Perceptual Deterrence

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Perceptual Deterrence

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This review focuses on research findings about the effectiveness of the perceived risk of sanctions on criminal behavior. The goal of this review is to help policymakers understand the basic conclusions to be drawn from the large empirical literature on whether and when the possibility of sanctions or incentives shapes the frequency with which people violate rules. The key conclusion is that deterrence can and frequently does shape people's behavior, with perceived certainty of punishment being the most important factor shaping what people do. A variety of background factors shape the strength of this relationship. While deterrence does "work" researchers suggest that it is a costly mechanism to achieve minor gains in compliance; other approaches are as powerful or more powerful and have lower costs.

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Perceptual Deterrence

As a social psychologist, my natural focus is on subjective or perceptual deterrence. The subjective model focuses on people, suggesting that their judgments about the risk of punishment and/or their experiences of being sanctioned shape their adherence to rules. Simply put, people's rule-related behavior is a response to their perceived likelihood of being caught and punished for rule breaking. Within this model, experiencing sanctions is important because it shapes people's post-punishment estimates of the likelihood of future sanctions.

There is empirical literature examining how risk perceptions linked to anticipated sanctions influence peoples' behavior (Chalfin & McCrary, 2017; Kleiman, 2009; Nagin, 2013; Paternoster, 2010). There are two key distinctions within that literature: (1) actual vs. subjective risk and (2) individual vs. aggregate analysis.

Actual risk is the true likelihood that you will be caught and/or punished if you break a rule. Subjective risk is the perceived risk. This distinction is important because there is often a large discrepancy between actual and perceived risk. People's behavior is most influenced by perceived risk. This review will focus on studies that directly measure individual people's subjective risk estimates.

The individual-level analysis focuses on people and asks whether people who estimate the risk of being caught and punished as higher commit fewer crimes. Aggregate analysis is concerned with collectivities. For example, studies examine whether states with a death penalty have lower crime rates (National Academy of Sciences, 2012). Such analyses often are based upon a rational actor model, but they do not directly test that model by measuring judgments within the population. Individual-level subjective risk estimates examine how the anticipation of punishment shapes decisions about future behavior (choice) and how the experience of punishment shapes post-sanctioning actions by altering post-punishment perceptions of risk (recidivism).

From a policy perspective, implementing policies based on deterrence and punishment has different costs. Deterrence requires surveillance to raise perceptions of the likelihood of being caught. Punishment involves the costs of arresting, adjudicating, and possibly incarcerating offenders. And, in both cases, there is specific deterrence, which explores the impact on the person who anticipates or experiences sanctions, and general deterrence, the impact of what happens to a given person based on the actions of others who observe or otherwise learn about them.

Studies are of two types. One focuses on everyday law. This literature asks whether people think that their likelihood of being caught and punished is higher if they speed, litter, steal, or commit murder more frequently. A second literature focuses on specific encounters with authorities. It examines whether people with a higher expectation of punishment for failing to comply are more likely to obey decisions made by a judge, police officer, or other authority.

Does deterrence work? Studies typically frame the question of whether deterrence works as being whether deterrence has a statistically significant impact on people's behavior. There is a large amount of literature in this area, and it suggests that risk estimates often, although not always, significantly shape the frequency of rule-breaking behavior (Chalfin & McCrary, 2018; Kleiman, 2009; Nagin, 2013; Paternoster, 2010).

To address the question of whether risk estimates shape behavior, it is important to distinguish three issues: (1) the likelihood of punishment, (2) the rapidity of punishment, and (3) the severity of

punishment. Each aspect of deterrence might potentially shape compliance behavior. The literature suggests that likelihood (certainty) is the most important factor shaping behavior; rapidity (celerity) is next, and magnitude (severity) is the least important. Studies measuring perceived certainty typically find a punishment's influence on behavior to be significant.

The first policy statement to make is that as a strategy, deterrence can and often does "work" in the sense that it significantly reduces criminal behavior. At the same time, studies typically show that deterrence effects are weak. Paternoster (2010) argues that the strength of the connection between risk perceptions and crimes committed is modest to negligible. In MacCoun's (1993) study of drug laws, variations in risk estimates explain about five percent of the variance in drug use. This effect is statistically significant, but weak in terms of the ability to fully explain drug use.

It is more potentially relevant from a policy perspective that both the public and policymakers often overestimate the capacity of deterrence to lower criminal behavior relative to its actual capacity. Deterrence works, but not as well as people often think it does. This encourages authorities to implement deterrence approaches, and the result is that they are often disappointed by their limited ability to manage others through this model.

Carrots vs. Sticks

One reason that deterrence models are frequently disappointing in the legal arena is that authorities concerned with lawful compliance typically only implement sanctions. Theoretical rational actor models recognize the potential impact of both sanctions and incentives, that is, of sticks and carrots. But in practice, no one receives a monthly check for following the rules (Murphy et al., 2012). The law is usually all sticks and no carrots. This is important because studies in managerial settings where people receive incentives suggest that incentive effects are stronger than sanction effects (Podsakoff et al., 2006). When both carrots and sticks are involved, carrots are more likely to influence behavior. An example of the value of incentives is found in the case of drug courts. Studies find that contingency management practices that emphasize recognizing and rewarding positive actions are more effective in promoting success than practices that punish noncompliance (Mowen et al., 2018; Sloas et al., 2019).

These findings highlight that it is wrong to evaluate the strength of the rational choice model simply in terms of the effectiveness of sanctions. In organizational settings in which people's actions are shaped by both sanctions and rewards, a rational choice model has more power (Tyler & Blader, 2000).

Distinguishing between incentives and sanctions also makes it possible to better differentiate among potentially desirable behaviors. As an example, among the employees studied by Tyler and Blader (2000), rule compliance was shaped by both incentives and sanctions, while job performance was primarily responsive to incentives. This highlights the importance of distinguishing between lowering the likelihood of negative behaviors vs. increasing the likelihood of positive behaviors. The absence of bad behavior is not the same thing as the presence of good behavior.

Limits of Deterrence Models

A key issue when using a deterrence model is resource limits because the goal is to raise the probability of detection. The actual risk of detection is often low, especially for minor crimes, since it is challenging to surveil everyone all the time. Society is willing to devote considerable resources to punishing murder or rape but less willing to dedicate resources to detecting traffic offenses, minor drug use, or even tax evasion.

The subjective model is based on perceived risk and systems rely heavily for the effectiveness of the system on the general overestimation of risk by everyday actors. This opens a variety of strategies for raising subjective risk estimates, for example, a publicity campaign highlighting risks. As an example, Ross (1982) found that publicizing a crackdown on drunken driving lowered the number of such offenses. Over time, however, the general public recognized that the true risk of detection was low, even with a crackdown, and levels of offending returned to pre-crackdown levels.

The influence of punishment severity estimates on criminal behavior is weak, leading to several important implications. One is that frequent efforts to respond to serious crimes with lengthy sentences are not an effective strategy. Lengthy sentences do not send a successful general deterrence message, nor do they deter specific individuals who recidivate at high levels upon release from incarceration.

Lengthy sentences in prison do prevent a person from committing new crimes for some period since a person in prison cannot commit a new crime (i.e., they are incapacitated). However, incapacitating criminals has only a small impact on the general crime rate (Kleiman says around six percent) because, in most cases, someone else steps in to pick up the criminal opportunity. It is, for example, easy to replace an incarcerated drug dealer with a new drug dealer. Incapacitation has an impact, but rapidly reaches a point of diminishing returns (Kleiman, 2009).

The logical endpoint of a discussion of the severity of punishment is the death penalty. If the severity of punishment is not effective in deterring crime, then the death penalty should not have a general deterrence effect. Decades of research have failed to find evidence that the death penalty deters crime. This very strong empirical finding has been repeatedly reaffirmed by research (National Academy of Science, 2012).

There is a pernicious social dynamic that can occur based upon the overestimation of the power of force that is commonly found among leaders. Leaders may initially seek to obtain compliance via sanctioning, which alienates the community. When that model does not produce the strength of impact anticipated, the authorities have already undermined the path of cooperation with the community by lowering public trust. Hence, they see no alternative but to double down on sanctions, often by making them more severe. Severity has political attractions because it consumes fewer resources than a model that requires resources for surveillance. But, as noted, it does not work. It is possible to go very far down the spiral of punitiveness, imagining that at some point, increasingly harsh sanctions will produce the desired effects. At each point, the possibility of shifting toward a more cooperative model diminishes because the use of threats does not build and is often found to undermine the trust that might enable voluntary cooperation.

Situational Analyses

There have been many efforts to qualify statements about when deterrence works well and/or poorly. Important dimensions are (a) the nature of the crime. Deterrence works for crimes that are economically motivated, such as residential burglary but not for crimes that are expressive in nature or which arise in the heat of a moment; (b) the personality of the individual (Piquero, et al 2011); (c) the situation, since studies make clear that factors such as alcohol and drug use play an important role in whether emotion-driven violent crimes occur; (d) whether the model is trying to explain the behavior of ordinary citizens, career criminals, gang members or white-collar workers; and (e) how detectable

the behavior is since people conceal their behavior to avoid punishment. As an example, tax withholding makes it hard to hide income, while a cash economy does not.

Implementing Deterrence Approaches

The weakness of deterrence approaches has primarily been linked to implementation issues. One, already mentioned, is that such approaches are expensive. This means that many societies are unwilling to allocate sufficient resources to the detection of wrongdoing to create a credible perceived risk of being caught and punished for wrongdoing.

In addition, the resources that are available are often not used in the most effective way. There are two ways that this happens. First, through the use of broad rather than targeted strategies. Police are less effective when deployed in ways that are not targeted. The broad stop-question-frisk effort of major police departments in recent decades consumed large amounts of police resources but was poorly organized from a deterrence perspective because they stopped many people who were not and would not be involved in crime (Weisburd et al., 2023). Research shows that the police can best use metrics to identify high-risk people (hot people) and places (hot spots) and proactively target their attention (Braga et al., 2014). Evidence suggests that even in high-crime areas, only around six percent of the people in those areas are involved in violence. A targeted approach is shown in research to be more effective and much less costly.

A second problem occurs when resources are deployed for political reasons. Police officers are often deployed to protect low-crime and high-income areas, or officers are deployed based on the demographic composition of particular areas (i.e., over-policing minority areas relative to their crime rate) instead of deploying in response to actual crime rates.

Targeted strategies help to solve a major problem with deterrence models: that there is a threshold below which a risk has little or no impact on behavior. Paternoster (2010) suggests that this threshold is around a likelihood of 30 percent. By concentrating resources, it is possible to raise risks in selected settings and with selected people.

Legitimacy-based Models

There are alternatives to deterrence models. Studies show that other factors, including people's moral values, social norms, and views about the legitimacy of authorities, can all influence rule adherence (Tyler, 2006). Given that a variety of factors can shape compliance, a different way to ask about deterrence is to make a comparative assessment of the weight of these different factors. How good is deterrence relative to other approaches that might be employed?

The most frequently utilized alternative approach to securing compliance is legitimacy-based regulation (Tyler, 2006; Tyler & Nobo, 2022). If people believe that some authority is entitled to make decisions or rules, they believe they have a duty to obey them. In contrast to deterrence, which connects behavior to the contingencies in the environment, a legitimacy-based model suggests that behavior flows from internal values that are, at least to some degree, separate from risks and rewards in the environment.

Tyler (2006) builds upon the social psychological literature to make two arguments: subjective legitimacy shapes compliance, and subjective legitimacy is based largely on assessments of the fairness of the way an authority or institution exercises its authority (procedural justice).

Instead of asking whether a particular approach to managing social order significantly lowers the rate of crime, this approach involves comparing the power of different models. When this comparative approach is taken, research suggests that legitimacy is more influential than deterrence (Tyler, 2006). This general finding has been widely replicated in subsequent research on courts and the police, as well as with laws in everyday life (Tyler et al., 2015). If people believe that they have an obligation to obey, they are more likely to follow the law. Further, because legitimacy-based actions are internally motivated, they are less costly to enact.

Legitimacy also has an advantage over deterrence in that it promotes voluntary cooperation with legal authorities. When people view legal authorities as entitled to their help, they are more likely to report crimes, identify criminals, serve on juries, and work in programs such as neighborhood watch.

This does not mean that legitimacy-based approaches are without cost. The primary challenge is that the authorities need to behave in ways that the community views as appropriate and fair (Tyler et al., 2015). Police leaders often believe that their expertise and experience give them better insights into how to police, so sharing decisions with the public is a cost from their perspective.

One of the strongest findings in research is the finding that legitimacy is linked not to outcomes but to procedural justice. The public is strongly influenced by whether they believe legal authorities create and implement rules using fair procedures. Fair procedures involve allowing the public to express their views/state their case (voice), using transparent, consistent, unbiased procedures to make decisions (neutrality), and explaining the basis for those decisions. It includes treating people with courtesy and respect and, finally, being seen as trustworthy. This involves being viewed as acting benevolently and with an awareness of, and concern about, the needs of the people in the community. If legal authorities act in these ways, they gain and retain legitimacy (Tyler & Nobo, 2022). People separately evaluate their own experience and what they see the police or courts generally doing in their community, evaluating both against the criteria of procedural justice.

Authorities may prefer not to enact policies that allow them to align themselves with the community in which case they can function through command-and-control deterrence approaches, formulating policies and then imposing them on communities through the threat and use of sanctions. In this sense, deterrence is a default system that does not require the buy-in from a community. If you possess power and the capacity to deploy surveillance, you can get immediate compliance. However, since legitimacy is not being built, that approach must be maintained indefinitely.

A particularly important question from a national security perspective is whether risk concerns inhibit actions that take on special importance when we consider acts of individual anti-system violence like terrorism or groups who riot or rebel. Recent studies of terrorism emphasize that rational cost/benefit calculations are not usually the central factor driving or inhibiting terrorism (Krueger & Malečková, 2003). To summarize a complex and not empirically well-developed literature, it can be suggested that cost/benefit calculations, such as those contained in economic grievances, are not a key reason for joining terrorist groups or committing terrorist acts, and traditional deterrence strategies are not an effective way to end terrorism (LaFree et al., 2009; Pridemore, 2007).

Policies that discourage state acts of repression and foster state-based legitimacy reduce terrorism (Morris et al., 2021). In general, terrorist movements aim to delegitimize the state and its authorities to establish their own legitimacy (LaFree & Ackerman, 2009). This implicates judgments of justice and injustice since research suggests that perceived injustice promotes illegitimacy. As Van den Bos (2018)

suggests, unfair perceptions play a "crucial role in many different forms of radicalization." This includes judgments of unfair treatment, horizontal group deprivation, vertical group deprivation, inequity of outcome distributions, and perceived immorality. In other words, the focus in studying terrorism and other forms of individual radicalization and group-based violence against the state should be on subjective perceptions of justice and legitimacy, not on material gain or loss and/or the threat of sanctions.

Alternative or Complimentary Models?

If deterrence and legitimacy are two strategies that both shape compliance, why not combine them? Social psychologists have long argued that a focus on contingencies in the environment, which is promoted by a sanctioning model, undermines the influence of intrinsic factors on behavior (Deci, 1975). A similar argument is made in the crowding out literature in economics (Frey, 1997; Schmelz, 2021). This idea is illustrated by the widely cited paper "A Fine is a Price," which suggests that creating a sanction-based framework around a behavior undermines value-based motivations (Gneezy & Rustichini, 2000). Based on this literature, intrinsic (value-based) and extrinsic motivation (reward/cost-based) have been seen as being in conflict. Not only do reward/cost-based models not promote legitimacy, but they undermine it. To the degree that this is true, then it is necessary to choose between these two approaches.

One promising argument supported by recent research is that it may be possible to use force-based approaches without undermining legitimacy if the authorities implement those approaches through fair procedures (Farr & King, 2022; Verboon & van Dijke, 2011; Yasrebi-De Kom et al, 2022). The potential of this approach is illustrated by a recent study of hot-spots policing (Weisburd, et al, 2022). In this study, target areas were saturated with police. These police were trained to follow principles of procedural justice when dealing with the public. It was found that the crime rate was lowered, and police legitimacy increased at the same time.

Conclusion

Because deterrence has been and continues to be the primary framework for law and law enforcement, there is a large amount of literature on deterrence. Fortunately, there have been several recent excellent reviews summarizing that literature. The first conclusion is that perceived risk shapes behavior. This is most true of the perceived certainty of punishment.

It is possible to shape risk by shaping anticipatory thinking or by delivering punishments and thereby changing subsequent risk judgments. Deterrence via creating a credible risk of punishment before behavior occurs is found to be a stronger approach than responding to crimes via punishment, although both shape crime (Kaplan & Chalfin, 2019). This is true when we consider both the direct impact on a person and the impact that generalizes from what happens to that person in terms of shaping the behavior of others.

Despite this basic confirmation that deterrence works, recent reviews have been critical of using deterrence as a model for criminal law. Why? Deterrence effects are costly and have a weak impact on individual behavior. They do not build legitimacy and do not motivate cooperation. At the same time, they are a clear default approach. When nothing else works, immediate behavior is shaped by risk assessments.

There are two ways that people have responded to these critiques. First, to advocate for focusing on different bases for legal authority. One is legitimacy. Research suggests that legitimacy is more

powerful than risk. Further studies make clear that legal authorities can create and maintain legitimacy by exercising their authority through just procedures.

An alternative approach is not to reject deterrence but to improve it. As noted, while it has long been suggested that deterrence not only fails to build but undermines legitimacy, recent research complicates this argument. There may be ways to combine the influence of risk and legitimacy to promote crime reduction, in particular by delivering sanctions within a procedural justice framework. If these recent approaches continue to be supported this is a promising direction for the future.

In addition, as noted, the problems of deterrence are problems of surveillance and detection. Such problems have been particularly acute when the concern is with the general population. In cases like promoting the wearing of COVID masks, where the target is everyone living in a community, these problems remain, but with more serious crimes, two recent developments suggest ways to make deterrence a more compelling model.

The first development is the research supporting targeting. It has been shown that targeting a small number of people or situations is the most desirable approach to deterrence. The key is to make targeting feasible by identifying target people and places so policing can be concentrated. This requires the use of aggregate data for prediction. Such data can be used for real-time prediction, as when the police shift resources based upon feedback about the location and nature of crimes.

An additional development that makes targeting more feasible is the refinement of risk prediction modeling so that people's likely future actions can be anticipated and responded to proactively. This can involve shifting resources to be in place when needed, or it can involve taking actions in anticipation of a future event (i.e. preemptive detention). Such models have moved forward rapidly in terms of their capacity and accuracy. The primary issues today involve decisions about whether and how to implement existing tools for surveillance and prediction.

There are effective alternatives to deterrence. One that is widely supported is legitimacy-based authority. This approach controls immediate crime, encourages public cooperation, and, in the long term, promotes community vitality. However, it requires that the authorities adhere to public views about how authority should be exercised.

Practical Implications

The advantages of a deterrence approach are that it can be utilized in situations in which the public does not trust or agree with the authorities, enabling top-down management. In addition, it can secure immediate compliance. It is a viable default strategy, and research suggests that in such situations, it can and frequently does increase rule adherence.

The disadvantage of a deterrence approach is that it is resource-intensive. To be effective, surveillance must be high to create credible risk assessments and sustainable since people will revert to rule-breaking when they believe that the risk of punishment is lower. Deterrence is a less effective strategy when dealing with widespread noncompliance with low-level rules and when it is easier for people to conceal their behavior.

The risk of a deterrence approach comes from overestimating its effectiveness. In the face of discouraging results, there is an inexorable political push toward the increasing use of severe sanctions, which have been shown to be ineffective. Appearing tough on crime can be viable as a political strategy

when it is linked with the ability to shape public perceptions of the crime rate. It is not an effective approach to lowering the rate of crime.

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