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# Cultural Commentary: When More is Better, and Then Its Not

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# Cultural Commentary:

## When More is Better, and Then It's Not

by William C. Levin

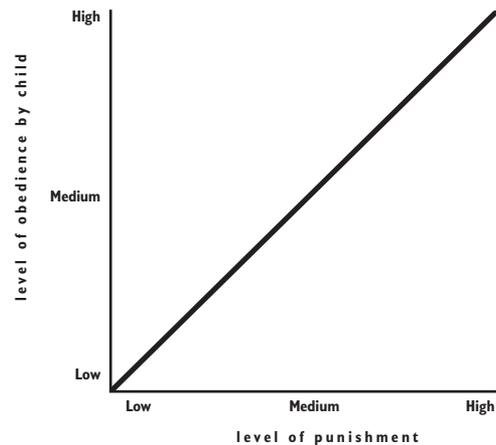
Attempting to explain human behavior is such fun that we who do it for a living should probably feel guilty about being paid. But absorbing as it is, the task does present some challenges. For example, there is a tendency for people to oversimplify explanations, and even professionals can fall prey to the temptation. There are a number of ways that we can oversimplify our explanations. One is the attempt to explain a human behavior with a single underlying cause. For example, it would be foolish to imagine that divorce is the result of poor communication between spouses, and of nothing else. Another is the tendency to oversimplify the nature of the relationship between a specific cause and effect. I was reminded of the danger of this sort of error by something that I observed just yesterday.

I was shopping in my local supermarket when a child of about 6 years old, who was sitting in his mother's shopping cart, reached out to grab from the shelf a box of Poppy-Puffs Cereal. Before he could pull in the catch his mother grabbed his arm at the wrist, twisted it into a scary shape, and shrieked into his face the threat that "You put that back or I'll break your #\*!&\* arm." (As for the #\*!&\*, it started with "G" and ended with "m.") I was pretty much horrified, and looked around to see who had heard this. I think I felt embarrassed for the dignity of our shopping aisle. There was a woman right behind me who shrugged her shoulders to me and whispered, "Spare the rod, spoil the child."

I have heard that expression used many times, I think the first time from my uncle George, who was famous for his pithy pronouncements. He used the saying to sum up an otherwise complex family discussion about a cousin who had been caught stealing money from his parents to pay for his losses at the track. We kids all knew what he meant. Cousin Rollo had been pampered, and had he been properly disciplined when young, he would not have come to such a sad end.

As an academic, I would now describe the idea as a relationship between two variables. Punishment for wrongdoing increases levels of obedience. It is what we call a linear relationship, and in graphic terms it looks like this.

FIGURE 1



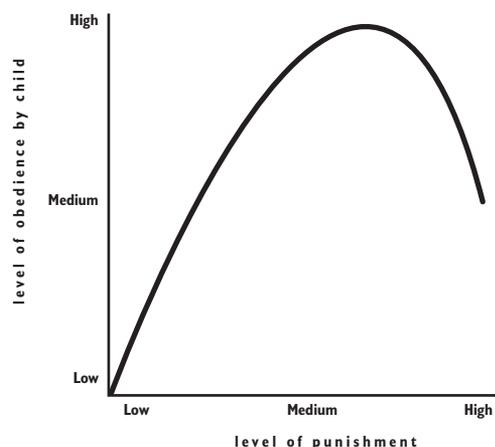
The idea is that as you increase the level of punishment for wrongdoing, the level of obedience by your child should increase. In fact, most of our statements about the relationships between variables take this form. For example, we normally hear assertions that harder work (such as studying) yields greater success (such as higher grades), that you have to spend money to get higher quality goods, that more education will yield higher career incomes, that nutrients aid plant growth, that more hours of television viewing can be expected to drive down academic performance in high school and that the more troops we have available for a conflict, the greater likelihood we will have of achieving military objective. (This last one was taken from today's story in the *Boston Globe* about perceived need to increase the number of American troops in Iraq.) In each of the statements above, the relationship is stated in terms that make it seem linear.

The problem with such statements is not that they are illogical, but that they are oversimplifications. While it may be true that a total lack of discipline can lead to disobedience in a child, and that some discipline will produce raised levels of obedience, will infinite amounts of discipline produce perfect obedience? Even a brief discussion with parents, at least with the ones who are not drowning in deep end of the discipline-obedience pool, will reveal that there are limits to what discipline can be expected to accomplish in the rearing of children. As with the woman in the supermarket, it is apparent that the child was not obeying her, though she had already

ratcheted the punishment and threat levels to high levels for minor offenses. It would probably not surprise you to know that just a few minutes after that little boy had been so severely disciplined by his mother, I saw him grabbing for more verboten goods when his mother wasn't looking.

So a more complex relationship between variables would need a more sophisticated depiction. A straight line relationship is too simple. We need to be able to consider that relationships between variables can be curvilinear. Here is one such depiction.

**FIGURE 2**



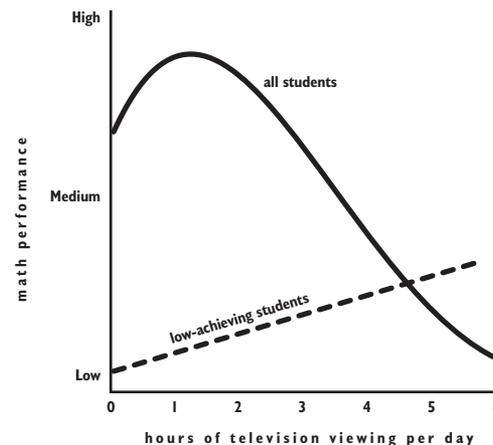
In this case, a complete lack of discipline is associated with low levels of obedience, low and moderate levels of discipline increase obedience levels, but at some point acts of discipline begin to be less effective. This “point of diminishing returns” is typically expressed in the child’s response of “yeah, yeah yeah.” If levels of discipline increase further, it is possible that discipline will have no effect at all (the flat top of the curve), and if levels of discipline go higher, the consequence may be rebellion by the child such that further discipline actually drives down obedience. This is the dreaded response of “If you hit me more and harder, I’ll make you pay.” that the little boy in the cart seemed to have reached.

The more I study human interaction, the more I come to the conclusion that linear relationships are the exception rather than the rule. They may be useful for beginning discussions, but they quickly fade on thoughtful examination of the probabilities, and after data is collected to explicate relationships between variables. Here

are just a few articles from a number of professional journals that illustrate the value of being able to think in curvilinear terms about relationships between variables.

What is the relationship between hours of television viewing by high school students and their performance on math tests? If it is linear, you would imagine that the relationship should be that the more television children watch, the lower their math scores tend to be. This would be an example of a negative, but still linear relationship. In a study conducted in 2000 in the journal *Quality and Quantity*, a researcher (e-mail me for complete citations to any of the following articles) found a clearly curvilinear relationship between the variables. Here is the relationship in graphic terms.

**FIGURE 3**



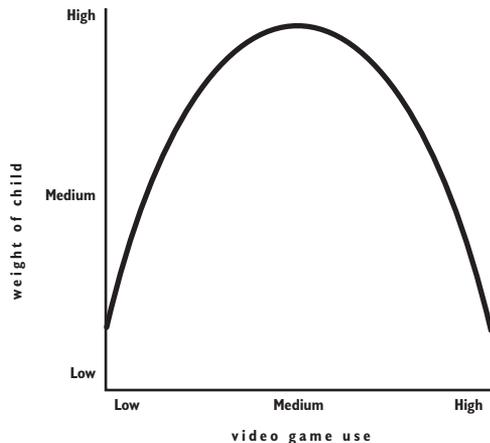
The data showed that in a sample of high school seniors, students who watched no television on an average day had good scores on math tests, but that students who watched an average of one hour per day had even higher math scores. After that point, increasing hours of television viewing per day was associated with proportionately lower math scores. This is not the most complicated sort of curvilinear relationship, but it is clear that an assumption of linearity is wrong here. As for why kids who watched one hour of television per day did better on their math tests than any other students, your guess is as good as mine or the author of the articles. Much of his discussion of the data is taken up with speculation as to the reason for the finding, with the possibility that these kids are watching educational television being my favorite.

Interestingly, this same author found a clearly linear relationship in the same set of data, showing that among poor performing students, there was a positive

and linear relationship between television viewing and math performance. (This is shown in the dotted line on the figure.) Makes no sense, huh? Why should watching *more* television have been associated with higher math performance, even though these were academically the weakest of the students? Go figure.

What about the relationship between children's weight and their use of video games. Asked to hypothesize about this relationship, my students agreed that there should be a linear relationship in which greater video game use would be associated with greater weight in children. In fact, researchers found in the *Journal of Adolescence* in 2004 that the children in their sample who weighed the most had played video games moderately, while the lightest children had played the video games very little or the most. See the figure below.

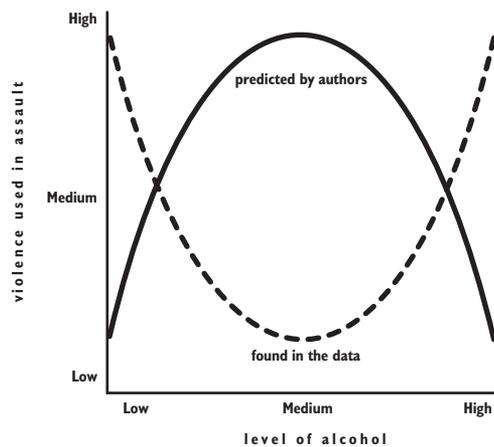
**FIGURE 4**



Now that you see the pattern, let me give you a few more examples in short form. In 2002 researchers publishing in the *Journal of General Internal Medicine* reported that elderly patients who lived in the poorest and the wealthiest neighborhoods were most likely to use teaching hospitals, while those living in middle-income neighborhoods used them the least. In 2000 researchers published in the journal *Sociological Forum* the finding that the poorer the neighborhood, the greater the number of religious institutions the neighborhood supported. However, once the level of poverty in the neighborhood got too high, neighborhood support for religious institutions began to decline. In 2001, in the journal *Current Anthropology*, a study of risk-taking

among certain South American peasants (Aymara herders living in Peru and Bolivia) found that the poorer and wealthier herders were most willing to take economic risks, while the moderately well-off among the herders were the most risk-averse. And here's a scary one to end with. In 2002 in the journal *Psychology of Women*, the researchers had predicted a curvilinear relationship between how drunk a rapist was and the violence he employed in his attack on his victim. They hypothesized that the most violent attacks would be found among the attackers who had drunk moderate amounts of alcohol, and that those who had drunk little or a great deal would have employed less violence. They were right to predict that the relationship would be curvilinear, but as the figure below shows, the curve they found flipped their prediction upside down. They found that the most violent attacks were committed by the perpetrators who had consumed the least and the most alcohol. The least violent attacks were committed by those who had drunk in moderation.

**FIGURE 5**



This last finding suggests the language of the Greek ideal that all things should be experienced in moderation, though it also turns the idea on its head. If we keep in mind that even things that have desirable effects can be overdone, then we automatically open the door to thinking in curvilinear terms. I love chocolate, though the pleasure of its taste certainly diminishes after a few bowls, and becomes tiresome after that. To the extent that we allow ourselves to think and speak employing the easier, shorthand view that linearity offers we will limit our ability to imagine the more complex world.

—William C. Levin is Professor of Sociology and Associate Editor of the *Bridgewater Review*