Homework 01

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Building Models

Deviant Aggressive Behavior

1. **What social policy would be appropriate to reduce deviant aggressive behavior if Theory I were correct? Theory II? Theory III? Theory IV?**

First, if theory I were correct, in order to reduce deviant aggressive behavior, the policy maker should help foster in the people morally sound value and outlook on the world and life such as offering some classes to build up the moral sense for the kids in the schools. Since the theory puts emphasis on the fact that deviant aggressive behavior is learned from experience, therefore, increasing the exposure to right value could help decrease the deviant behavior. For example, some kids learned from their parents how to steal in order not to be starved. If schools teach their kids that steal cannot be a long term solution to avoid starvation and it is not good, instead, they should look for the help from the government or certain charities and try their best to learn in the school, then those kids would have better chance to escape the poverty trap.

Second, as for theory II, to decrease the occurrence of the deviant aggressive behavior, one possible social policy is by educating people how to release their stress and anger more productively. The hostility toward personal authority figures usually comes from the stress or the feeling of being mistreated. Therefore, finding a better way to release those feelings can be a good option to reduce the deviant aggressive behavior such as exercise or meet up with a counselor regularly. Another possible solution is to help people better communicate with others such as providing communication workshops. Instead of expression one's frustration or anger by acting

aggressively, one can also learn how to express their true feeling to others, especially to their personal authority figures. Communication plays a critical role in the society. Therefore, with a better skill in communication, the misunderstandings can be decreased among people.

Third, if theory III were correct, then the policy maker should offer sound venues for people, especially for the minorities or oppressed people, to petition if they feel their rights have been violated. In order to reduce the deviant aggressive behavior, the policy maker should also be more prudent when they are making policy. No one would like to be the victim of certain policies, which are made for advancing the society. As a result, while making a new policy, to consider all the groups are important so that the deviant behavior can be reduced.

Last, when it comes to assume that theory IV is correct, the appropriate possible policy to reduce the deviant aggressive behavior is increasing the opportunities for lower socioeconomic people to live a better life so that they don't have to be trapped in such subcultures. The possible reason for people to contact with a deviant subculture can be due to the poverty, or they were just born in such family, or grew up in such subculture. Therefore, if the government could improve the living quality of the people from the lower class and offer more opportunities to access resources that could help them to get a better job, it might decrease the occurrence of deviant aggressive behavior.

2. **During the past ten years, American society has been running a series of "experiments" with deviant aggressive behavior. Take any one of these experiments (e.g. #MeToo, mass shootings, political rhetoric) and discuss what we have learned about the four theories from this series of experiments.**

In the past ten years, there are a lot of shootings happened in America. Sometimes, some people just chose to shoot people randomly. According to the four theories mentioned, we can try to find out the reason behind gun violence. Based on theory I, when the shooters shoot, they might gain certain satisfaction and this satisfaction might known for them before they do it. For instance, it could be simply

because the shooters love to play shooting video games and shooting in the real world makes them feel accomplished. Another more serious case could be: the shooter shoot the people they hate in order to revenge.

Another possible explanation for people to shoot others might be an outcome of accumulated anger and disappointment towards this world that have no where to release. After bearing all the negative emotions for a long time, people can be insane. Thus, some shooters might have no idea what they are doing when they shoot people since they are just out of their mind. Some people might be regret and commit suicide afterward in order to redeem themselves from the sense of guilt.

A lot of shooting are done by the people who live miserably. In theory III, the deviant aggressive behavior can be explained as an rational action of oppressed people. People from the lower class or minorities might be aggressive in order to attract others' attention. For instance, if a poor man shoots people randomly on the street, then it will definitely become a news. Therefore, the society might pay more attention on the poor. For sure this is not a good way to express their anger. However, undeniably it could be a good way to make the society be aware of those oppressed people.

Sometimes, shooting can be just a natural thing for some people. Being in a gang can make people feel like committing crime is acceptable and it is a way to maintain justice, especially for those grew up in such environment. To be honest, sometimes it is really hard for those who grew up in a deviant subculture to have a correct sense of righteousness.

Waiting until the last minute

People often do things at the last minute (students turning in papers, professors grading exams, and so on).

Why people often like to do things at the last minute? Although in a lot of cases people can actually plan out everything in advance and complete the task in a slower pace, they still tend to start their work late and finish it right before the deadline. For me,

this behavior could be caused by one's own preferences. In most of the times people will try their best to wait for the last minutes to do something that they don't like to do but they have to do such as for students to turn in the homework. This is because that they rather spend more time on leisure or something else that interests them, or sometimes, people just do nothing. The laziness is a natural instinct for human being. Therefore, doing nothing can also be one's preference. Lack of the interest can be one possible reason that people love to wait until the last minute.

By this possible explanation, we can build a model to explain this observation in a more abstract and general way. Firstly, to consider the preference, we can say that people always need motivation to take an action. For example, if a person who is a hands-on, when it comes to assemble furnitures, he or she would love to do it right away. However, if one doesn't like to do such work, then he or she might try to wait until the last minute to assemble the furniture for his or her own house. Another aspect to loot at is the natural instinct of idleness in human. Therefore, the model can be build like:

Actions are triggered by the motivation. People tend to do what they like to do first then complete the task that doesn't interest them at all. However, most of the time the work are not interesting for people so they would like to wait until the last minute.

Another possible explanation for this observation could be that people are confident in themselves. In other words, people have good feeling about themselves, and think that they are capable of finishing the task right before the deadline. Therefore, people would not try to start the work early as possible, or even they do, the work won't be the first priority for them to do in their daily life. The self-confidence induces the nature of procrastination in human being. Therefore, people tend to wait until the last minute. This alternative model can be written as following:

People are often confident in themselves, either consciously or subconsciously. No matter what priority ones have, people tend to wait until the last minute to finish the work since they believe that they can always finish the task.

For the first model, one of the interesting implication could be that people have limited time and money, therefore, they would choose to maximize their benefit by doing the things that they are not interested at all until the last minute. Assume that a professor prefer doing research than teaching, then he will definitely choose to do his research first and only leave a little time to prepare his lecture. Another interesting implication could be: if the person are doesn't have any strong motivation for anything, then he might end up being a last-minute person as well. Since not having any preference could make a person become pretty indecisive, it is possible that a person take no actions due to the lack of motivation.

On the other hand, for the alternative model, people can be overconfident in themselves sometimes, which might lower the quality of outcome of the task. It is hard to have a good performance when people are in a rush. Another implication for this model is: although people sometimes show their anxiety about the work, they still subconsciously believe that they can finish the work in all kinds of situations. People often tend to persuade themselves that they already did their best and the outcome is not that important when they don't have enough time or capability to complete it. Therefore, they would choose to wait, or we can say that they are willing to wait, until the last minute.

Selecting and fitting a model

1. **For each part, indicate whether we would generally expect the performance of a flexible statistical learning method to be better or worse than an inflexible method. Justify your answer.**

   a. The sample size n is extremely large, and the number of predictors p is small.
   • A flexible statistical learning method would perform better than an inflexible one since with a larger sample size, it can fit the data better.

b.   The number of predictors p is extremely large, and the number of observations n
     is small.

- Due to the observations n is small, a flexible method might be overfitted. Therefore, it
  would be worse to use a flexible approach in this situation.

c.   The relationship between the predictors and response is highly non-linear.

- When the relationship between the creditors and response is not linear, then a flexible
  method mould be better than an inflexible one due to having more degrees of
  freedom.

d.   The variance of the error terms $\sigma^2 = \text{Var}(\epsilon)$ is extremely high.

- When the variance of the error terms is too high, a flexible approach would fit to the
  noise, thereby increasing the variance. Thus, a flexible method would be worse than
  an inflexible one.