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Deviant Aggressive Behavior

If Theory I were correct, then the appropriate social policy would be to give punishment like custody on those deviant aggressive behaviors and give credit to those who obey the social rules. According to this theory, we can construct a model that fit the behaviors of people. In this model, people's behaviors, regardless of their character traits and attributes of the specific matters, are positively correlated with the receipt of rewards and negatively correlated with the receipt of punishment. Thus, if deviant aggressive behaviors lead to punishment, then people's inclinations to do those behaviors will decrease because they are afraid of the potential punishment. And if those who obey the social rules receive monetary rewards like tax reduction for behaving themselves, then people will become more motivated to avoid deviant behaviors, which results in reduction of deviant behaviors.

In another situation, if Theory II were correct, then deviant aggressive behaviors would stem from hostility toward authority figures. Thus, the appropriate social policy for this scenario is to suppress people's intention to transfer their anger to public figures. This social policy can be roughly divided into two parts. The first part is about molding people's ideas about relying on themselves to improve their lives, rather than blame others like the upper class for their miserable situations. The propaganda can encourage people to think more of their own ways to solve problems and make up the differences with others in their lives, so the next time people face difficulties, it will be more unlikely for them to project their anger on authority figures. The second part of social policy is about narrowing the gap between different classes, because the more equal the social classes are, the less motivated they are to transfer their anger out of envy and jealousy.

Thirdly, if Theory III were the right one, then the social rules or the social structure

itself would be the source of those deviant behaviors. Hence, to reduce deviant aggressive behavior, the key social policy is to develop related social mechanisms like fair distribution of educational resources to increase social fluidity. Given the social structure, social discrimination naturally exists out of human instinct and also as a form of social progress motive. Social individuals make progress partly owing to discrimination from others, which, however, can result in the progress of the whole society. Notwithstanding its function as a spur, it is meaningless to spur on someone if there is no space for them to make progress, which is just the case in a fixed class society. In case the social class system becomes fixed and loses its fluidity, the ladders of the social system should manifest themselves, especially the most important one—education. Education equality, including the relatively fair distribution of educational resources from elementary schools to colleges, is imperative in order to make the society more fluid and give those in the lower class more hope to climb to the top, thus reducing the possibility of potential deviant aggressive behaviors.

Given the situation where Theory IV were right, the proper social policy would be to cut off the possible ways of contact with deviant subculture, which may contradict freedom of speech. Social role is the naturally formed part of the society, which has deeper mechanisms that need further research and the currently viable way is to prevent more communication from this subcultural group and lessen its influence so as to restrict it within a limited range of people. Considering that the purpose is to set barriers for communication, censorship is an inevitable and efficient way of blocking messages sent from people who incline to deviant behaviors. The less this deviant social role is exposed to the public, the less likely those aberrant behaviors will be to arise.

Waiting until the last minute

a. I have observed many cases where most people, from students to mature workers, cannot avoid having this tendency to delay things until the last minute. Regarding its deeper reason, I think it is human nature to be more likely to finish tasks under higher pressure, and the pressure of finishing assignments in time will continue to increase until the last minute. People feel compelled to work on tasks to meet deadlines, even

though they may not be willing to do it from their hearts and choose to delay it until the pressure becomes unbearable.

b. As referred to in a., I believe that this phenomenon stems from the continuous increase in pressure which acts as a spur to people until the deadline of the tasks. Specifically, when people still have much time to finish their tasks, they feel little pressure to motivate them. But as time goes by, their recognition of their unfinished tasks puts more and more pressure on themselves, which can substantially increase their motivation. This model has the assumption that pressure is a critical component of people's motives to act.

c. There is another possibility that people often choose to wait until the last minute because this is the most beneficial choice at most times for them. When people finish a task in advance, the result or the reward of finishing it still needs a period of time to arrive. By contrast, if people finish it just before the deadline, they can soon know the result and just let it go because after the deadline they do not have the right to revise their submissions anymore. People always prefer to get the response immediately because all the rewards and information have their time values, which means that people's subjective value of a thing will decrease until its occurrence.

d. Based on my first model which introduces the relationships between pressure and motive, remaining time before the last minute and pressure, I make two possible predictions. The first one is that considering the positive correlation between pressure within an acceptable range and motive, to increment academic pressure might be a good way to improve students' efficiency. Specifically, to increase their workloads can make students more efficient, which is under the assumption that students still have the capacity to finish them rather than be stressed out. The second prediction is that to personally set time limits can help improve a person's efficiency, which is applicable to many circumstances like self-study. Even though time limits are set by themselves, rather than others like normal deadlines, this phenomenon still exists and can successfully transfer pressure to a source of incentive.

My second model is to rationalize people's decisions when dealing with deadlines from an economic perspective. Given that the responses to people's completion of tasks

have time value, or in other words, delayed receipt of rewards or information will lead to reduction of their value. Thus, we make a prediction that people's inclination to discount the utility of results when faced with deadlines is inherently related with their tendencies to discount delayed monetary rewards, which is also termed as delay discounting. Based on the assumption or the common sense that adolescents are generally believed to be more impulsive than the elderly and so short-sighted that they consider only immediate profits rather than rationally take the profits in the long term into consideration, we give a second prediction that adolescents are more likely to wait until the last minute than older adults. Restricted by their mindset of only considering immediate rewards, to finish tasks ahead of deadlines becomes a non-profit plan. Thus, adolescents are less motivated to finish tasks in advance because in their minds they usually discount time values more than older adults.

Selecting and fitting a model

1. a. Given that the sample size is extremely large compared with the number of predictors, it is better to use a flexible model. An extremely large sample size ensures the size of the train data to be big enough, which makes it more likely to be generalized. Considering the generalization of the train data, we can be less worried about the problem of overfitting when using a flexible model. Furthermore, the more flexible the model is. the better it can fit the train data. By contrast, it is of high possibility to miss critical explanatory components when using an inflexible model like a linear model with a limited number of predictors.

b. Given that the sample size is relatively small with extremely large number of predictors, which is just the opposite of the case in a., it is better to use an inflexible model. A small number of observations always represents the high possibility of representation errors, which means that the data is hard to be generalized. Thus, to use a flexible model to fit the data will cause the problem of overfitting and hence the model will be restrained to the range of the sample.

c. Considering that the relationship between the predictors and the response is highly non-linear, a flexible model will be a better choice. Non-linear relationship

definitely needs a non-linear model to better represent. In this case, it is hard to define the specific form of the model if it is an inflexible one. By contrast, to use a flexible model can make it much easier to fit the data and find the non-linear relationship.

d. When the variance of the error is extremely high, it is better to use an inflexible model. The existence of high variance of the error will lead to the fact the relationship between predicators and response may be obscured by the noise. Thus, if we fit the data well, we also fit too much of the noise in our model. In contrast, an inflexible model can to some degree solve the problem of fitting too much noise.

2. As what is shown in the Figure 1 (Hastie, Tibshirani, & Friedman, 2009, p. 220), bias is negatively correlated with model complexity. As the model becomes more complex, which means that the model fits the existing data better, the difference between the average of the estimate and the true value namely the bias reduces.

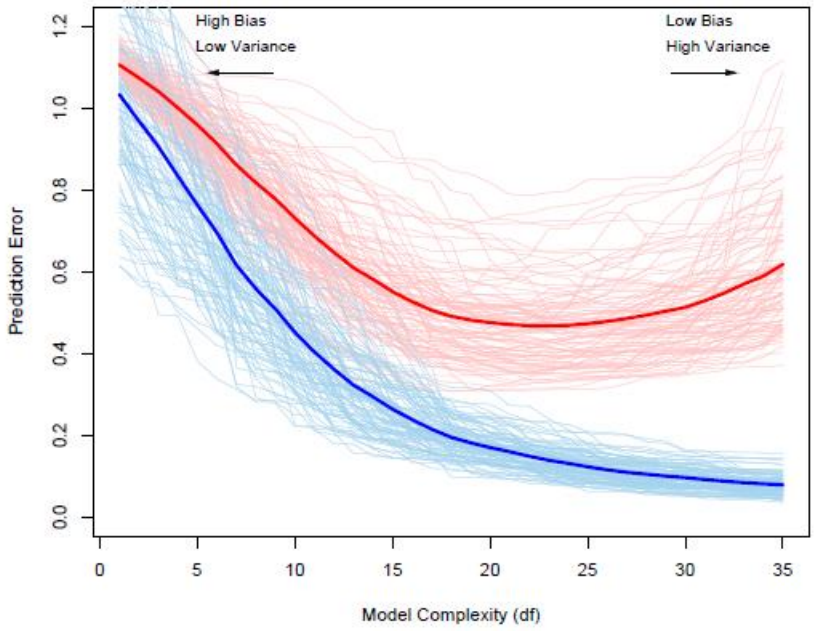

Figure 1. Behavior of test and training error as the model complexity is varied. Reprinted from The Elements of Statistical Learning: Data Mining, Inference, and Prediction (p. 220), by Hastie, Tibshirani, & Friedman, 2009, Springer Science & Business Media.

Regarding variance, it is positively correlated with model complexity. The variance of a model will increase because complex models include too many predictors

to fit the train data and hence the difference between the estimate and its mean based on different datasets will become larger.

The red solid curve shows the expected test error first decreases as the model complexity increases, and at last transfers to an upward trend. Proper complexity of the model can help it be generalized well to other test data, but too much complexity creates many unnecessary predictors which lead to the problem of overfitting and increase the test error.

The blue solid curve shows the expected training error consistently decreases as the model complexity becomes higher, but the downward trend gradually becomes smooth. The more complex the model is, the more likely it is to fit the train data well, so the train error will reduce correspondingly.

The irreducible error, which is out of our control, is independent from the model complexity and fluctuates randomly. Irreducible errors usually stem from the data source and cannot be controlled through the process of modeling, so it will not be influenced by how the model is constructed.

Reference

Hastie, T., Tibshirani, R., & Friedman, J. (2009). The elements of statistical learning: data mining, inference, and prediction. Springer Science & Business Media.