Obedience Behavior of Undergraduates under the Coronavirus Epidemic

-- Personality-related Obedience Toward Two Types of Authority

Xinran Han

School of International Studies, Zhejiang University, Zhejiang, Hangzhou 310000, China.

Abstract

This research is designed to extend the work on obedience to authority by exploring the relation between the degree of university students' obedience, personality and different types of authority under the public health emergency of the 2020 coronavirus outbreak. This study identifies Conscientiousness and Agreeableness as two personality factors, and Legitimate and Expert as two authority factors. A novel experiment is designed and the durable logic and evidence is used to form predicted results: in the coronavirus outbreak period, personality factor Conscientiousness and Agreeableness are correlated with the degree of obedience to government and expert as authority; people are generally more obedient to the government that to the expert; however, differences in personality have no significant effect on people's obedience to authority.

Keywords

Obedience, authority, personality, public health emergency.

1. Introduction

This research is designed to extend the work on obedience to authority by exploring the relation between the degree of university students' obedience, personality and different types of authority under the situation of a public health emergency.

Research on obedience to authority, the publication of Milgram in 1963 [1] which showed that most ordinary people may give 450 V electric shock to people sitting behind the wall, shook the world of social psychology. Further attempts were made to answer why this occurred [2] and to explore factors that might moderate the level of compliance. How to characterize the kinds of authorities is also a fundamental issue [3]. In an interview with Evans, Milgram clearly distinguished the difference between the concept of his experimenter as a legitimate authority and an authority based on expertise [2]. Based on French and Raven's classic formulation [4] on the basis of social power, there are six different types of power that are distinguished: except the legitimate and expert power, there are, coercive, informational, referent and reward power [5]. The studies of Milgram about obedience have largely been regarded as evidence for the power of the situation in determining human behavior.

Despite previous studies on the types of authority, the obedience to different authorities of university students is still blank. This experiment will select the legitimate authority and the expert authority, which are most commonly used in university management, to explore whether there is a difference in the degree of obedience of university students to different authorities. This will help universities better understand how to better manage students.

Although most obedience studies conducted in the Milgram paradigm are related to situational factors, there also have studies who pay great attention to individual differences, as Milgram wrote, "I am certain that there is a complex personality basis to obedience and disobedience,

but I know we have not found it" [6]. A few studies have shown that even under stressful situations, personality factors still predict disobedient patterns [7]. Some of these studies, however, did not meet the minimum of psychometric and methodological standards. Many other studies showed that personality factors did not seem to be important predictors of disobedience. More specifically, in the research about obedience, an integrated conceptualization is still needed to study interindividual factors. And it should be based on the function of obedience in real society as well as the overall model of personality. Currently, the use of personality models, such as the Five-Factor Model [8], may lead an important step forward in giving knowledge to the individual contribution of obedience to authority. The Big Five is a structural model for personality factors analysis, which illustrates the phenotypic differences between people. Through five aspects, it covers most of the differences in personality description: Extraversion, Openness, Conscientiousness, Agreeableness and Neuroticism.

Based on previous conceptual developments and empirical studies, this study expected that the traits of Agreeableness and Conscientiousness would be related to obedience. In the model of Costa and McRae's [9], compliance means the intrinsic aspect of Agreeableness; the incentive goal of conformity values is also related to agreeableness; man with an characteristic of Agreeableness would avoid breaking norms or making others unsatisfied, and they tend to respect social expectations; between Agreeableness and Conformity , a significant correlation was found in another study [10]. The other factor that this study hypothesized as related to obedience is Conscientiousness. It is defined as having the tendency to show self-discipline, having the sense of duty and pursuing achievement. In the study of a Milgram-like paradigm Agreeableness and Conscientiousness both predicted the level of electric shocks that the subject imposed on the victims [11].

A personality measure with only a weak theoretical relationship to obedience would not be expected to be a valid predictor of a given behavior [5]. Hence, factors such as Neuroticism, Extraversion and Openness may not be good predictors for level of obedience.

This study will further confirm whether compliance is only related to Agreeableness and Conscientiousness. And given that there has no previous studies about the relationship between personality and different types of authority, this study will further explore whether people of different genders differ in their obedience to different types of authority. This will help university faculty to adopt more effective management measures for students of different personalities.

Up to now, study of obedience behavior still remains an essential topic in social psychology [12]. It is important to study the influence of individuals and situations on obedience, because obedience plays an indispensable role in the process of socialization [13]. It can promote social order, but at the same time, it may also lead to huge social ills [14]. However, despite the great number of experiments on obedience, the experimental contexts often conform to the Milgram-like paradigm which are malevolent actions and obedience that is harmful to a single person. And the confidentiality of the experiment completely ruled out the social influence. But in reality, people's obedience often has more social impact. The example is the current context of a rapid spread of the coronavirus around the globe. Despite efforts made by the government and advertisements and suggestions from the World Health Organization, many university students are still rejecting the regulations of staying at home, meeting friends or traveling without reporting to university. These actions bring great risk to both themselves and the university. And when people don't have enough relevant knowledge, they will easily believe the so-called expert opinions issued by the media and obey the instructions. Rushing to purchase Shuanghuanglians or toilet papers are triggered by this.

Therefore, this study is designed to under the context of a public health emergency, instead of harming someone directly, to obey or disobey the order will have a uncertain influence not only

on themselves but also on the society. This experiment can give not only universities, but also the relevant departments or the government corresponding enlightenment, so that in the process of some knowledge behaviors or regulations promulgation in public health events, we can more effectively understand and consider whether we should combine multiple forces to help the relevant departments better carry out effective instructions in public health events.

2. Research Questions and Hypothesis

This study aims to test when people are faced with information that cannot be judged as true or false, how much will they obey the request of authority and help to spread it in a global health emergency. Moreover, we want to test how personality and different types of authorities influence university students' obedience. Questionnaire and laboratory experiment are included to figure out the exact obedience level. The laboratory experiment provides the direct result of to what extent the subject obeys and how quickly they obey. The questionnaire after the experiment uses the Prospect Theory of Obedience [15] to tests the degree of willingness to obey. This issue is explained more detailed in the method. In a larger sense, this study tries to cross-analyze the different factors affecting obedience and expand the research context of obedience.

Hypothesis 1a: Individual differences in agreeableness will predict obedience such that higher levels of agreeableness will be associated with obedience.

Hypothesis 1b: Individual differences in conscientiousness will predict obedience such that higher levels of conscientiousness will be associated with obedience.

Hypothesis 2: Differences of authorities will predict obedience such that levels of obedience to legitimate authority are higher than that to government authority.

3. Method

3.1. Participants

Participants are 300 students form the universities in Hangzhou city. The sample group is drawn from students who voluntarily sign up for this experiment that was portrayed as a study about the relation between personality and behavior under the recent epidemic. They each receive 50 yuan (equivalent to approximately US$7) for their participation.

Students under 18 and over 25 years old and students of social sciences majors (psychology, political science, sociology, and pedagogy) are excluded. Anyone who admitted to being familiar with the Milgram experiment is also exclude for the control question.

3.2. Procedure

The experiment was conducted in a university. When the participant arrives, the experimenter will assign him NEO-PI-3, which is a revised NEO personality questionnaire for individuals 12 years and older. This questionnaire measures of a comprehensive model of general personality traits, the Five-Factor Model. The response uses a five-point Likert scale, from very disagree to very agree. An abbreviated version of 100 trait-descriptive adjectives of the Big Five personality domains is provided by this 40-item adjective checklist [16]. Mullins-Sweatt considered this list to be an effective and valid description of the Five-Factor Model [17]. The internal reliability of the scale in our sample is as follows: openness (Cronbach'sα=.76), neuroticism (Cronbach'sα=.75), conscientiousness (Cronbach'sα=.70), and agreeableness (Cronbach'sα=. .68) and Extroversion (Cronbach α = 0.58).

After the questionnaire, the experimenter will start an interview to investigate the participant's emotional conditions, behaviors, and living experience during the epidemic. The interview's content won't be used for result analysis.

When the interview ended, the participant will receive the payment and be informed that he has finished the experiment and there's another small request from the university. Then, the experimenter will leave while another experimenter will come in, sit down, and ask the participant to share an article in their WeChat moments. The participant will be informed that the article is the latest research result, he needs to help it to spread and once they have posted an article, the article cannot be deleted.

The article describes that Paracetamol Tablets (a common cold medicine) has been proven to be useful for new coronavirus prevention. Its content is false.

When the participant refuses to obey the request, the experimenter will respond with a sequence of feedback. Participants will randomly face either the expert type or the legitimate type of feedback.

We use the government to represent legitimacy. See the contents of the feedback in 3.3.

The feedbacks are always made in sequence: Only if Feedback 1 has been unsuccessful, can Feedback 2 be used. If the participant refuses to obey the order after Feedback 3, the experiment is terminated. According to when the participant chose to obey, the obedience level is measured using a five-point scale, from obeying directly to disobey.

After the experiment ends, the participant is informed of the truth of the experiment. Then the participant will be told to finish a short post-experiment questionnaire based on the Prospect Theory of Obedience. The questionnaire is about how much value participants think the request behavior has, how great participants will be influenced by the request behavior, positively or negatively, and how much influence their behavior will make. It reflects the degree of obedience the subject measures according to his competence level and prospect value.

3.3. Feedback

3.3.1. The Government Authority

Feedback 1: The information came from the government's outbreak control center. The latest information should be spread and the public should be informed about this.

Feedback 2: I am a staff member of the local government's outbreak control center. The government ordered to spread the information as soon as possible. It is our responsibility to spread the information.

Feedback 3: I represent the government. People who are involved in this experiment have an obligation to spread the information.

3.3.2. The Expert Authority

Feedback 1: The information was based on our scientific research. The latest information should be spread and the public should be informed about this.

Feedback 2: I am a member of university's Virus Research Center. The context is predicted by the professor of our university to inform people more about the epidemic.

Feedback 3: The information is mainly provided by Doctor X, who is an expert in virology and has written many articles about it. For public health, please share it.

3.3.3. Special Feedback

When participant asks the experimenter to provide documents to prove the truthfulness of the article, the experimenter will say: All the necessary information has been included in the article.

4. Predicted Results

4.1. H1a&H1b

There was no significant difference in the degree of obedience between male and female participants, and there was no relationship between obedience and age.

Regarding the Five-Factor Model and obedience, the correlation formula is used to find out the relationship between consciousness, agreeableness and how much do people obey authority. The mean scores of agreeableness and conscientiousness are combined and compare the score with the score of obedience from two groups.

In order to make the hypothesis more accurate and authentic, the score from prospect theory and the score of two personalities are also compared since the prospect theory also measures the level of obedience.

The predicted result is that all values measured by the correlation formula show that agreeableness and conscientiousness are highly correlated to the level of obedience (e.g. r= .26, 95% CI [.03, .47], p = .039). And since the results are all positive numbers, the two personalities and the obedience are positively correlated.

No significant relationships were found between obedience and the remaining Big Five factors, including Extraversion, Openness, and Neuroticism, (e.g. r= .08, 95% CI [−.15, .30], p = .55). When all these personality domains are included in a single multiple negative binomial regression, in Agreeableness and Conscientiousness, the same pattern of significance both appears, which significantly predicts a reduction in disobedience (i.e., increased obedience). At the same time, Openness, Extraversion and Neuroticism show no significant relevance to obedience.

Therefore, the results confirm the hypothesis that in a global health emergency, differences in personal conscience and satisfaction will predict compliance, and therefore higher levels of these two factors will be related to compliance.

4.2. H2

Each group's score of obedience is averaged according the number of feedback participants received. To make the result more reliable, the study again uses the same method to compare the scores drew from the prospect theory. The predicted result is that the mean scores regarding government are higher than that from expert. To test the significance, Analysis of Variance is used as a reinforcement to compare two group's score of feedback and the score of prospect theory respectively (formula 2.1). According to the prospect theory proposed by Daniel Kahneman in 1974 to explain people's risk decision making behavior. Obedience is determined by ability level and expectation. For the formula 1.2, Vp is prospect value (the average of the algebraic sum of the product of value and expectation). Due to the formula 2.2 of Vp, the mathematical model of the "Prospect theory" is formula 2.3. Od is the Obedience Degree, Cl(0 or 1) is Competence Level, V([- 10,10]) is value, E(0 or 1) is Expectancy.

$Od = C1 \times Vp$ Formula 2.1

$Vp = \frac{1}{n}\sum_{i=1}^{n} ViEi$ Formula 2.2

$Od = \frac{C1}{n}\sum_{i=1}^{n} ViEi$ Formula 2.3

On the basis of the Post-experiment questionnaire, we can get the number of Cl, V and E. So that we can get every participant's obedience degree. Next, we will determine which authority is represented by the experimenter corresponding to the participant and square the obedience score and obedience degree of the participant respectively.

The predicted result is that there is a significant difference on obedience between the government group and the expert group. Based on the information above, the study confirms the second hypothesis that Differences of authorities will predict obedience such that levels of obedience to legitimate authority are higher than that to government authority.

4.3. Relationship between Variables

Whether differences in personalities have effects on people's obedience to the two different authorities is also taken into consideration. the Analysis of Variance is used in order to answer

this question. a is set as 0.05. Then the relationship between four variables is compared respectively. HO and HI in the calculation are set as hypotheses, and after calculating the value of F and the value of Fa, if both F values are larger than Fa, there is no significant difference.

4.4.   Alternative Explanations

There is a possibility that instead of a positive correlation, conscientiousness has a negative correlation with the degree of obedience.

The Big Five dimension of conscientiousness is associated with traits such as self-control. One with high level of conscientiousness are described as habitually cautious, highly organized and well self-disciplined [18]. McCrae and Costa show that these features may lead to personally conscientious people complying with codes of ethical conduct. This demonstrates the possibility the relationship between individual differences in conscientiousness and obedience in the Milgram paradigm. Following the code of moral conduct may lead individuals with highly conscientious to account the orders of experimenter to continue impose electric shocks as immoral, so as in this context, participants with higher conscientiousness may be more doubtable to the authenticity of the information, which, conversely, may lead to lower levels of obedience.

It is also possible that the score of personality and the score of obedience are not correlated.

The reason may be that the research design is not derived from the experimental prototype of a strong situation that Milgram Paradigm is considered to be, because its stated goal is to study the behavior of strong situations that have a profound impact on participants. Social psychologists generally believe that harmful obedience is the result of complex social forces under the influence of circumstances. Therefore, the lack of credibility and strong feedback of the republished information may lead to this result.

Moreover, the result may also show that instead of an expert, people show more obedience to the government.

This might be correlated with a certain university's academic reputation and the local government's credibility. To obtain more general results, experiments involving more regions and subjects should be done.

5. Conclusion

This experiment helps us to understand the degree of obedience of undergraduates with agreeableness and conscientiousness to authority in public health events. For more than 50 years, social psychology and individualistic psychology have been trying to reveal the role of personality in obedience behavior. Our results provide new empirical evidence that the difference between personal agreeableness and conscientiousness is important. The results of these experiments can be used for reference in other experiments, such as discussing the relationship between personality and rebellion, and the relationship between other personalities and obedience.

Besides, this experiment can give the relevant departments or the government corresponding enlightenment, so that in the process of giving some instructions or regulations promulgation in public health events, they can more effectively consider whether they should combine multiple forces to help the relevant departments better carry out effective instructions in public health events. It can also provide some enlightenment for the government or authorities to gain political trust and get public obedience in public health events.

One of the limitations of this study is the inclusion of mostly educated college students. In order to confirm that these relations between personality and different types of authority exist beyond this sample under the situation of a public health emergency, research using more diverse samples should be utilized.

Also, this work only looks at the one-time point. We have begun to take the first step in understanding the relationship between personality and different types of authority, yet how would people's act changes and develops throughout the outbreak period still remains unknown. Will people's obedience always remain the same? Or will their attitudes change as the epidemic develops? Future longitudinal research will be able to assess causal directions.

Additionally, it is important to further investigate multiple aspects of people's obedience. We can't speculate that people will obey the rules to wear masks and not to go to the party just because they obey the request to post the message during the outbreak. We need to take into account multiple perspectives, multiple tasks with different degrees of obedience and continue to compare those perspectives.

As a final point, an important limitation of this work is that it does not test the situation when the two kinds of authorities (legitimate authority and expert authority) combine together. In real situations, governments often use both types of authority simultaneously to give instructions and advocacy to people. Subsequent experiments should test whether people's obedience will increase when two kinds of authority are used at the same time, so as to guide the actual situation.

References

[1]   Milgram, & Stanley. (1963). Behavioral study of obedience. Journal of Abnormal Psychology, 67(4), 371.

[2]   Milgram, S. . (1974). Obedience to authority. Anthropology Today,39(3).

[3]   Blass, T. . (1999). The milgram paradigm after 35 years: some things we now know about obedience to authority1. Journal of Applied Social Psychology, 29(5), 955-978.

[4]   French, J. R., Raven, B., & Cartwright, D. (1959). The bases of social power. Classics of organization theory, 7, 311-320.

[5]   Blass, & Thomas. (1991). Understanding behavior in the milgram obedience experiment: the role of personality, situations, and their interactions. Journal of Personality & Social Psychology, 60(3), 398-413.

[6]   Milgram, S. . (1974). Obedience to authority. Anthropology Today, 39(3), 205.

[7]   Elms, A. C., & Milgram, S. (1966). Personality characteristics associated with obedience and defiance toward authoritative command. Journal of Experimental Research in Personality.

[8]   McCrae, R. R., & Costa Jr, P. T. (1989). Reinterpreting the Myers-Briggs type indicator from the perspective of the five-factor model of personality. Journal of personality, 57(1), 17-40.

[9]   McCrae, R. R., & Costa Jr, P. T. (1992). Discriminant validity of NEO-PIR facet scales. Educational and Psychological Measurement, 52(1), 229-237.

[10] Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The big five personality factors and personal values. Personality and social psychology bulletin, 28(6), 789-801.

[11] Bègue, L., Beauvois, J. L., Courbet, D., Oberlé, D., Lepage, J., & Duke, A. A. (2015). Personality Predicts Obedience in a M ilgram Paradigm. Journal of Personality, 83(3), 299-306.

[12] Miller, A. G. (2009). Reflections on" Replicating Milgram"(Burger, 2009).

[13] Hogan, R., Curphy, G. J., & Hogan, J. (1994). What we know about leadership: Effectiveness and personality. American psychologist, 49(6), 493.

[14] Kelman, H. C., & Hamilton, V. L. (1989). Crimes of obedience: Toward a social psychology of authority and responsibility. Yale University Press.

[15] Guandong, S., Zhitian, Y., & Miao, C. (2008). A psychological study of obedience in psychology. PSYCHOLOGICAL SCIENCE-SHANGHAI-, 31(1), 249.

[16] Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. Psychological assessment, 4(1), 26.

[17] Mullins-Sweatt, S. N., Jamerson, J. E., Samuel, D. B., Olson, D. R., & Widiger, T. A. (2006). Psychometric properties of an abbreviated instrument of the five-factor model. Assessment, 13(2), 119-137.

[18] McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. Journal of personality and social psychology, 52(1), 81.