and Paola Giuliano, 'Culture and institutions', *Journal of Economic Literature* 53(4), (2015), pp. 898–944.

⁴³Robert D. Putnam, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton, NJ: Princeton University Press, 1993). Alexis de Tocqueville's discussion of 'social mores' in *Democracy in America* is similar in this regard.

⁴⁴Shanshan Du, 'Social media and the transformation of "Chinese nationalism": "igniting positive energy" in China since the 2012 London Olympics', *Anthropology Today* 30(1), (2014), pp. 5–8.

⁴⁵Dawn Einwalter, 'Selflessness and self-interest: public morality and the Xu Honggang campaign', *Journal of Contemporary China* 7(18), (1998), pp. 257–269; Haifeng Huang, 'Propaganda as signaling', *Comparative Politics* 47(4), (2015), pp. 419–437.

⁴⁶O'Brien and Li, 'Chinese political reform and the question of "deputy quality"', p. 29.

⁴⁷Young, 'The aftermath of Peng Yu'; Tang, 'Does China need good Samaritan laws to save Yue Yue?'

⁴⁸North, *Institutions, Institutional Change and Economic Growth*.

⁴⁹John M. Carey, 'Parchment, equilibria, and institutions', *Comparative Political Studies* 33(6–7), (2000), pp. 735–761.

⁵⁰Kaushik Basu, *Prelude to Political Economy: A Study of the Social and Political Foundations of Economics* (Oxford: Oxford University Press, 2000).

Then, as is well known in the rational choice and, particularly, the game-theoretic literature in social sciences, for an institution to be enforced and followed, it has to reflect a social equilibrium; otherwise, at least some actors can gain by unilaterally deviating from the behavior prescribed by the institution. For an institution to play an active role, rather than simply reflect the existing social equilibrium, it has to operate in a multiple-equilibria situation, and then the existence of the particular institution coordinates people's social expectation and helps select one equilibrium out of multiple potential equilibria.⁵¹

In the final analysis, then, the role of institutions, if they are to play a role, is carried out by influencing social expectations. If the social expectation is that an institution or rule will be ignored, then it will indeed be ignored; see, for example, the clauses on freedom of assembly and speech in the constitutions of China and the former Soviet Union. Of course, institutions and laws are not the only mechanisms for changing social expectations. In fact, as Basu has demonstrated,⁵² any social outcome that can be achieved through institutions can also be achieved through social norms, and both institutions and social norms affect social outcomes by influencing people's beliefs and opinions, i.e. social expectations. An analysis of how to change social expectations, either through institutional change or social norm formation, is beyond the scope of this article. But regardless of the specific mechanism, fostering good social expectations and, hence, moving the society from a bad to a good equilibrium, will be more fundamental for a changing society than raising citizens' personal suzhi.

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Notes on contributor

Haifeng Huang is Assistant Professor of Political Science at the University of California, Merced. He studies comparative politics and political economy, with focuses on authoritarianism, media, public opinion and Chinese politics, using formal modeling, survey research and/or experimental methods. His articles have been published or are forthcoming in the *American Political Science Review*, *British Journal of Political Science*, *Comparative Politics*, *Journal of Theoretical Politics*, *Political Science Research and Methods* and *Political Research Quarterly*.

Appendix: Proof of Proposition 2 (helping a fallen senior citizen)

The situation described in the helping a fallen senior citizen model has three natural potential equilibria: one in which the passerby Y provides help whether he was responsible for the fall or not ('always help'); one in which Y always walks away regardless of the cause of the fall ('never help'); and one in which Y provides help if he was responsible for the fall and does not help if he was not responsible ('selectively help'). The analysis below will show under what circumstances each of the three scenarios can be an equilibrium. These results can then be summarized to form Proposition 2. The remaining potential outcome, in which Y provides help if he was not responsible for the fall but does not help if he was responsible ('reverse selection') will not occur in equilibrium, as will be evident in the following discussion.

⁵¹Russell Hardin, 'Why a constitution?', in Bernard Grofman and Donald Wittman, eds, *Liberalism, Constitutionalism, and Democracy* (Agathon Press, 1989); Basu, *Prelude to Political Economy*; Carey, 'Parchment, equilibria, and institutions'; Roger Myerson, 'Justice, institutions, and multiple equilibria', *Chicago Journal of International Law* 5, (2004), pp. 91–107.

⁵²Basu, *Prelude to Political Economy*.

1. Potential equilibrium: always help

If in equilibrium the passerby always offers help, then after *S* receives help, her belief about the probability that her fall was due to a collision with *Y*, p , is equal to the ex-ante probability that a fall by a senior citizen is due to a collision, π . Therefore, the expected utility of *S* for suing *Y* will be $\pi r - (1 - \pi)s$, and *Y*'s expected utility is $-\pi r$.

If $\pi r - (1 - \pi)s \leq 0$, with 0 being the utility of *S* from not suing, then *S* will not sue.⁵³ In that case *Y*'s utility is 0, higher than his utility from not helping *S*, which is $-\alpha$ or $-\beta$, depending on whether he was responsible for the fall, and, indeed, *Y* will always offer help. In other words, if $s \geq \pi r / (1 - \pi)$, then it will be an equilibrium that *Y* always helps and *S* does not sue. The high suzhi of *S* indeed leads to a good social outcome in this interaction.

But even if s is low, *Y* may still provide help. To see this, note that *S* will sue if $\pi r - (1 - \pi)s > 0$ or if $s < \pi r / (1 - \pi)$. In this case, *Y*'s utility for providing help is $-\pi r$. If he does not help, his utility will be $-\alpha$ or $-\beta$. Because $\alpha > \beta > 0$ he will still always help if $-\pi r \geq -\beta$, or if $\pi r \leq \beta$. In other words, when the suzhi of *S* is relatively low, *Y* will still always help when the ex-ante probability that a fall by a senior citizen is due to collision is relatively low.

The above discussion is summarized in the following lemma.

Lemma 1: There is a perfect Bayesian equilibrium in which the passerby always provides help whether he was responsible for the fall or not. This occurs either when $s \geq \pi r / (1 - \pi)$, so the senior citizen will not sue because her suzhi is high, or when $s < \pi r / (1 - \pi)$ and $\pi r \leq \beta$, in which case the passerby will still help because the ex-ante probability that a senior citizen falls due to collision, and hence the probability that he will be judged liable by the court, is low.

2. Potential equilibrium: selectively help

In an equilibrium in which *Y* provides help if and only if the fall of *S* was due to a collision with him, then after the fall if *Y* does not help, *S* will believe with certainty that she fell on her own. If *Y* provides help, on the other hand, *S* will believe with certainty that she fell because he collided with her, i.e. $p=1$. In other words, the utility of *S* if *Y* helps and she sues will be r , because she (and the judge) will surely believe that such a passerby is responsible for the fall, while the utility of *Y* in this case will be $-r$.

If *Y* provides help if and only if he was responsible for the fall, then the optimal strategy of *S* is to sue if *Y* helps her. If *Y* walks away, *S* cannot sue since *Y* has left (and cannot be identified). Given this strategy of *S*, *Y* will indeed walk away if he was not responsible for the fall, provided $-\beta > -r$, or $r > \beta$. *Y* will indeed help if he was responsible for the fall, provided $-\alpha \leq -r$, or $r \leq \alpha$. In other words, for the passerby to provide help if and only if he was responsible for the incident, the condition is that $\beta < r \leq \alpha$, i.e. the fall is not too serious (as noted in the article, the analysis restricts attention to cases in which $\beta < r$, i.e. the fall is not too trivial). The senior citizen's suzhi does not play any role in this equilibrium.

Lemma 2. There is a perfect Bayesian equilibrium in which the passerby provides help if and only if he was responsible for the senior citizen's fall, when $\beta < r \leq \alpha$. In this equilibrium the suzhi of the senior citizen is irrelevant.

We can also easily see why reverse selection, i.e. the passerby provides help if and only if he was *not* responsible for the fall, cannot be an equilibrium. If only a passerby who was not responsible for the fall will provide help, then *S* will not sue after she receives help, because she (and the judge) will believe for sure that such a passerby is a good Samaritan. Suing him will only lead to a negative (guilty) utility of $-s$ for *S*. Therefore, the passerby who provides help will receive a utility of 0, better than the negative utility if he walks away. Given this, a passerby who was responsible for the fall should actually also provide help, to avoid his sense of guilt (now that he will not be sued), contrary to the specification of the equilibrium.

3. Potential equilibrium: never help

If, in equilibrium, *Y* will always walk away whether he was responsible for the fall or not, then if a passerby somehow deviates from the equilibrium prediction and actually provides help, the perfect Bayesian equilibrium does not specify what the belief of *S* should be, and so p can take any value between 0 and 1, including $p = \pi$. For this outcome to be an equilibrium, it has to be the case that *S* will sue if *Y* helps her, because otherwise *Y* will help her rather than walk away. For suing to be the optimal strategy of *S*, it has to be that $p r - (1 - p)s > 0$, or $s < p r / (1 - p)$. At the same time, for even the passerby who was responsible for the fall not to provide help, it needs to be that $-\alpha > -p r$, or $p > \alpha / r$ (which requires $r > \alpha$ since p cannot be greater than 1). Both the condition $s < p r / (1 - p)$ and the condition $p > \alpha / r$ are more likely to be satisfied when p is large, i.e. when the social expectation is such that anyone who deviates from the equilibrium strategy and helps a fallen senior citizen is very likely responsible for the fall.

Lemma 3. There is a perfect Bayesian equilibrium in which the passerby never provides help whether he was responsible for the fall or not, when $s < p r / (1 - p)$ and $p > \alpha / r$, which requires $r > \alpha$.

⁵³ It can be assumed that *Y* will help and *S* will not sue when they are indifferent about the choices.

4. Summing up

Lemmas 1 and 2 show that when the senior citizen's suzhi is relatively high ($s \geq \pi r / (1 - \pi)$) there can be two equilibria if the seriousness of the fall is not too serious ($\beta < r \leq \alpha$): either a passerby always helps whether or not he was responsible for the fall, in which case the senior citizen will not sue, or a passerby will help if and only if he was responsible for the fall, and then the senior citizen will sue. In addition, by putting Lemma 1 and Lemma 3 together, we can see that when the senior citizen's suzhi is higher than $\pi r / (1 - \pi)$ but not as high as $pr / (1 - p)$, which can be satisfied as long as $p > \pi$ and $p > \alpha / r$, i.e. p is relatively high and the fall is relatively serious ($r > \alpha$), then the worst outcome, in which no one helps even if he was responsible for the fall and the senior citizen sues anyone who helps, can also be an equilibrium, aside from the 'always help' equilibrium.

When the senior citizen's suzhi is not high ($s < \pi r / (1 - \pi)$) she will sue, but Lemmas 1 and 2 show that the 'always help' and 'selectively help' equilibria will still both hold, provided that $\pi r \leq \beta$ and $\beta < r \leq \alpha$, which can be combined as $\pi r \leq \beta < r \leq \alpha$. In other words, as long as the ex-ante probability that a senior citizen's fall is caused by a collision is not too high ($\pi \leq \beta / r$) and the fall is not too serious, both 'always help' and 'selectively help' can be equilibria, even when the senior citizen's suzhi is low. In addition, Lemma 3 shows that 'never help' can also be an equilibrium when the senior citizen's suzhi is lower than $s < pr / (1 - p)$ provided that $p > \alpha / r$ (and $r > \alpha$ by extension). Again, the higher p is, the easier this condition is to satisfy.

Summarizing the above discussion leads to Proposition 2, stated in the article's main text.