

Experiments in Criminology and Law

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Constructing Focal Points through Legal Expression: An Experimental Test

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The social sciences contribute significantly to the study of legal compliance. Economics emphasizes that people obey law, to the extent they do, because legal sanctions raise the expected cost of noncompliance. Psychology and sociology emphasize that people obey law because and to the degree that they perceive it as authoritative and legitimate. In recent years, a number of theorists (for example, Cooter 1998; Garrett and Weingast 1993; Ginsburg and McAdams 2004; Hardin 1989; Hay and Shleifer 1998; McAdams 2000a, 2005; Posner 2000) have begun to explore a different although entirely complementary approach: that law sometimes induces compliance merely by its ability to make a particular behavior salient. Law tends to draw attention to the behavior it demands and, in certain situations, the fact that everyone's attention is focused on a particular behavior creates an incentive to engage in it. Specifically, when the parties involved have some incentive to "coordinate" their behavior, the law's articulation of a behavior will tend to create self-fulfilling expectations that it will occur. We call this "the focal point theory" of expressive law.

One reason that social science has generally ignored the focal point effect of law is that other compliance mechanisms are frequently more important. If legal compliance were not a significant matter, then we might not care much that we do not fully understand the reasons for compliance. We might be content to know that sanctions or legitimacy generate most of the compliance we observe without worrying about what generates *the rest*. But we assume that the issue of legal compliance is a matter of paramount concern, that policymakers wish to understand to the fullest degree possible how to predict and maximize the degree of compliance that law produces. If so, then it is important to understand and measure all mechanisms of compliance, including

law's "focal effect"—the degree to which the mere salience of legal rules produces self-fulfilling expectations of the behavior the law demands. (For the same reason, we should be concerned about additional compliance theories that we do not explore here, such as expressive theories of a different sort, for example, Dharmapala and McAdams 2003; McAdams 2000b.)

The second reason that social science has failed to address the focal point theory is that it is exceedingly difficult to empirically test in the field. Much of the debate about compliance concerns the relative importance of legal sanctions versus legal legitimacy. It is possible in the field to obtain measures of the actual and perceived threat of legal sanctions as well as the perceived legitimacy of law or legal actors, so one can then separate the effect of the sanctions and legitimacy and therefore test the strength of the competing theories (for example, Tyler 1990). By contrast, in the field, one cannot easily disentangle the focal point effect from the sanctions or legitimacy effect. As we explain below, it is even possible that sanctions and legitimacy work in part by contributing to the law's ability to generate salience and therefore work in part through the focal effect. Experimentation is therefore strictly necessary, at least as a first step, for exploring the validity and power of this theory of compliance.

In this chapter, we proceed as follows. Section I explains the focal point theory and its particular relevance to criminal law. Section II explains the need for experimentation in measuring the focal effect and describes the existing literature. Section III describes one of our experiments. Section IV concludes.

THE FOCAL POINT THEORY AND ITS RELEVANCE TO CRIMINAL LAW

In this section we discuss in some detail the focal point theory and its importance to criminal law.

The Theory

The theory we test arises out of the economic theory of strategic interaction—"game theory" (see, for example, Fudenberg and Tirole 1991)—which we present in informal terms. The focal point theory of expressive law relies on four basic claims: (1) that individuals' need for "coordination" is pervasive; (2) that where individuals need to coordinate among possible behaviors, any feature of the environment that causes them to commonly believe that one behavior is salient will tend to produce that behavior; and (3) that public third-

party expression, by publicly endorsing a particular behavior, tends to make that behavior salient. If so, we then argue (4) that law is one form of third-party expression capable of making salient a behavior and thereby producing self-fulfilling expectations that it will occur. We here explain each point in turn.

The Need for Coordination is Pervasive

In our experience, many theorists understand the simplest version of a “coordination game” but overlook how commonly an element of coordination pervades social life. In the *pure* coordination game, two individuals each make some choice where each shares a desire to “match” or coordinate their choice with the other. For example, imagine two individuals are trying to find each other and must choose between going to place A and going to place B. Or two drivers in a new society must decide whether to drive on the left or drive on the right. In each case, each individual cares only about matching their outcomes—both choosing A or left or both choosing B or right. There is no other motive than this desire to coordinate.

If the need for coordination only existed in this pure form, it would not have much relevance to the world. But in more complex situations, where the motives of the individuals in some ways conflict, there may also be an element of coordination. In other words, the world does not consist of only (1) pure coordination situations and (2) situations of pure conflict, but also (3) mixed motive situations of conflict and coordination. For this reason, the need for coordination is socially pervasive (see Sugden 1986).

Many traffic situations illustrate this mix of conflict and coordination. For example, imagine two drivers approaching an intersection on perpendicular streets where each wishes to proceed first through the intersection; or two drivers traveling on the same road in opposite directions as they approach a one-lane bridge that each wishes to use first; or two drivers merging lanes where each wishes to get ahead of the other. In each case, there is an obvious element of conflict because each wants to proceed ahead of the other. But there is also a common interest in coordinating to avoid certain outcomes. Most obviously, of the possible outcomes, each regards a collision of their automobiles as the worst. For any but the most idiosyncratic driver, crashing is worse than letting the other proceed first. Each therefore has a common interest in coordinating to avoid a collision. It is also possible that the two drivers have a common interest in avoiding the outcome where both wait for the other to proceed. Not only does that waste time for each, but after they each realize that the other is also waiting, they must face the same situation again—deciding whether to proceed first or wait—which means they again

risk the possibility of a collision. Thus, even though the drivers conflict over what is the best outcome, they still have a common interest in coordinating to avoid some outcomes—the collision for sure and possibly also the mutual wait.

In addition to traffic, many “disputes” have the same structure. For example, consider a dispute between two individuals who want to sit in a public space for a time where one wishes to smoke a cigarette and the other wishes not to be exposed to cigarette smoke. Or, two neighbors dispute the exact location of their property line and one may wish to plant a tree on the contested land while the other insists that no tree be planted. Or, some workers may seek to force concessions from an employer by a strike or work slow-down, while other workers insist on working at the normal pace. In each case, it is possible that these disputes involve “pure” zero-sum conflict and no element of coordination. Those who think of coordination as an exotic and rare feature of the world no doubt see disputes in this light—that each side wants to get its way and regards the worst outcome as giving in to the other.

But disputes will contain an element of coordination if there is *any outcome* the disputing parties *jointly regard* as the worst possible result. The outcome may be highly improbable, but if it exists, then the game is no longer one of pure conflict because the disputants share an interest in avoiding this bad result. The most pervasive reason is the potential for violence. However unlikely, illegal violence is always a background risk of disputing. Much of the violence that occurs in ostensibly ordered societies involves individuals engaged in “self-help” remedies against someone whom they regard as having infringed on their rights (see, for example, Black 1983; Nisbett and Cohen 1996; Merry 1981:175–86). So, if two sides in a protracted dispute each regard the outcome of violence as possible and the costs of violence as exceeding the costs of giving in to the other (which will be true if the costs of fighting are high relative to the value at stake), each may regard fighting as the worst possible outcome. This realization does not end the dispute because each still prefers the other to give in without a fight. But each retains an interest in coordinating to avoid the fight (even though each hopes to bluff the other into giving in by the threat of a fight). If so, then the situation is mixed motive because the conflict coexists with the mutual desire to coordinate to avoid violence. So an element of coordination exists in disputes between strangers over smoking, between neighbors over land, and between coworkers over a strike.

What is true of violence is true of many other negative consequences of disputing. People may regard, for example, a heated shouting match or an exchange of profane insults as being the worst possible outcome of a dispute. This may be particularly true between people who know each other socially—

such as the examples above involving neighbors and coworkers—because a heated exchange may terminate their relationship. Thus, where the risk of violence may be a particular concern in disputes with strangers (or individuals one knows to be violent), a social breach may be a particular concern in disputes with a social acquaintance. In the latter case too, the individuals may each regard the worst possible outcome not as giving in, but as enduring the costs of unresolved disputes. Thus, even when individuals prefer to get their way in some dispute, the element of coordination remains.

Salience Produces Coordination

In situations requiring an element of coordination, anything that makes *salient* one behavioral means of coordinating tends to produce self-fulfilling expectations that this behavior will result. Decades ago, Nobel Laureate Thomas Schelling (1960) first explained the significance of these “focal points” to solving coordination problems. The simplest examples involve pure coordination games. For example, suppose you ask two people to try to name the same positive whole number without communicating. Given the infinity of possible solutions, the odds of “matching” seem to be at or near zero, but in this situation most people select a number that seems to stand out from the rest—the number one. If you ask two people at what time of day they would try to meet each other during one day if they hadn’t scheduled a particular time, there again are many logical possibilities, but there is a tendency to select noon. Schelling said that these were “focal points” because some feature of the particular solution not captured by the formal structure of the situation nonetheless draws the attention of the individuals. Other research confirms that individuals do not just thoughtlessly choose the salient solution, but reason about what is likely to be mutually understood as the salient solution (see Mehta, Starmer, and Sugden 1994).

Schelling asserts that what is true of the pure coordination game is also true of the mixed motive games involving conflict and coordination—that the salience of the outcome will tend to produce self-fulfilling expectations that this focal outcome will occur. We could imagine this point by introducing a slight degree of conflict in the above examples. Suppose that two individuals are told they will receive a significant monetary payoff if they “match” in naming a positive whole number (or time of day), and zero if they fail to match. But suppose that each is told that one individual—Player A—will receive \$100 if they match on an odd number and \$99 if they match on an even number, while Player B will receive \$100 for an even numbered match and \$99 for an odd numbered match. The conflict here is trivial compared to the coordination, so we should not expect it to matter. For the positive whole number, Player B

will name the most salient number—one—and accept \$99 rather than name a nonfocal even number and risk getting nothing. For the time of day, Player A will name the salient time—noon—and accept \$99 rather than name a nonfocal odd number and risk getting nothing. And although the size of the focal point effect is a contingent and empirical matter, there is no reason a priori to think that it disappears entirely as the magnitude of the conflict grows. So, even if an individual gets \$100 from one kind of match and only \$10 from another, he may expect the other to play the salient solution and therefore prefer to play it himself, getting \$10 rather than nothing.

We can say the same about the actual mixed motive games discussed above. Just as two drivers in the pure coordination situation who must choose whether to drive on the left or right will tend to select whatever they believe is the mutually salient behavior, two drivers in the mixed motive situations described above—such as two drivers merging into a single lane—will tend to choose the behavior that they regard as mutually salient. Each driver would like to proceed ahead of the other, but each wants to avoid a collision. If one solution is focal—for example, the driver on the right proceeds first—then even the driver on the left, disadvantaged by that solution, will prefer it to the collision. Expecting the focal solution, the driver on the left will slow down and let the driver on the right merge first.

According to the theory, the same point should apply to a dispute, if it involves a mixed motive situation. If the two disputants wish to avoid the cost of a fight or social breach, then the existence of a focal solution to the dispute will create self-fulfilling expectations that the individuals will choose it. For example, Schelling mentions “precedent” as one obvious reason that a particular solution is focal—it is the solution everyone knows was used in the past. If the context is a place and time in which nonsmokers have always in the past deferred to smokers, then that is the salient solution. It is possible, of course, that the nonsmoker in this sense has internalized a norm of deference to smokers, but Schelling’s point does not depend on that. Even if we imagine that the nonsmoker is a visitor from a culture with very different customs, if he is aware of the past behavior in this culture, and if the smoker knows he is aware of (or merely assumes he is, not knowing he is a visitor), then the influence remains. The influence will be most powerful if the two individuals have what game theorists call “common knowledge” of the same past precedent (and no other precedent), meaning not only that each knows the local custom, but each knows that the other knows, each knows that the other knows that the other knows, and so on. Because the nonsmoker knows that the salient outcome is for him to defer and because he wishes to avoid possible violence or social breach, he defers.

Third-party Expression Produces Salience

Precedent is not the only thing that makes a particular solution salient. Schelling contended that third-party expression can make a solution focal and thereby influence behavior. In a sense, the third party “constructs” a focal point merely by words or acts that draw attention to a particular outcome. Most obviously, a third party can recommend or demand that the individuals coordinate in a particular way, and thereby create self-fulfilling expectations that the recommended or demanded behavior will occur.

In the pure coordination game, the influence of a third party seems obvious. As an example, Schelling proposes that two individuals are accidentally separated from each other in a department store. Relocating each other is a coordination problem; they each share the common desire to go to the same place as the other. Although they will probably find each other eventually, they may waste a lot of time doing so. Schelling then imagines that the department store owner has posted prominent signs through the store stating something like “Lost parties should reunite at the fountain on the first floor.” If the individuals know each other to be literate, it is easy to imagine that this third-party expression influences the behavior of the individuals. If the sign is (or even might be) common knowledge, then it seems to give each individual a reason to look for the other at the recommended place. Interestingly, this is not a theory captured by the dominant economic concern with sanctions because the department store is not threatening to sanction anyone who fails to follow its advice. Nor is the importance of salience captured by theories of authority or legitimacy. Even if the individuals do not perceive the department store owner as a legitimate authority figure, or even if they are in the store precisely to protest its illegitimacy (for example, for its policies involving labor or the environment), the salience of the recommended meeting place gives the individuals a reason to go there.

But can third parties construct focal points in mixed games involving conflict as well as coordination? Certainly Schelling thought so, and he gave a compelling example in the traffic context. Suppose that the traffic light fails at some busy intersection and a bystander—not a police officer—steps into the intersection to direct traffic. Schelling conjectured that his hand signals would influence the drivers’ behavior. As two drivers approach from different streets, each prefers to proceed ahead of the other, although each regards the worst outcome as a collision. If the drivers can both see (and see that the other sees; in short, have common knowledge of that) the bystander motioning one driver to stop and the other to proceed, then the driver who is told to stop will now have much more reason to fear that the other driver will proceed. Given that expectation, his best response is to stop, which is to comply with the third

party's expression. Again, the third party appears to wield behavioral influence even without possessing legitimate authority and without threatening sanctions. Certainly, those two elements would likely increase the degree of compliance with the bystander's signals, but we should *not* predict the complete absence of compliance even if the bystander lacks any legitimate authority or sanctioning ability.

Law is a Form of Third-party Expression for Constructing Focal Points

Legal rules are human expressions. Whether the source is a group of legislators, a judge or group of judges, an executive official or an administrative agency, a party announcing a legal rule expresses how to resolve certain conflicts. The law is therefore a form of "third-party expression." If the situation the law addresses includes an element of coordination, if the law is sufficiently clear and public, and if there are no other competing focal points, the state's public declaration of a legal rule should influence behavior by providing a focal point.

These conditions do not always hold: Law may address situations of pure conflict, where there is not even the slightest element of coordination. Even if there is an element of coordination, the publicity of the law often depends largely on media coverage, which does not always exist. Law cannot create a focal point if the content of the law is generally unknown. Even if publicized, the content of the law is often unclear, especially to nonlawyers. Law cannot align expectations unless it is sufficiently clear that most individuals have the same interpretation of it. Finally, even if the law enjoys clarity, it may face strong competition from other factors that make a particular outcome salient. Most commonly, the law might attempt to change an existing norm that, as precedent for past behavior, continues to make salient the behavior that adheres to the norm.

Nevertheless, the necessary conditions sometimes do hold. Indeed, we might see law as being the third-party expression in which these conditions are most likely to hold. First, law addresses disputes, which, as we explain above, often contain an element of coordination (because each side often regards the worst outcome as some form of destructive conflict). Second, there is often great publicity to legal rules either from media coverage of the enactment of a new statute or from direct government advertising of a new rule (by public service announcements or the posting of signs). Third, although many laws are opaque, some are fairly simple, for example, the right-of-way goes to the driver on the right or no smoking in restaurants.

The last point is the most complex. Law often does compete with other focal points, such as existing norms. Law often fails to achieve compliance in

these situations. But the focal point effect remains causally significant for two reasons. One is that the law often operates where expectations are not fully settled. Perhaps past behavior is not so homogeneous as to provide a focal point for future behavior. For example, if women enter a new workplace, there might be some instances of hostility that go unchallenged and some that provoke a response (for example, a complaint to a supervisor, a shouting match, violence). In this context, a new law articulating a prohibition on harassment could influence expectations in a way that diminishes harassment.

The other reason that salience matters is that law usually does carry with it the power of sanctions and legitimacy. If the other conditions hold, when we observe law change behavior, we have reason to believe that the focal effect plays some role in that change. The process should be additive, so that the force of law is greatest when it combines the effects of sanctions, legitimacy, and salience. Given how rarely the law achieves perfect compliance, any influence should have some effect. Or, it is possible that instead of being additive, there are multiple equilibria of high and low compliance with law. If so, sanctions or legitimacy might be sufficient to destabilize the existing norm but, by themselves, not quite sufficient to tip the behavior into a new equilibrium. In some cases, the focal point might make the difference between a return to the initial equilibrium (noncompliance) and reaching the tipping point where behavior shifts to a new equilibrium (compliance).

The Importance of Focal Points to Criminal Law

The focal point theory of expressive law matters in several ways to criminal law. Most simply, there may be some criminal laws that achieve compliance, at least in part, via salience. Whenever the conditions identified above hold—a situation with an element of coordination, a clear, well-known legal rule, and the absence of some other stronger focal point—we would expect that the focal point effect contributes to compliance.

To illustrate, consider our traffic examples. Traffic may seem prosaic, yet considering that automobile accidents cause 43,000 deaths per year in the United States (NHTSA Report 2006) and over a million worldwide (WHO Report 2004), compliance with the rules of the road is a serious matter. Traffic is quintessentially a matter of coordination, where drivers would most prefer that everyone yield to them but rank yielding to others as better than the collision that occurs where neither yields. And there is every reason to think that the government exploits the focal point effect for its traffic rules because (1) those rules are relatively clear and (2) the government publicizes them by requiring driver's tests and by the posting of traffic signs. Thus, without denying the effect of sanctions and legitimacy, we conjecture that the focal effect

is a significant cause of the compliance with traffic laws, which is substantial despite obvious examples of violations (such as speeding). When a driver approaching a busy intersection observes a sign or traffic light indicating “stop” or “yield,” she has a strong reason to comply independent of sanctions and legitimacy. Even if she has no fear of or respect for law, she fears an accident. Knowing that others expect her to comply, and that miscoordination entails a serious risk of collision, her best choice is to comply.

The focal point effect will also matter for laws that regulate externalities between individuals in face-to-face interactions. Suppose one person is engaging or about to engage in some activity that does or will cause a nearby individual to incur costs. There is frequently some positive (if low) probability that the resulting conflict will escalate to physical or verbal altercation. For example, a conflict may arise between two individuals who want to occupy the same public space—a park, bus, bus stop, or mall waiting area—where one wants to smoke a cigarette and the other wants to avoid exposure to cigarette smoke, one wants to play music or talk on a cell phone and the other wants quiet for reading or napping, or one wants to let his dog off leash and the other wants to be free from worry about contact with the dog. In each of these cases, each party wants the other to defer to her wishes, but they may jointly regard an altercation as the worst outcome. If so, then anything that influences their expectations of what the other will do—how far she will push the issue—will influence their behavior. Here the law can influence the expectations, among other ways, merely by making salient one behavioral outcome. Where a sign states that a local ordinance bans smoking or cell phone use in the area, or requires dogs to be leashed, each party may be more likely to believe that the party preferring that outcome will be less likely to back down, which gives the other party a greater incentive to back down, thus producing compliance. On the other hand, if a dispute arises in another area that is left unregulated, we would expect the opposite.

What is true of strangers can be true of acquaintances. Two neighbors may conflict over an externality one imposes on the other, as for example, loud noise. Again, if the neighbors regard the worst outcome to be a physical or verbal altercation, or even just the sacrifice of their social relationship, then the criminal law may influence behavior via salience. If the noise ordinance is clear and well known, then it may create expectations that the party objecting to the noise will not give in when the party making the noise is violating the ordinance.

The focal point theory could also matter to criminal law indirectly because noncompliance with civil law can lead to crime. A significant number of assaults and property damage occurs as one individual to a civil dispute seeks to punish the other. These are low-level vigilantes who take the law into their

own hands precisely because the stakes are sufficiently low that neither side is likely to bother involving the police or courts. Imagine two neighbors dispute the precise location of their property line, or who owns the branches of a tree overhanging the property line, or whether one property owner has an obligation to block water runoff or not to block light onto the property of another. In each case, as with the public space examples, the continued conflict here risks a physical altercation—which is to say a crime. Further, because they know each other, the dispute might escalate in additional ways, such as sabotage, for example, one neighbor responding to the other side's refusal to give in by engaging in vandalism or theft. The result may be a spiral of low-level crime. One solution is not just better criminal law enforcement, but better enforcement of the property law rules that underlie the initial dispute. The focal point effect can contribute to this enforcement by making salient one particular resolution of the dispute, for example, by creating an official record of the property boundary and by stating a clear rule for ownership of tree branches and obligations regarding water runoff and access to light. Even though the disputes may be too small for either side to resort to the courts, a clear and well-known legal rule may create self-fulfilling expectations that the party the law sides against will give in to the party the law favors. Thus, the focal point effect may indirectly decrease crime by resolving disputes that lead to crime.

THE NEED FOR EXPERIMENTATION TO TEST THE FOCAL POINT THEORY

In the real world, law is usually associated with sanctions and imbued with some level of legitimacy. Because of this, it is difficult to determine whether law can influence behavior through means independent of sanctions and legitimacy. Indeed, testing the focal point theory in the real world is difficult to imagine, because of the nearly constant presence of sanctions and legitimacy. One could imagine trying to compare a situation involving coordination, where law could potentially influence behavior by creating a focal point, to a situation not involving coordination, where law could not create a focal point. But there are many difficulties with such a comparison. One law could be endowed with more legitimacy than another for complex historical, social, or political reasons. Similarly, one law might have a stronger deterrent effect than the other, for reasons relating to perceptions about the magnitude of punishment and perceptions about the likelihood of detection. In short, the complex nature of a real world context makes it difficult to generate empirical evidence supporting the idea that law influences behavior expressively by facilitating coordination, independent of sanctions and legitimacy.

Fortunately, experimental methods provide a useful means of examining the influence of legal expression on behavior in coordination situations. In an experiment, we can construct a coordination situation involving conflict, and then hold constant the effects of sanctions and legitimacy. We can then create a focal point by highlighting one equilibrium, and observe whether making one equilibrium focal influences decisions. We argue that anything that makes a particular behavior salient can push behavior in that direction whenever the parties benefit by coordinating. The law is one of many possible sources of focal points. In the section that follows, we describe a laboratory experiment that tests the claim that making a particular behavior salient can induce that behavior in coordination situations, even when the parties' preferences conflict. In the experiment, we demonstrate this in the context of a stylized "Hawk-Dove" game, where the focal point is created by having a random spinner or a person generate a message.

The existing experimental literature provides results that are suggestive of the focal point theory but do not adequately verify its claims. Various experiments demonstrate that third-party expression can influence behavior in certain coordination situations (see Bohnet and Cooter 2001; Brandts and Holt 1992; Brandts and MacLeod 1995; Chaudhuri and Graziano 2003; Croson and Marks 2001; Schotter and Sopher 2003; Tyran and Feld 2002; Van Huyck et al. 1992; Wilson and Rhodes 1997). Yet these experiments typically involve pure coordination games or other situations devoid of conflict, which makes them poor models for judging the focal effect of law in resolving disputes. Even when they do involve conflict, as in Schotter and Sopher (2003), the level of conflict is extremely mild, not the sort of rigorous test we propose below for determining the focal power of legal expression.

In addition, existing experiments fail to isolate the different dimensions of legal expression; indeed, only two experiments even aim to model the expression provided by law. One is Bohnet and Cooter (2001), which put subjects in a situation where all prefer the same outcome, thus, without conflict of the sort law usually addresses. Bohnet and Cooter introduce law in one condition by describing to subjects a "punishment" for certain action. Given the normative dimensions of a term like *punishment*, especially when the source is the experimenter, there is a significant risk that the subjects may comply because they are deferring to legitimate authority rather than coordinating around a constructed focal point. Tyran and Feld (2002) appear to introduce conflict in the public goods game they use, although it remains unclear whether the game involves an element of coordination the theory says is necessary for a focal point effect (given that the game appears to have only one equilibrium). Tyran and Feld introduce law by having the subjects vote for particular rules, which may also create a perceived legitimacy to the re-

sulting rule. Thus, they fail to isolate any focal effect. For additional discussion of the existing literature, see McAdams and Nadler (2005:98–103).

**EXPERIMENT: GENERATING COMPLIANCE BY
COORDINATING AROUND A THIRD-PARTY MESSAGE
(MCADAMS AND NADLER 2005)**

We began by examining whether any third-party expression (as opposed to law specifically) can help coordinate behavior in a mixed motive situation where players have conflicting preferences about the preferred equilibrium, and where both players have a shared interest in coordinating to avoid a non-equilibrium outcome. One real world instantiation of this situation is the example of a four-way intersection with a broken traffic light. Each car at the intersection prefers to proceed and for the car approaching from the other road to wait; at the same time, everyone prefers waiting rather than proceeding simultaneously and crashing. Recall Schelling's claim that a bystander who steps into the intersection and begins directing traffic might find that drivers actually comply with her hand signals directing who should wait and who should proceed. The reason for this is that by making a particular equilibrium focal (for example, car heading north proceeds; car heading west waits), each driver might now have a more definite expectation of the other driver's intentions. Specifically, because the bystander is situated so that both drivers can see her, and because both drivers know that the other driver can see her, each driver might infer that the other driver is likely to obey her signal. Thus, the driver heading north might infer that the other driver will obey the bystander's signal to wait and the driver heading north thus will proceed. Likewise, the driver heading west might infer that the other driver will obey the bystander's signal to proceed and thus the driver heading west will wait. Note that because the bystander is just an ordinary citizen who happened by, her directions are not backed by sanctions and not imbued with the legitimacy of law. In this sense, this thought experiment suggests that *any* third-party message can create a focal point to help coordinate players who have conflicting preferences.

To convert this thought experiment into a laboratory experiment, we asked undergraduate students to play the Hawk-Dove game illustrated in figure 9.1. Notice that the structure of this game is very much like the bystander in the intersection example. There are two players, called Row Player and Column Player. Each player must choose between Strategy 1 (which we refer to as "Dove" outside the experiment) and Strategy 2 (which we refer to as "Hawk" outside the experiment). Choices are made simultaneously, without knowing

what the other player's choice will be. These strategies are analogous to each driver deciding to wait (Dove) or to proceed (Hawk). Each player receives a payoff that is determined by the combination of both players' simultaneous choice. (Row Player's payoffs are located on the lower left of each box, in italics.) So, if Row Player chooses Hawk and Column Player (simultaneously) chooses Hawk, each player receives a payoff of $-\$1$. If both players choose Dove, then both receive a payoff of $\$1$. There are two equilibria in this game—these are outcomes that satisfy the Nash criterion that neither player would benefit by unilaterally switching strategies. For example, if Row Player chose Hawk and Column Player chose Dove, then Row Player would receive $\$2$ and Column Player would receive $\$0$. From Row's perspective, given that Column Player will choose Dove, Row cannot do any better than choosing Hawk (because switching to Dove would mean receiving $\$1$ rather than $\$2$). At the same time, from Column's perspective, given that Row Player will choose Hawk, Column cannot do any better than choosing Dove (because switching to Hawk would mean receiving $-\$1$ rather than $\$0$). So, Row-Hawk, Column-Dove is an equilibrium outcome. This is also true of Row-Dove, Column-Hawk.

This game is parallel to the intersection example in that the Hawk-Hawk outcome is akin to both drivers proceeding simultaneously and crashing. The Dove-Dove outcome is akin to both players waiting, and then starting the game all over again. In order to get to their destination, drivers must coordinate on choosing either Dove-Hawk or Hawk-Dove. We hypothesized that players who did not have the benefit of a focal point would have a difficult time coordinating. At the same time, we hypothesized that any message that modeled the bystander in the intersection should create a focal point that helps players coordinate on a single equilibrium.

We also wondered about the legitimacy of the third party who delivers the message. Specifically, we thought that if we increased the legitimacy of the

		Column Player	
		1 [Dove]	2 [Hawk]
Row Player	1 [Dove]	\$1 <i>\$1</i>	\$2 <i>\$0</i>
	2 [Hawk]	\$0 <i>\$2</i>	$-\$1$ <i>$-\\$1$</i>

Figure 9.1. A Hawk-Dove game. The labels Hawk and Dove appear here for illustrative purposes only—participants did not view these labels.

third-party message, compliance with the message might increase as well. To do this, we tested two different kinds of third parties that generated messages that highlighted a single equilibrium. The first message source we tested was a spinner that randomly pointed to one of the two equilibria. That is, the spinner pointed to “Row-Hawk, Column-Dove” or “Row-Dove, Column-Hawk.”¹ Notice two features about this source: it is not human, and its messages are selected in an overtly random manner. The second type of message source we tested was a human being who wrote down a recommendation on the blackboard. The human being was actually one of the participants who showed up for the experiment.² We hypothesized that the random spinner would generate less compliance, while the human (designated the “leader”) would generate the most compliance.³

Participants came into the laboratory and played the Hawk-Dove game against another anonymous participant. Their task was to choose between Dove and Hawk; of course, we did not label the choices this way during the experiment—the participants were told to choose “Strategy 1” or “Strategy 2.” At the same time, their anonymous counterpart would simultaneously (and silently) make their own choice. Participants were told in advance that they would be paid according to the outcome resulting from their own and their counterpart’s selection. Thus, players would lose \$1 if both they and their counterpart selected Hawk. They would earn \$2 if they selected Hawk and their counterpart selected Dove, and so on.⁴

In the absence of a coordinating device (like a bystander or a traffic signal) it is difficult to decide what to do in this game. One could decide to play Dove to “play it safe.” If the counterpart does the same, then each earns \$1. Of course, if one anticipates that the other person will play Dove it makes sense, instead, to play Hawk and earn \$2. But if the counterpart expects you to “play it safe” and play Dove, then they might try to play Hawk; if you played Hawk as planned then both would end up playing Hawk and both would lose \$2. The best choice here depends entirely on one’s expectation of what the counterpart will do; but in the absence of a coordinating device or a focal point, it is difficult if not impossible to know what the counterpart will do.

When a third party sends a message highlighting one equilibrium, there now may be a reason to choose one strategy over another. So, in the spinner condition, prior to making a decision, players saw a spinner point to one of two possible equilibria: “Row Player Hawk / Column Player Dove” or “Row Player Dove / Column Player Hawk.”⁵ Each player had already been informed that they were randomly assigned to be the Row or Column player. Now the spinner was randomly selecting a strategy and highlighting it. We were careful to ensure that the players understood that they were not bound—by the rules of the experiment, the experimenter’s expectation, or

anything else—to play the strategy highlighted by the spinner. Instead they were merely told, “If you wish, you may consider the result of the spin in your decision, in whatever manner you choose. You are also entirely free to ignore it.” Unlike in the control condition, in the spinner condition participants had some reason to anticipate their counterpart’s choice. That is, if a player thought that the counterpart was considering complying with the recommendation of the spinner, then the player would be better off complying with the spinner also. Our results show that players were, in fact, influenced by the spinner. Players complied with the spinner—that is, played Hawk if the spinner recommended Hawk and played Dove if the spinner recommended Dove—65 percent of the time. This is significantly greater than the 50 percent compliance rate expected if the spinner had no influence on decisions.

Next we tested the hypothesis that having a person send a message would be even more effective than a spinner in making one equilibrium salient and increasing the likelihood that players will try to coordinate. The person who announced the recommended strategy was designated to be the leader. We found that players complied with the recommendations of the leaders 75 percent of the time, which was significantly greater than the 65 percent compliance rate from the random spinner. Receiving a message delivered by a random spinner increased the probability of choosing the focal strategy by 13 percent, compared to receiving no message. Receiving a message delivered by a leader increased the probability of choosing the focal strategy by 24 percent, compared to no message.

After the game, we asked players to rate how fair it was for their counterpart to disregard the message and choose a different strategy. We found that fairness judgments depended on which strategy was focal; when the message recommended Dove for the counterpart, but the counterpart ignored the message and played Hawk, this was perceived as considerably less fair than when the reverse occurred. It appears that playing Dove is perceived as basically fair regardless of the message, but playing Hawk is perceived as fair only when authorized by the message.

Overall, we see from this experiment that a third-party message can indeed influence behavior when players need to coordinate among multiple equilibria, but where their preferences conflict. In the game we tested, each player would prefer to play Hawk, but if both players choose Hawk, both are worse off. There is a need in this situation to coordinate on who will play Hawk and who will play Dove.⁶ In the absence of any reason to focus on one equilibrium rather than the other, it is difficult for players to coordinate on either of them, because one player prefers one equilibrium and the other player prefers the other equilibrium. The danger is that if both players insist on their pre-

ferred strategy of Hawk, both end up worse off. And, in the absence of any ability to communicate, coordination is difficult indeed.

The presence of a third-party message helps to solve this problem, by focusing attention on one of the two equilibria. By having a message that makes a single equilibrium salient, players are more likely to choose that equilibrium than if there was no message. The third-party message created a focal point, which helped people to focus their attention on one strategy, and to think about which strategy the counterpart is likely to choose. It is notable that even in the most minimal expressive condition we tested—an overtly random mechanical device—the message influenced behavior. When the third-party message was delivered by a human being designated as the leader, the focal point effect was stronger than when the third-party message was delivered by a device that randomly highlighted an outcome. Like law, the leader's message was a product of conscious human intention. This additional element of expression contributed to the effectiveness of the message and its ability to create a focal point.

Notice that the Hawk-Dove game provides a particularly strong test of the focal point theory. This is because it is tempting to defect after one's less preferred equilibrium has been recommended. Before the fact, it is easy for everyone to agree that coordinating on one equilibrium is better than not coordinating at all. So in principle, it is easy, before the fact, for everyone to agree that they will all follow the recommendation of the spinner (or leader, as the case may be). But after the spinner (or leader) highlights one equilibrium, one player will be quite happy with this choice (the one slated to receive \$2) and one will be less happy with this choice (the one slated to receive \$0). For the "disfavored" player, the best thing that could happen would be for the counterpart to get cold feet and *not* follow the third party's recommendation to play Hawk. Then the "disfavored" player could take a chance and play Hawk, hoping that their own favored equilibrium outcome will result. In this way, the Hawk-Dove game represents a strong test of the focal point theory, because after the focal point is selected, half the players have an incentive to disregard the focal point. It is in some sense surprising, then, that something as arbitrary as a spinner influenced behavior in this situation involving significant conflict.

The postgame questions about fairness may shed some light on why third-party expression influenced behavior here. Recall that *ex ante*, it is in everyone's interest to agree to follow the spinner (or leader) in order to avoid the Hawk-Hawk outcome. Recognizing this as the best method for ensuring the best joint outcome, any *ex post* deviation from the recommendation of the spinner (or leader) was seen as unfair, especially any deviation that produced a Hawk-Hawk outcome. Therefore, selecting Hawk when the message recommended selecting Dove is an action that was perceived by most people as

unfair. Players may have been motivated to avoid an action that others would perceive as unfair, and this may partially explain compliance with a message that recommended Dove. In situations involving coordination, the law may receive deference because it produces an arbitrary way to coordinate strategies and avoid a mutually disastrous outcome. In these situations, apart from moral obligations and threatened sanctions, people may obey law because they feel obligated to choose the most salient outcome.

At the same time, playing Dove contrary to a message that recommends Hawk was not perceived as unfair. This might be because the player choosing Dove contrary to a Hawk recommendation is attempting to produce a Dove-Dove outcome; in the particular game that we tested, such an outcome is equally as efficient as the two equilibria, and also has the attraction of distributing equal outcomes to each player. At the same time, the question remains about why the message nonetheless influenced behavior equally for both Hawk and Dove recommendations. One reason might be that players who receive a recommendation to play Hawk are more confident that their counterpart will defer and play Dove when the message is present, compared to when there is no message.

CONCLUSION

Just as the spinner in the laboratory pointed to an outcome, legal expression in the real world also points to an outcome. The results of our experiment suggest that among the many ways that law influences behavior, merely pointing to an outcome is one. The experiment did not invoke legal expression specifically. This avoidance of any reference to law conferred distinct advantages for maintaining experimental controls. Avoiding law assured that our results were not confounded with other ways that law influences behavior, such as via deterrence or legitimacy. Specifically, in the experiment we partitioned out the effect of sanctions simply by imposing no penalty or change in payoffs as a result of failure to comply with the third-party expression. Similarly, we partitioned out the effect of perceived legitimacy of the law by simply not invoking law or legal processes at all in the third-party expression. The results provide direct evidence for the ability of any third-party message to create a focal point; at the same time, the evidence that law can function as a third-party message in this situation is indirect.

In future experiments, we seek to show more explicitly that the third-party expression tested in the experiment actually models what law does in the real world. So, instead of using starkly presented normal form games,

we plan to present participants with a vignette more closely modeling a real world situation. Instead of the third-party message being delivered by a spinner or leader, in future experiments law will serve as the third party delivering the message. To accomplish this, we will present participants with a vignette involving a dispute. We will examine the effect of law first in a situation where there is conflict but where there is no coordination problem that law can solve. We hypothesize that this effect would be magnified in a similar situation involving a coordination game in which law can serve as a focal point.

Law influences behavior in many ways. We believe the attention paid to legal sanctions and legitimacy, and the debate over their relative importance, obscures the causal significance of other mechanisms for compliance. In particular, in what we argue are common situations involving an element of coordination, legal expression influences behavior by constructing a focal point. By publicly announcing a state of affairs (for example, “No Smoking Here” or “The disputed property belongs to A”), law can make one of the multiple equilibria salient and create self-fulfilling expectations that this outcome will occur. It is, however, difficult to disentangle the focal power of law from its sanctions and legitimacy. We have therefore begun to test that theoretical claim with experiments that make it possible to isolate the law’s focal effect. As predicted, mere expression pointing to a particular outcome influences behavior even when the subjects conflict over which outcome is best. In the experiment, we found that even an explicitly random mechanical device could cause behavior merely by pointing to it. In sum, the experiments allow us to isolate the focal effect of third-party expression and we find evidence that this effect by itself influences behavior.

NOTES

1. In the experiment, the terms *Hawk* and *Dove* were never mentioned. Instead, strategies were simply labeled “1” and “2.” We use the former labels here for ease of understanding.

2. The leader was selected in one of two ways: either in an overtly random manner by drawing a numbered ticket from a box, or else on the basis of a quiz testing knowledge about current political events. Results did not differ significantly between these two types of leaders, so we do not discuss them further.

3. The leaders wrote a message on the blackboard suggesting one equilibrium. Although it appeared to the participants that the leaders chose the messages themselves, we secretly directed the leaders to select a particular equilibrium. The reason for this was to yoke the particular equilibria selected by the leaders to the very same equilibria

already selected in the spinner condition, to ensure identical timing of recommendations across all conditions.

4. Players played about nine rounds of the game. In each round the counterpart was anonymous; players were told ahead of time that they would not play against any person more than once. There were no discernable changes in patterns of play across rounds.

5. Recall that in the experiment we never used the terms *Hawk* or *Dove*. Instead we used the terms “Strategy 1” or “Strategy 2.” We use the more colorful labels here for ease of understanding.

6. Of course, both could play Dove. But any player who anticipates the counterpart choosing Dove would be better off switching to Hawk.

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