CRIMINOLOGICAL THEORIES AND REGULATORY COMPLIANCE*

TONI MAKKAI
Australian National University

JOHN BRAITHWAITE
Australian National University and American Bar Foundation

Four traditional criminological theories—opportunity, control, subcultural, and differential association—are tested for their explanatory power in accounting for organizational compliance with regulatory laws. The primary data source is interviews with 410 chief executives of small organizations. Partial support is found for each theory; certain key concepts of each theory have a significant effect on regulatory compliance, net of a variety of characteristics of the nursing home, the residents in the home, and the inspection team. The results show that blocked legitimate opportunity has a significant effect on regulatory compliance, as does the structure of illegitimate opportunity. There is also an effect on compliance of participation in business subcultures of resistance to regulation. Belief in laws increases compliance with those laws as does differential association with or attachment to the upholders of the law. Overall, however, control theory and differential association lack explanatory power, and the explanatory power of subcultural theory is modest. Only opportunity theory explains a credible proportion of variance in compliance as a stand-alone theory. The significant effect of some but not all of the measures for each theory, coupled with the lack of significant explanatory power by three of the four theories, suggests the need for theoretical integration.

Sutherland (1983) effected a revolutionary change in criminology by arguing that lawbreaking by business could and must be brought within the ambit of criminological theory. In Sutherland's (1945, 1983) view, the question of whether business lawbreaking was actually criminalized was not of central concern; the fact that much business lawbreaking was sanctioned civilly rather than criminally was a fact about the power of business to have its wrongdoing so labeled rather than a fact about the distinctive nature of its law breaking (see also Clinard and Yeager, 1980). This has been a hotly disputed claim (Burgess, 1950; Kadish, 1963; Orland, 1980; Tappan, 1947), but

it is a dispute that will not delay us here. Our interest in this paper is in the question of whether criminological theories have any explanatory power in a domain of essentially regulatory law. Even if regulatory compliance is taken to be a fundamentally different matter from compliance with criminal laws, it is still possible that the explanatory frameworks constructed for the latter domain are useful in the former.

Recently, there has been a rallying to the Sutherland project of theory building that is relevant to both common and business lawbreaking (Braithwaite, 1989a, 1989b; Coleman, 1987; Gottfredson and Hirschi, 1990; Lasley, 1988). As such construction work begins to flourish, it is time to take some first steps toward testing the structures. The step we take here will be a small one—a preliminary comparison of four criminological frameworks for explaining regulatory compliance. They are opportunity theory, control theory, subcultural theory, and differential association. No attempt will be made to integrate the four frameworks. This is not because we accept Hirschi's (1979) arguments against integration in the domain of delinquency research. That debate is about if, and how, to integrate frameworks that a great number of studies have found to have some limited explanatory capacity (Gibbons and Krohn, 1986). In the regulatory compliance field, researchers are not yet at the point of knowing if any criminological frameworks have any explanatory power (but see Lasley's 1988 study demonstrating some explanatory power for control theory). So for the moment, we will be content to begin to test them in the "competitive" mode that Hirschi (1979) advocates.

THE FOUR THEORIES

The four theories we discuss involve very different kinds of variables for explaining compliance with laws. Opportunity theory construes compliance as a function of the opportunities available to actors to break the law (illegitimate opportunities) and the opportunities available to achieve the same objectives without having to resort to law violation (legitimate opportunities) (Cloward and Ohlin, 1962; Merton, 1957). Control theory offers an explanation in terms of the network of social bonds, beliefs about law-abidingness, involvements, and commitments to the conventional order that constrain actors to comply (Hirschi, 1969; Reiss, 1951). Subcultural theory explains compliance as participation in subcultures that justify or excuse opposition to the law and that transmit knowledge about how to get away with lawbreaking (Cohen, 1955). Differential association explains compliance in terms of the balance of associations favorable to obeying the law (e.g., with law-abiding parents) compared with associations unfavorable to obeying the law (e.g., with delinquent friends) (Sutherland and Cressey, 1978). Although these are explanatory frameworks constructed with traditional criminality, particularly juvenile delinquency, in mind, their core concepts can be sensibly harnessed

for the purpose of explaining organizational compliance with regulatory laws. Depending on one's perspective, then, the value of this paper lies either in expanding the generality of criminological theory or in using criminological theory heuristically to construct explanations in a related field.

DATA AND METHOD

The data analyzed below are taken from a major study of Australian nursing homes. Why Australian nursing homes? One of the methodological attractions of testing criminological theories against data on nursing home compliance is that Australian nursing homes are very simple, small organizations in which the chief executive (the director of nursing) is generally very much in control. The management culture of the Australian nursing home, grounded in the British tradition of the all-powerful matron, is reinforced by regulatory expectations, indeed regulatory requirements, that the director of nursing be in control. This differs from the situation in U.S. nursing homes, in which both management tradition and regulatory mandate require the director of nursing to answer to an administrator above and to have a middle management structure below. With a few exceptions, the nursing homes in this study have flat management structures devoid of any concept of departmental heads. All staff within the organization are within the span of control of the director of nursing. This is possible because these are small organizations of, on average, about 40 employees. The claim of top management control of these particular organizations is confirmed by the response of the directors of nursing to the item "As director of nursing I have final say on most of the decisions that matter." Less than 13% of directors of nursing disagreed with the statement, 12% neither agreed nor disagreed, and 76% agreed.

On the assumption that directors of nursing have the authority to issue directions to staff to ensure compliance with the law and to fire staff when those directions are not heeded, our methodology is based on the effects of opportunities, controls, subcultural influences, and differential associations as those variables affect the director of nursing. We assume, for example, that if legitimate opportunities for chief executives to comply with the law are blocked, then their organizations are less likely to comply with the law, and that if chief executives believe that compliance with the law is desirable and practical, then that will increase the likelihood that their organizations will actually comply. Even though our fieldwork and survey data show that this assumption about the control of directors of nursing over their organizations is empirically defensible, it need not be taken for granted. We will demonstrate later that it is possible to test the theories controlling for the span of control that directors of nursing in fact have for each nursing home.

Although we think it sensible to test the theories against the beliefs and perceptions of chief executives, we do not claim a perfect fit of our data with a model of top management decision-making control over compliance with the law. What we do claim is that it would be hard to find an organizational context in which the assumption of top management control is better satisfied, and we claim to enter controls in our regression models for the extent to which this assumption is not satisfied.

Four primary sources of information were relied on for this study—interviews conducted with the chief executives of 410 Australian nursing homes, demographic statistics collected by the Australian commonwealth government on each nursing home in the country, the inspection teams' assessment of the home's compliance with the 31 standards for quality of nursing home care, and self-administered questionnaires completed by the teams that inspected each of the 410 nursing homes.

Since 1987 the Australian commonwealth government has taken over the major regulatory role of the Australian nursing home industry from the various state governments. In conjunction with the introduction of new standards and inspection processes, the Australian government guaranteed that 242 nursing homes, stratified by number of beds, type of ownership, and level of disability within four sampling regions, would be inspected over a 20-month period. This random sample was inspected as promised, and 96% of the sampled homes cooperated in this study (for more details, see Braithwaite et al., 1990). This exceptionally high response rate was achieved through the commitment of the federal and state governments, industry associations, trade unions, and consumer groups to the value of the research.

These four sampling regions surrounded the four large metropolitan centers of the states of New South Wales, Queensland, South Australia, and Victoria, including some rural regions surrounding those centers. For the first three of these states, all other nursing homes inspected during the study period were included in the analysis ($N = 168$). The director of nursing at each home in the sample was interviewed as soon as the nursing home had completed the standards monitoring process. The standards monitoring process itself entailed not only the day or two of the initial inspection, but also receipt of a provisional report on compliance, negotiation concerning the accuracy of the compliance ratings in the report, and negotiation concerning what action was required to come into compliance. Negotiations, in most cases, involved further visits to the nursing home and further information gathering. This entire process usually extended over a period of months; the median duration of the process was five months.

The analyses of the relationships between compliance and the variables used to operationalize criminological theories are based on correlations and

ordinary least squares (OLS) regression. This method assumes that the relationships between the variables are both linear and additive (Hanushek and Jackson, 1977).

OPERATIONALIZING THE THEORIES

OPPORTUNITY THEORY

There are two aspects to pressures for lawbreaking in opportunity theory as reformulated by Cloward and Ohlin (1962). The first condition for lawbreaking to occur is that legitimate opportunities for achieving valued goals must be blocked. The second is that illegitimate opportunities to achieve those goals must be open. We measured blocked legitimate opportunities perceptually with three questions that attempted to tap the pressure under which the director of nursing was placed to achieve goals while being denied the financial and other means to achieve them. The three items were summed to form a scale, called blocked legitimate opportunities. A high score indicated strong agreement with the items or a strong perception that legitimate opportunities were blocked (see Table 1 for basic statistics on the three items). To ensure that no one item dominated the scale with a large variance, each item was divided by its standard deviation before the three items were summed. Because the resulting scale had no natural metric, it was rescored from 0 to 10. This procedure was used to construct all the scales unless specifically stated otherwise.[1] The resulting mean of the scale, 3.25, indicates that the average level of agreement was quite low.

To validate the scale, we asked the inspection team which of a number of factors adversely or favorably affected the capacity of the home to achieve compliance with all the standards. One of the factors was "The resources (money, supplies, staff) available to the director of nursing." This item correlated .27 ($p < .01$) with the blocked legitimate opportunities scale, providing modest, single-item validation from an external measure.

Illegitimate opportunities being open is a trickier matter to measure in the context of compliance with nursing home standards. There is a sense in which illegitimate opportunities are always open. Residents are always vulnerable to abuse, at the mercy of staff who might neglect them, and powerless at the hands of an administration that chooses to skimp on the food it supplies to them. Where variation does occur, it is in who has control over the institution. Does the power to exploit illegitimate opportunities rest in the hands of the director of nursing who responds to our interview, or does it reside somewhere else in the organization? Factor analytic work has shown that there are two aspects of control of the nursing home—one concerned

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1. When summing the items, each individual item was scored so that a high score consistently indicated strong agreement with the attitudinal direction of the scale.

Table 1.   Intercorrelations and Alpha Reliability Coefficients for the Opportunity Theory Scales

Scale/Item	Correlations				Item to Total Correlation
Blocked Legitimate Opportunities[a]					
My proprietor sometimes puts me under a financial squeeze that makes it impossible to meet the standards.[b]	1.00				.45
My proprietor sets me goals that can only be achieved by breaching the standards.[b]	.42	1.00			.44
My proprietor has the attitude that the government's standards and regulations must be met no matter what the costs.[b,c]	.30	.29	1.00		.35
(Cronbach Alpha)					(.60)
Director of Nursing's Control of Those Below					
I have the authority to run this home in the way I think best.[b]	1.00				.62
I have the freedom to run this home pretty much as I like.[b]	.55	1.00			.54
As director of nursing I have the final say on most of the decisions that matter.[b]	.49	.38	1.00		.49
(Cronbach Alpha)					(.73)
Director of Nursing's Autonomy from Control from Above					
How involved has the proprietor been in deciding what to do about the standards monitoring report?[d]	1.00				.46
Who has the most say over the setting of the budget for the nursing home[e]?	.41	1.00			.40
Director of nursing has only minor responsibility for financial management.[e]	.22	.26	1.00		.24
Among the recent standards monitoring process of this nursing home, did you have any important dealings with anyone above the director or nursing (e.g., proprietor, administrator)?[f,g]	29	.15	.05	1.00	.22
(Cronbach Alpha)					(.54)

[a]Directors of nursing can also be proprietors; thus 48 directors indicated the questions were not appropriate. They have been excluded from the analysis of these items.
[b]Response categories were strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.
[c]This item has been rescored so that it correlates positively with the other two items in the blocked legitimate opportunities side.
[d]Response categories were collapsed to not involved, budget recommendations only, both budget and management of the nursing home.
[e]Response categories were collapsed to director of nursing, equal director of nursing and proprietor, other.
[f]This question was answered by the standards monitoring team.
[g]Response categories were yes, no.

essentially with downward control over the staff by the director of nursing, the other representing control being exerted from above the director of nursing by a proprietor, board of directors, or other superordinate authority (see Braithwaite and Makkai, 1990). The items used to form these two scales and

their correlations are also provided in Table 1. The two scales can be considered measures of the extent to which illegitimate opportunities are in the hands of the director of nursing. In both scales, a high score indicates strong agreement that the director of nursing had control of those below and autonomy from those above. In the case of control of those below, there was high average agreement with the scale ($M = 6.91$), but much lower agreement that the director of nursing had autonomy from above ($M = 3.87$).

CONTROL THEORY

The contemporarily influential version of control theory is Hirschi's (1969). Control theory begins from the assumption that actors confront many incentives to break the law, so that the critical question is not "Why do they do it?" but "Why do they resist the temptation to do it?" Hirschi identified four elements of control that engender this resistance to temptation—belief, attachment, commitment, and involvement. *Belief* means acceptance of the desirability of obeying the rules. *Attachment* reflects the extent to which an actor is affectively involved with another and therefore susceptible to the other's approval, disapproval, or expectations of his or her behavior. *Commitment* is the investment accumulated in relationships, the rational aspect of the social bond, the stake in conformity. *Involvement* refers simply to participation in legitimate activities—the extent to which the individual is tied to appointments, deadlines, working hours, plans.

Involvement does not vary much among directors of nursing, at least not in the way it does among juveniles. All directors of nursing are extremely busy, involved people; if they break the law, it would be implausible that they should do so for the sake of something to fill in their time. The three other components of Hirschi's notion of control are readily operationalized from the data collected from the directors of nursing.

BELIEF

Belief in the standards can be represented by perceptions of either the desirability or the practicality of the standards. Directors of nursing were asked if they thought each of the 31 nursing home standards was desirable. Then, they were asked if they had doubts about the practicality of each of the standards. Appendix 1 indicates the percentage of directors of nursing who believed each standard was desirable and practical. Twenty-one of the 31 standards were regarded by all directors of nursing as desirable. The percentage who regarded the standards as practical ranged from a low of 76% ("Residents are enabled and encouraged to maintain control of their financial

affairs") to a high of 99% for six of the standards.[2] Since we found no evidence that the effects of practicality on compliance were different from the effects of desirability, we combined the two elements of belief.

A belief measure was formed in two steps with the assumption that doubting the desirability of standards was a stronger form of disbelief than doubting their practicality. In the first step, each standard was taken separately and a new measure created based on the responses of the director of nursing, as follows: standard was both desirable and practical = 4, standard was desirable but not practical = 3, standard was not desirable but was practical = 2, and standard was neither desirable nor practical = 1. The second step was to sum respondents' scores on the 31 new variables, which resulted in a scale whereby it was possible to obtain a maximum belief score of 124—by rating all 31 standards both practical and desirable—and a minimum belief score of 31—by rating all 31 standards as neither desirable nor practical. As indicated by the percentage of agreement that the standards were desirable and practical (Appendix 1), the average level of belief was very high and there was little variability. The mean score on the belief measure was 121.59, and the standard deviation was 3.19.

ATTACHMENT

Attachment was measured by a scale that represents affective involvement with officers of the department, as required by the definition of attachment. Three aspects of attachment to the inspectors—respect, approval, and disappointment—were tapped (see Table 2). The intercorrelations and reliability statistics indicate that the three items can be summed to form a single scale, with disappointment being the weakest item in the scale. A high score on the scale indicates high emotional attachment and a low score indicates low emotional attachment. The mean for the scale, 9.01, indicates that, on average, there was relatively high affective involvement with officers of the department. This scale was validated against a single-item measure from the inspection team's questionnaire, which asked the team to rate the director of nursing on a scale from 1 (warm and friendly) to 7 (cold and impersonal). This external measure significantly correlated .26 ($p < .01$) with the attachment measure.

COMMITMENT

We used two measures of commitment. One is a scale representing commitment by the directors of nursing to nursing as a profession, and the second

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2. High levels of belief in the standards were also expressed by proprietors and in a separate national study of 165 inspectors. Our qualitative fieldwork also showed a surprising general consensus within government and nursing homes about the desirability and practicability of the standards.

Table 2. Intercorrelations and Alpha Reliability for Control Theory Scales

Scale/Item	Correlations			Item to Total Correlation
Emotional Attachment to Upholders of the Law				
Respectful relationship with the team.[b]	1.00			.28
Even though the team will strongly disapprove of my failing to meet any standard, they will still respect me as a responsible professional.[a]	.25	1.00		.25
Team disappointed with performance in 12 months' time.[c]	.17	.13	1.00	.19
(Cronbach Alpha)				(.40)
Commitment to the Profession[a]				
If I could choose my career over, I would choose something other than nursing.	1.00			.33
If I could choose my nursing specialization over, I would choose gerontics.	.21	1.00		.30
Working in a nursing home is not my idea of a top nursing job.	.34	.29	1.00	.41
(Cronbach Alpha)				(.53)

[a]Response categories were strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.
[b]Exact wording of question was "Which of the following best describes your relationship with the team?"—we respect them but they have little respect for us, they respect us but we don't have much respect for them, we both respect each other, neither respects the other.
[c]Exact wording of question was "If the standards monitoring team returned in a year to find the performance of this nursing home on the standards to be worse than it is today, do you think they would be disappointed in you personally?" Response categories were yes, no.

is an objective index of the number of post-basic (postgraduate) qualifications obtained in gerontics, nursing or health administration, nurse education, or social work/social welfare. Table 2 provides intercorrelations and reliability statistics for the three items used to form the professional commitment scale. Each item focuses on a different aspect of professional commitment—to nursing as a career, to gerontics as a specialization within nursing, and to working in a nursing home environment. The summed scale indicates a relatively high average level of professional commitment ($M = 7.14$). Just over one in three directors of nursing had completed a post-basic qualification in gerontics, and just over one in five had completed a nursing administration, health administration, or management course. Very few had completed either a post-basic qualification in nurse education or social work/welfare. No one in the sample had completed a post-basic qualification in all four areas; the mean number of qualifications was .72.

SUBCULTURAL THEORY

Bardach and Kagan (1982) have argued that organized business subcultures of resistance to regulation develop, particularly when regulatory agencies are unreasonable, uncooperative, inflexibly rulebook oriented, and litigious. The subcultures of resistance supply rationalizations for noncompliance and disseminate knowledge of methods of legal resistance and counterattack. An example of a widely disseminated rationalization for noncompliance in the Australian nursing home industry is the belief that noncompliance is really the government's fault (condemning the condemnors) because it does not supply sufficient subsidies to the industry to meet the standards. Examples of methods of resistance are pulling extra staff into the facility from another nursing home as soon as the inspection team arrives, knowing how to go over the team's head to contest one of their ratings, knowing how to make political connections known to the team, and the like.

Braithwaite (1989b) argued that organizations teeter between a culture of compliance and a subculture of resistance to regulatory law. The trick of successful regulatory programs is to engender a culture of compliance/cooperation and to prevent the snowballing of a subculture of resistance. The Australian government's nursing home regulation program has been fairly successful in this sense: Most of the industry is much more in the grip of a culture of cooperation than it is swayed by a subculture of resistance (Braithwaite et al., 1990).

A number of items were included in the director of nursing interview to form what we had expected to be a single scale marked by industry cooperation at one pole and resistance at the other.[3] In fact, however, three dimensions emerged from a factor analysis of these items: (1) a willingness to resist and stand up to the regulators (the subculture of resistance scale in Table 3), (2) unconditional cooperation (the culture of unconditional cooperation scale in Table 3), and (3) conditional or minimal cooperation. The third group, in a sense, follows a rational actor model of cooperation (Scholz, 1984a, 1984b): They either play the cooperation game tit-for-tat (I'll only be cooperative if you are) or they cooperate only as much as the law requires in all circumstances. These rational actor approaches to cooperation were much less frequently endorsed by the directors of nursing than the items measuring unconditional commitment to cooperation. The average level of agreement with a subculture of resistance was 5.3, as compared with 3.9 for conditional cooperation and 6.5 for a subculture of unconditional cooperation.

Two single items from the inspection team's questionnaire can be used in an attempt to validate these scales. They are seven-point rating scales of the

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3. Because the directors of nursing have major control over the nursing home and its staff, their attitudes are paramount in determining the cultural atmosphere of the organization. See data and methods section for further discussion of this issue.

Table 3. Factor Analysis of Subcultural Theory Scales

Scale/Item	Factor Loadings			Item to Total Correlation
	1	2	3	
Subculture of Resistance				
The nursing home industry should get organized to resist unreasonable demands by teams.	.09	.80	.11	.47
The nursing home industry needs more people willing to stand up against the Department of Community Services and Health.	.32	.70	−.07	.29
My friends in the industry often say to me that it is important not to let the Department of Community Services and Health push you around.	−.03	.67	−.02	.42
(Cronbach Alpha)				(.58)
Culture of Unconditional Cooperation				
No matter how cooperative or uncooperative the team is with me, the best policy for me is to always be cooperative with them.	.06	−.07	.72	.11
Everyone is better off when the nursing home industry seeks a more cooperative relationship with the Department of Community Services and Health.	−.00	.09	.69	.11
(Cronbach Alpha)				(.19)
Conditional Cooperation				
If the team got tough with me, I would become uncooperative with them.	.72	.20	−.29	.38
No matter how cooperative or uncooperative the team is with me, the best policy for me is to give them only as much cooperation as the law requires.	.72	.05	.06	.36
My policy is that so long as the team is cooperative with me, I will be cooperative with them.	.69	.08	.32	.36
(Cronbach Alpha)				(.56)
Eigen Values	2.15	1.24	1.09	
Percent of Variance Explained	26.9	15.5	13.7	

NOTE: Response categories were strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

director of nursing by the team as cooperative-adversarial and reasonable-unreasonable. Those who scored high on the subculture of resistance scale were rated by teams as both more adversarial ($r = .19$, $p < .01$) and more unreasonable ($r = .20$, $p < .01$). Those who scored high on the conditional cooperation scale were also rated by teams as more adversarial ($r = .11$, $p < .05$) and more unreasonable ($r = .18$, $p < .01$), although in this case the validation was weaker. Scores on the unconditional cooperation scale were not significantly correlated with team ratings as cooperative-adversarial or

reasonable-unreasonable, which casts doubt on the validity of this scale. Additionally only two items were used to form the scale, the item-to-total correlations were relatively low, and the resulting alpha reliability coefficient of only .19 was poor.

DIFFERENTIAL ASSOCIATION

The theory of differential association maintains that "a person becomes delinquent because of an excess of definitions favorable to violation of law over definitions unfavorable to violation of law" (Sutherland and Cressey, 1978:81). Essentially, these definitions are acquired in social groups, mostly intimate ones. When actors associate more with others who communicate definitions favorable to violation of law than with others who communicate definitions unfavorable to lawbreaking, they will break the law. Compliance is a function of the ratio of associations favorable to law observance to those unfavorable to it. But it is not just a matter of how many of those associations there are. According to differential association theory, compliance also depends on the frequency, duration, priority, and intensity of the differential associations. We can only partially operationalize differential association because we did not measure frequency, duration, and priority and we only measured intensity in a limited way.

Associations favorable to noncompliance were measured by a single item: "Do you have any friends who are proprietors or staff of nursing homes which have been in serious trouble with any government department for failing to meet standards or regulations?" It has been common in the delinquency literature to use a comparable single-item "delinquent friends" measure as the sole operationalization of differential association (see the studies cited by Matsueda, 1982:490–491). Up to a point, differential association cannot be refuted by these kinds of data because actors can always acquire definitions favorable to compliance from lawbreakers. Such an operationalization is only defensible insofar as it does measure what is distinctive about differential association compared with other theories.

Differential association also subsumes (under the rubric of definitions favorable to compliance) measures of association with defenders of the law. When associations with lawbreakers are weak and associations with upholders of the law are strong, more compliance is predicted. A measure representing familiarity or association with the upholders of the law was developed from three items shown in Table 4. The three items ask whether the director of nursing knew any of the inspectors prior to their inspection visit, the number of people they know well in the Commonwealth Department of Community Services and Health, and whether they felt they had been consulted regularly by the Department. The average level of familiarity was exceptionally low—.17.

Table 4. Intercorrelations and Alpha Reliability for Differential Association Scale

Scale/Item	Correlations			Item to Total Correlation
Association with Upholders of the Law				
Previously met any members of the standards monitoring team.[a]	1.00			.16
Home consulted by Department of Community Services and Health (DCSH).[b]	.04	1.00		.17
Number of people from DCSH known well.[c]	.22	.24	1.00	.32
(Cronbach Alpha)				(.37)

[a]Response categories were none, some, all.
[b]Exact wording of question was "Do you think you are one of those nursing homes that the Department of Community Services and Health consults with a lot, a little, or one that gets left out of consultations?"
[c]Exact wording of question was "How many people from Department of Community Services and Health do you know well?"

OPERATIONALIZING COMPLIANCE

There are 31 government standards with which Australian nursing homes have to comply. To determine the level of compliance, a home is visited by a government inspection team that never has fewer than two members and always includes at least one registered nurse. In our study, the average length of time spent in a home during the initial inspection was 6.5 hours, often spread over two (or more) days. Following the inspection of the home, the team members meet to exchange information and reach agreement on initial compliance ratings. Each standard has three levels of compliance—met, met in part, or not met. Having agreed on their ratings, the team visits the home a second time to meet with management to discuss compliance with the standards. These discussions, plus new evidence presented by the director of nursing, will often result in a revision of the initial ratings, which then become the final outcome of the inspection process. It is the final ratings that are summed to form a measure of government-assessed compliance; a high score (31) indicates total compliance and a low score (0) low compliance. Elsewhere, Braithwaite et al., (1990) have justified the adding of scores from all standards (rather than taking clusters of standards or treating all standards individually) on the basis of factor analytic work on the ratings. When summed, the resulting compliance measure has a mean of 26 and a standard deviation of 4.78.

Considerable work has been undertaken to determine the validity and reliability of the standards (Braithwaite et al., 1991). Reliability was assessed by senior nurses, experienced in the standards monitoring process, who were employed by the authors to rate 50 nursing homes at the same time as the

government inspection. Interrater reliability coefficients ranged from .93 to .96 depending on the stage of the process at which agreement was calculated. Across 19 tests of reliability and validity, the compliance ratings performed very impressively, particularly in comparison with U.S. nursing home compliance ratings (Braithwaite et al., 1991).

In addition to the government inspection teams' ratings, the directors of nursing, during the interviews conducted with them, were asked the extent to which they agreed with the ratings given by the inspection teams. This provided us with unique data from both an official (the inspection team's ratings) and self-reported (the director of nursing's assessment of the home) perspective of the home's compliance. Out of a possible 12,710 occasions on which the directors of nursing could disagree with the government rating, there were 55 occurrences of a director's giving a tougher rating than the inspection team. As is to be expected, however, directors of nursing who disagreed with a rating were much more likely to think that the team had been too tough in their ratings. As with the government ratings, the ratings provided by the directors of nursing were summed to form a self-assessed measure of compliance. Given that directors of nursing were more likely to think teams had been too tough rather than not tough enough, the mean for the self-assessed scale was 27.29, with a standard deviation of 3.97. The correlation between government-assessed compliance and self-assessed compliance was .88, indicating that in the vast majority of cases directors of nursing were in accord with the government inspection team's assessment of the home. This validation of official recording of noncompliance with self-reports contrasts with the modest correlations between self-reports and official records for traditional criminological data (Blackmore, 1974; Erikson and Empey, 1963; Farrington, 1973; Fisher, 1970; Gibson, et al., 1970; Gold, 1970; Gould, 1969; Hindelang et al., 1981; Hirschi and Selvin, 1967; Voss, 1963; Williams and Gold, 1972).

The reliability and validity data point to considerable measurement superiority of these data over either self-reports or official records of individual criminal behavior (Braithwaite et al., 1991). The data are also superior to other regulatory compliance data because of the comparative thoroughness of the data collection by standards monitoring teams—in terms of numbers and training of people and number of hours in the facility—compared with other regulatory inspectorates (compare the 96 agencies discussed in Grabosky and Braithwaite, 1986). The crucial difference can be illustrated as follows. An occupational health and safety inspector spends a few hours in factory A and a few hours in factory B. In factory B, she notices a violation of the safety standard for boilers and writes it up. The social scientist records factory B as having a boiler violation but not factory A. This could be a serious error because there is no assurance in such regulatory regimes that the inspector

even looked at the boilers in factory A. The Australian nursing homes standards monitoring program, in contrast, requires the inspection team to collect all the information it needs to reach agreement on each standard. The existence of a boiler standard, in other words, means that the boiler must be checked. This, we believe, is at the heart of the superior reliability and validity of our compliance data compared with any other we know of in the literature.

CONTROLS

A series of control variables were employed in the analyses and their scoring, means, and standard deviations are shown in Appendix 2. Three types of variables were controlled for—characteristics of the nursing home and its residents, the geographic location of the home, and the size of the inspection team. Contrary to expectations, a variety of sociodemographic characteristics of the director of nursing—gender, age, aged care work experience, and church attendance—did not have a significant effect on compliance in preliminary analyses. Because of their lack of a substantive contribution, these variables were not included as controls in the regression analyses. To ensure that any possible differences between those homes randomly chosen for the study and those added as a supplementary sample were controlled for, a dummy variable indicating the sampling status of the home was also included.[4]

To obtain data on the characteristics of the residents of the homes, information from the commonwealth data base on nursing homes was linked to the homes in this study. This enabled us to control for the percentage of female residents in the home and the percentage who were married at the time of admission to the home.[5] From this data base it was also possible to match the mean level of resident disability for each home with our sample of nursing homes.[6]

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4. Preliminary analyses (see Braithwaite et al., 1990) have shown that the random sample and the supplementary sample do not differ from each other on a range of important variables.

5. Information was also available on the percent of Australian born, percent of residents who were English speaking, percent who were receiving an aged pension (an indicator of economic standing), and percent who were widowed. Preliminary analyses indicated that these variables did not substantively affect the results, and they were therefore excluded from the results presented here for reasons of parsimony.

6. The average level of disability for each home was estimated by taking each resident's service need and multiplying that by the number of average hours of nursing and personal care (NPC) required per week by a resident with that classification. The resident's service need, also referred to as the resident's classification index (RCI), can range from 1 to 5, which is based on information supplied by the nursing home. The hours of nursing and personal care required, as of 1 July 1988, were 27 for an RCI of 1, 23.5 for an RCI of 2, 20 for an RCI of 3, 13 for an RCI of 4, and 10 for an RCI of 5 (Department of Community Services and Health, 1988).

Because the physical characteristics of a home will contribute to compliance, both the size and age of the home were controlled for in the regression analyses. The size of the home was measured as the number of beds in the home. On a resident-centered standard, a 40-bed home has, in a sense, twice as many chances to run afoul of the standard compared with a 20-bed home. The age of the home was measured as the year when the main part of the nursing home was constructed. Arguably, age of the building is a measure of blocked legitimate opportunities because it is often harder to maintain an older home in compliance with fire and physical safety standards, for example. In addition to the physical characteristics of the home, the type of ownership of the home significantly affects compliance, with for-profit homes having lower compliance than nonprofit homes.

The size of inspection teams can also vary. For our sample, the teams had from two to nine members although only two of the homes had teams with more than four (one had six inspectors, the other nine).[7] We expect the number on the team to have a negative effect on government-rated compliance (but not necessarily self-reported compliance) because more team members means more eyes and ears to detect instances of noncompliance.

To control for the four geographic locations, three dummy variables—New South Wales, Victoria, and Queensland—were entered. The excluded category, South Australia, is characterized by much lower levels of self-reported and government-recorded compliance on the 31 standards, as compared with the other three states (Braithwaite et al., 1990).

RESULTS

Table 5 presents zero-order correlations between each of our measures of the key concepts of the four criminological theories and both self-ratings and government ratings of compliance with the 31 nursing home standards. All three opportunity theory measures had significant relationships with both measures of the dependent variable.

Surprisingly, belief in the standards bore no relationship with government-assessed compliance. Even more surprising, there was a significant negative effect of belief for self-reported compliance, an effect that became positive after our control variables were added. Emotional attachment to the defenders of the law did increase compliance with the law, as assessed by the inspection teams, but all other control theory effects were not significant. The key subcultural measure—the subculture of resistance scale—significantly correlated with government compliance. However, the negative association was not significant for self-reported compliance. This is no surprise as we would expect those who resist the regulators to reject negative ratings that are given

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7. The two cases in which teams had more than four members were collapsed into the fourth category to avoid skewing the data.

Table 5. Zero-order Correlations Between Measures Derived from the Theories and Compliance

	Compliance	
Theory/Measure	Self-Ratings	Government Ratings
Opportunity Theory		
Blocked Legitimate Opportunities[a]	−.33**	−.32**
Director of Nursing's Control of Those Below[a]	.17**	.15**
Director of Nursing's Autonomy from Control from Above[a]	.23**	.20**
Control Theory		
Belief in the Standards[a]	−.09*	−.01
Commitment to the Profession[a]	.01	.03
Post-Basic Qualifications[a]	−.04	−.06
Emotional Attachment to Upholders of the Law[a]	.01	.09*
Subcultural Theory		
Subculture of Resistance[a]	−.04	−.14**
Conditional Cooperation[a]	.02	−.03
Culture of Unconditional Cooperation[a]	.05	.04
Differential Association		
Association with Upholders of the Law[a]	.02	.02
Association with Friends in the Industry Who Have Been in Trouble for Failing to Meet Standards[b]	.04	.03

[a]These are composite measures. See text for further discussion.
[b]Exact wording of question was "Do you have any friends who are proprietors or staff of nursing homes which have been in serious trouble with any government department for failing to meet standards or regulations?"
* $p < .05$, ** $p < .01$.

to them by the government. To do so would seem to be almost definitional of resistance. Indeed, our data show that this is true: directors of nursing who scored high on the subculture of resistance scale increased their compliance scores on the self-report measure much more than those who were low on the subculture of resistance scale. Neither the culture of cooperation nor the conditional cooperation scales were significantly correlated with compliance.

The differential association measures did not have significant effects—either for associations favorable to compliance (familiarity with government officers responsible for upholding the law) or for associations unfavorable to compliance (friends at nursing homes that have been in trouble for lawbreaking). However, familiarity did have a significant effect on self-reported compliance once we controlled for a variety of other factors in the regression analyses.

Table 6 shows these same relationships after the control variables were entered in the OLS regression. Blocked legitimate opportunities continued to have a strong effect in reducing compliance. Only one of the measures of the

Table 6. Testing Four Criminological Theories and Compliance (Standardized Coefficients).

	Compliance — Self-Ratings				Compliance — Government Ratings			
	Opportunity Theory	Control Theory	Subcultural Theory	Differential Association	Opportunity Theory	Control Theory	Subcultural Theory	Differential Association
Controls								
Nonprofit Home	.07	.08	.08	.07	.12**	.11**	.12**	.12**
Number of Beds in the Home	-.09*	-.09	-.08	-.08	-.11*	-.09	-.09*	-.10*
Age of the Home	-.19**	-.20**	-.20**	-.20**	-.16**	-.17**	-.16**	-.16**
Percent of Residents Female	.10*	.12**	.12**	.13**	.08*	.10*	.09*	.11**
Percent of Residents Married	.13**	.15**	.14**	.15**	.10*	.13**	.13**	.13**
Mean Disability of Residents	.08	.12*	.13**	.12**	.04	.09	.09	.08
Number of Inspectors	-.08	-.10*	.09	-.10*	-.14**	-.16**	-.15*	-.16**
Queensland Home	.38**	.45**	.44**	.43**	.38**	.47**	.47**	.44**
Victoria Home	.38**	.42**	.40**	.42**	.36**	.41**	.38**	.40**
New South Wales Home	.45**	.52**	.52**	.54**	.40**	.49**	.47**	.48**
Sample Home	-.05	-.06	-.06	-.05	-.07	-.07	-.08	-.07
Opportunity Theory								
Blocked Legitimate Opportunities	-.22**				-.21**			
Director of Nursing's Control of Those Below	.03				.01			
Director of Nursing's Autonomy from Control from Above	.12**				.11			
Control Theory								
Belief in the Standards		.02				.10*		
Commitment to the Profession		.00				.00		
Post-Basic Qualifications		.05				.04		
Emotional Attachment to Upholders of the Law		.00				.07		
Subcultural Theory								
Subculture of Resistance			-.05				-.14**	
Conditional Cooperation			.01				-.03	
Subculture of Unconditional Cooperation			-.02				-.01	
Differential Association								
Association with Upholders of the Law				.09*				.08
Association with Friends in the Industry Who Have Been in Trouble for Failing to Meet Standards				-.03				-.03
Constant	21.53	15.48	19.32	18.74	22.92	-.09	21.50	19.32
R^2	.38	.31	.31	.31	.37	.32	.33	.31

* Significant at $p < .05$.
** Significant at $p < .01$.

director's control over the nursing home remained significant after adding the controls—the director of nursing's autonomy from control from above. When the director of nursing enjoyed control that was autonomous from the influence of proprietors and boards of directors, compliance was higher. Note that this is not a variable that relates to whether illegitimate opportunities are higher or lower for the nursing home as a whole. It is a variable concerning the distribution of illegitimate opportunities. If greater control of key decisions (illegitimate opportunities) is in the hands of the proprietor, compliance is reduced; if the director of nursing is completely in control, compliance is increased. Through many case studies, our fieldwork has shown that interventions by proprietors quite often require directors of nursing to compromise on standards in order to cut costs.

Table 7 summarizes the explanatory power of each theory by examining

Table 7. Percent of Variation in Compliance Explained by Four Criminological Theories

	Opportunity Theory*	Control Theory	Subcultural Theory	Differential Association
Self-assessed Compliance				
Control variables	31	31	31	31
Opportunity Theory	38			
Control Theory		31		
Subcultural Theory			31	
Differential Association				31
Change in R^2	7**	0	0	1
Government-Assessed Compliance				
Control variables	31	31	31	31
Opportunity Theory	37			
Control Theory		32		
Subcultural Theory			33	
Differential Association				31
Change in R^2	6**	2	2**	0

*Significant change in R^2 at $p < .05$, **$p < .01$.

the change in R-squared. Thus, the amount of variation in compliance that is accounted for by the control variables is compared with the additional amount of variation explained by entering all the measures of a theory as a single block. An F-statistic was the statistical test used to determine whether there had been a significant change in the R-square. In the first part of the table, the data for self-assessed compliance are presented, and in the second part the data for government compliance are displayed. For both measures of compliance, the control variables account for 31% of the variance and the addition of the three opportunity measures as a block explains an additional 7% of the variance.

Belief in the standards significantly increased compliance with the standards, as rated by the inspection team, after the controls were entered. (see Table 6) For self-reported compliance, the relationship was not significant. The difference between the results from the self-reported and government ratings is explained by the fact that the directors of nursing who did not believe so strongly in the standards were also the ones most likely to increase their ratings above those given by the inspection team (hardly surprising). Nevertheless, the modest explanatory power of the belief measures was unexpected in light of the consistent explanatory power of belief in the delinquency literature (Akers et al., 1979; Grasmick and Green, 1980; Hepburn, 1977; Hindelang, 1970, 1974; Hirschi, 1969; Minor, 1977; Short and Strodtbeck, 1965; Siegal et al., 1973; Silberman, 1976; Thomas and Hyman, 1978; Thurman, 1984; Wiatrowski et al., 1981; but see Rankin, 1977). In the context of Australian nursing home regulation, however, the domain is one of overwhelming consensus on the desirability of the 31 standards (Braithwaite et al., 1990), so that the directors of nursing who scored lower on belief in the standards were still directors of nursing who believed strongly in the vast majority of the standards, but had some reservations about a few. The domain is also one of mature adult consensus among professionals about standards that regulate the conduct of their profession, a different context from adolescent rebellion against the general criminal law. For both self-reported and official compliance, the control theory measures did not, as a block, significantly increase the amount of variance beyond that accounted for by the control variables (see Table 7).

The significant effect on official compliance of the subculture of resistance measure in Table 6 suggests that there will be value in further empirical work on Bardach and Kagan's (1982) notion of subcultures of resistance, how they evolve, and in particular, how they are connected to inspectorial strategies. We will undertake such work in the second wave of our data collection. However, the failure of the two cooperation scales to attain significance is also theoretically very important. First, it is important to know that commitment to cooperation is not unidimensional, that is, that unconditional cooperation and conditional or minimal cooperation are separate dimensions. We attribute the failure of the culture of unconditional cooperation scale to reach significance to two factors: (1) the fact that this scale is psychometrically weak (two items; alpha = .19; failure to validate) and (2) the fact that it taps such an overwhelmingly majoritarian response from Australian directors of nursing that its discriminatory power is limited ($M = 6.53$, $SD = 1.9$).

For theorists who follow rational actor models of regulation that use prisoners' dilemma modeling in the tradition of Axelrod (1984) and Scholz (1984a, 1984b), the failure of the conditional cooperation scale to be positively related to compliance is troubling. The assumption of this tradition is that if both sides of the regulation game play it rationally, they will play it tit-

for-tat (conditional cooperation), and the result will be an evolution of cooperation and compliance.[8] The question we must address with the second wave of our data collection is whether this does not happen because when the director of nursing plays the game tit-for-tat, the inspection team refuses to reciprocate. It may be in the culture of Australian nursing home regulation that when the nursing home signals a posture of anything less than the norm of unconditional cooperation, the inspection team resents this, and it becomes adversarial and aggressive in response. Conditional cooperation may be reacted to as grudging or insincere cooperation, and so it might be that an evolution of cooperative compliance does not occur. This is only a conjecture at this stage, but we will seek to cast light on it with further data.

Finally, the two measures motivated by differential association theory continued to fall short of significance after the entry of controls, except for a significant positive effect of familiarity on self-assessed compliance. However, Table 7 shows that the overall change in the amount of variance accounted for by the two measures of differential associations is nonsignificant. It would be a mistake to be dismissive of differential association solely on the basis of the partial test we have managed here. We have not measured the frequency, duration, priority, or intensity of differential associations. Nor have we taken any account of the possibility that definitions favorable to breaking the law can be acquired from government officials and that definitions unfavorable to breaking the law can be acquired from lawbreakers.

The intensity of associations with upholders of the law is reasonably measured by the emotional attachment scale that we included as a control theory variable (Table 2). Like all attempts to segregate theoretical frameworks in order to set up contrasts among them, ours can be criticized for including variables under one theoretical rubric that arguably can be subsumed by another. Some control theorists might argue that mere familiarity with upholders of the law (our measure of association) is relevant to attachment—

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8. One defense of the Scholz (1984a; 1984b) prediction would be that this scale in fact mixes two tit-for-tat items (Table 4, items 1 and 3) with what is really a minimal cooperation item: "No matter how cooperative or uncooperative the team is with me, the best policy for me is to give them only as much cooperation as the law requires." However, the fact that the tit-for-tat items are empirically strongly associated with giving only as much cooperation as the law requires does call into question the empirical integrity of the notion of tit-for-tat being a distinctive strategy. Within this regulatory culture, the more meaningful conceptualization of the strategy involved would seem to be conditional cooperation, wherein the cooperation can be thought of as either conditional on how cooperative the government is or conditional on how much cooperation the law requires. Moreover, when we tested whether the two tit-for-tat items in this scale have significant effects on compliance when analyzed separately, rather than as part of this scale, there were no significant effects once the controls were entered.

that both familiarity (association) and the affective bond (emotional attachment) are part of attachment.[9] And certainly, differential association theorists will protest that emotional attachment is a part of differential association (the intensity part). It makes no difference to the explanatory power of control theory to add association with upholders of the law to the control theory model. We might adopt a more positive view of differential association by shifting emotional attachment across as a measure of the intensity of differential associations with those responsible for upholding the law. However, we still find that emotional attachment does not significantly predict compliance. Nor does the addition of emotional attachment to the block of variables measuring differential association significantly improve the explanatory power of this model.

A good case can also be made for including in the models for all other theories the two scales (from the opportunity theory model) that measure director of nursing control of the nursing home. This is because the effects in all of the models are grounded in the assumption that the perceptions of the chief executives of organizations (and the social pressures on them) have consequences for compliance. But this assumption can never be plausible for organizations in which the chief executive is not in effective control of the organization. For example, control theory leads one to expect that when chief executives believe in the standards, they will require their staff to comply with them. However, a control theorist would quickly back away from this expectation for an organization in which the chief executive was an impotent figurehead—incapable of imposing requirements on the staff. Similarly, the differential association theorist will not expect the differential associations of directors of nursing to count for much in organizations in which the will of the chief executive exerts little sway.

In fact, however, when we ran the regression models for control, subcultural, and differential association theory controlling for the two director of nursing control scales (from Table 1), only one of the nonsignificant effects became significant—emotional attachment to the upholders of the law.[10] The failure of these controls to make much difference is not surprising given what we know from our fieldwork and survey data about the consistently high degree to which directors of nursing are in control of their staff (if not always autonomous from their proprietors) across the particular kinds of organizations we have in our sample.

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9. A factor analysis (not reported) of the items from these two scales in fact shows, however, the two separate dimensions reflected in our labeling of the scales.

10. These regression results are available on request.

CONCLUSION

We have found that opportunity theory variables are important to understanding compliance with regulatory laws, that participation in business subcultures of resistance to regulation explains noncompliance, and that belief in the law and attachment to or differential association with upholders of the law are of some limited importance. Neither control theory nor differential association exhibits significant explanatory power as total packages. Given the respectable proportions of variance (up to 38%) that some models were able to explain, it is fair to say, overall, that criminological theory is of some use in explaining regulatory compliance. In this sense, the Sutherland project is still alive, even if differential association, Sutherland's own contribution to it, failed to prove its worth.

Despite the high correlation between self-reported and government-assessed compliance, some aspects of each model are significant predictors on one but not the other compliance measures. Thus, we find that belief in the standards and a subculture of resistance were significant predictors of government-assessed compliance but not self-reported compliance. Further analysis indicated that those directors of nursing who gave their home higher ratings than the inspection teams had a significantly lower level of belief in the standards and had higher levels of resistance. This suggests that measures of organizational compliance that use only a self-report measure may be missing out on important aspects of the compliance story.

What we have in this paper is evidence that bits and pieces of a variety of criminological theories are useful in explaining compliance with regulatory laws. However, apart perhaps from opportunity theory, as total packages none of the theories standing alone looks particularly promising. What the community of law and society scholars must work together to do, therefore, is to explore new strategies of theoretical integration that transcend the existing criminological frameworks. The bits of criminological theory that have explanatory punch in the domain of organizational compliance must be woven together in a new theoretical fabric. Some faltering first attempts at such synthesis have already been attempted (Braithwaite, 1989b; Coleman, 1987; Finney and Lesieur, 1982).

In explaining both self-reported and government-assessed compliance, a considerable amount of the variation in compliance was accounted for by our objective "control" variables. These variables refer largely to the structural features of the home (its age, size, and ownership) and the profile of the residents (percent female, percent married, and average level of disability of residents). Their obvious explanatory power suggests the need for the inclusion of objective features of the nursing home in an integrated theoretical framework.

For the significant effects on compliance we have found, it seems credible

to interpret them as independent variables affecting the dependent variable. But for no case can we absolutely rule out the interpretation that causality runs in the opposite direction. Thus, it is necessary to follow these nursing homes through a second wave of inspections to see whether the same effects hold up under a panel design. With two waves of data collection, it will also be more feasible to pursue the project of theoretical integration.

REFERENCES

Akers, Ronald L., Marvin D. Krohn, Lonn Lanza-Kaduce, and Marcia Radosevich
    1979   Social learning and deviant behavior: A specific test of a general theory.
             American Sociological Review 83:114–153.

Axelrod, Robert
    1984   The Evolution of Cooperation. New York: Basic Books.

Bardach, Eugene and Robert A. Kagan
    1982   Going by the Book: The Problem of Regulatory Unreasonableness.
             Philadelphia: Temple University Press.

Blackmore, John
    1974   The Relationship between self-reported delinquency and official convictions
             among adolescent boys. British Journal of Criminology 14:172–176.

Braithwaite, John
    1989a   Crime, shame and Reintegration. Sydney: Cambridge University Press.
    1989b   Organizational theory and organizational crime. Justice Quarterly
             6:401–426.

Braithwaite, John and Toni Makkai
    1990   Testing an Expected Utility Model of Corporate Deterrence. Working Paper
             No. 9009. Chicago: American Bar Foundation.

Braithwaite, John, Toni Makkai, Valerie Braithwaite, Diane Gibson, and David Ermann
    1990   The Contribution of the Standards Monitoring Process to the Quality of
             Nursing Home Life: A Preliminary Report. Canberra: Department of
             Community Services and Health.

Braithwaite, John, Valerie Braithwaite, Diane Gibson, Miriam Landau, and Toni
Makkai
    1991   The Reliability and Validity of Nursing Home Standards. Canberra:
             Department of Community Services and Health.

Burgess, E.W.
    1950   Comment. American Journal of Sociology 56:34.

Clinard, Marshall and Peter Yeager
    1980   Corporate Crime. New York: Free Press.

Cloward, Richard A. and Lloyd E. Ohlin
    1962   Delinquency and Opportunity: A Theory of Delinquent Gangs. Glencoe,
             Ill.: Free Press.

Cohen, Albert K.
    1955   Delinquent Boys: The Culture of the Gang. Glencoe, Ill.: Free Press.

Coleman, James W.
1987   Toward an integrated theory of white-collar crime. American Journal of
        Sociology 93:406–439.

Department of Community Services and Health
1988   New Nursing and Personal Care and Staffing and Funding Arrangements.
        Canberra: Department of Community Services and Health.

Erikson Kai and Lamar Empey
1963   Court records, undetected delinquency and decision-making. Journal of
        Criminal Law, Criminology and Police Science 54:458–459.

Farrington, David P.
1973   Self-reports of deviant behavior: Predictive and stable? Journal of Criminal
        Law and Criminology 64:99–110.

Finney, Henry C. and Henry R. Lesieur
        A contingency theory of organizational crime. In Samuel B. Bacharach
        (ed.), Research in the Sociology of Organizations. Vol. 1. Greenwich,
        Conn.: JA1 Press.

Fisher, Roy
1970   Borstall recall delinquency and the Cloward–Ohlin theory of criminal
        subcultures. British Journal of Criminology 10:52–63.

Gibbons, Don C. and Marvin D. Krohn
1986   Delinquent Behavior. 4th ed. Englewood Cliffs, N.J.: Prentice–Hall.

Gibson, H., S. Morrison, and D.J. West
1970   The confession of known offences in response to a self-reported delinquency
        schedule. British Journal of Criminology 10:277–280.

Gold, Martin
1970   Delinquent behavior in an American city. Belmont, Calif.: Brooks/Cole.

Gottfredson, Michael R. and Travis Hirschi
1990   A General Theory of Crime. California: Stanford University Press.

Gould, Leroy
1969   Who defines delinquency?: A comparison of self-reported and officially
        reported delinquency for three racial groups. Social Problems 17:325–336.

Grabosky, Peter and John Braithwaite
1986   Of Manners Gentle: Enforcement Strategies of Australian Business Regula-
        tory Agencies. Melbourne: Oxford University Press.

Grasmick, Harold G. and Donald E. Green
1980   Legal punishment, social disapproval and internalization of illegal behavior.
        Journal of Criminal Law and Criminology 71:325–335.

Hanushek, Eric A. and John E. Jackson
1977   Statistical Methods for Social Scientists. Orlando, Fl.: Academic Press.

Hepburn, John R.
1977   Testing alternative models of delinquency causation. Journal of Criminal
        Law and Criminology 67:450–460.

Hindelang, Michael
1970   The commitment of delinquents to their misdeeds: Do delinquents drift?
        Social Problems 17:502–509.
1974   Moral evaluations of illegal behavior. Social Problems 21:270–385.

Hindelang, Michael, Travis Hirschi, and Joseph Weis
    1981   Measuring Delinquency. Beverly Hills, Calif.: Sage.

Hirschi, Travis
    1969   Causes of Delinquency. Berkeley: University of California Press.
    1979   Separate and unequal is better. Journal of Research in Crime and
            Delinquency 16:34–38.

Hirschi, Travis and Hanan C. Selvin
    1967   Delinquency Research: An Appraisal of Analytic Methods. New York:
            Free Press.

Kadish, Sanford H.
    1963   Some observations on the use of criminal sanctions in enforcing economic
            regulation. University of Chicago Law Review 30:423–449.

Lasley, Jim
    1988   Toward a control theory of white-collar offending. Journal of Quantitative
            Criminology 4:347–362.

Matsueda, Ross L.
    1982   Testing control theory and differential association: A causal modeling
            approach. American Sociological Review 47:489–504.

McDonald, Tracey A. and Philip W. Bates
    1989   Commonwealth Nursing Home Outcome Standards: A Practical Guide to
            the Duty of Care. Canberra: Department of Community Services and
            Health.

Merton, Robert K.
    1957   Social Theory and Social Structure. Glencoe, Ill.: Free Press.

Minor, William W.
    1977   A deterrence-control theory of crime. In R. Meier (ed.), Theory in
            Criminology: Contemporary Views. Beverly Hills, Calif.: Sage.

Orlando, Leonard
    1980   Reflections on corporate crime: "Law in search of theory and scholarship."
            American Criminal Law Review 17:501–520.

Rankin, Joseph H.
    1977   Investigating the interrelations among social control variables and conform-
            ity. Journal of Criminal Law and Criminology 57:470–480.

Reiss, Albert J., Jr.
    1951   Delinquency and the failure of personal and social controls. American
            Sociological Review 16:196–207.

Scholz, John T.
    1984a   Deterrence, cooperation and the ecology of regulatory enforcement. Law
            and Society Review 18:179–224.
    1984b   Voluntary compliance and regulatory policy. Law and Policy 6:385–404.

Short, James F. and Fred L. Strodtbeck
    1965   Group Process and Gang Delinquency. Chicago: University of Chicago
            Press.

Siegal, Larry J., Spencer A. Rathus, and Carol Ann Ruppert
    1973   Values and delinquent youth: An empirical re-examination of theories of
            delinquency. British Journal of Criminology 13:237–244.

Silberman, Charles E.
  1976   Toward a theory of criminal deterrence. American Sociological Review 41:442–461.

Sutherland, Edwin H.
  1945   Is "white-collar crime" crime? American Sociological Review 10:132–139.
  1983   White Collar Crime: The Uncut Version. New Haven: Yale University Press.

Sutherland, Edwin H. and Donald R. Cressey
  1978   Criminology. 10th Ed. New York: Lippincott.

Tappan, Paul W.
  1947   Who is the criminal? American Sociological Review 12:96–102.

Thomas, Charles W. and Jeffrey J. Hyman
  1978   Compliance theory, control theory and juvenile delinquency. In Marvin D. Krohn and Ronald L. Akers (eds.), Crime, Law and Sanctions. London: Sage.

Thurman, Quint C.
  1984   Deviance and the neutralization of moral commitment: An empirical analysis. Deviant Behavior 5:291–304.

Voss, Harwin L.
  1963   Ethnic differentials in delinquency in Honolulu. Journal of Criminal Law, Criminology and Police Science 54:325–326.

Wiatrowski, Michael D., David B. Griswald, and Mary R. Roberts
  1981   Social control theory and delinquency. American Sociological Review 46:525–541.

Williams, Jay R. and Martin Gold
  1972   From delinquent behaviour to official delinquency. Social Problems 20:209–229.

Toni Makkai is a postdoctoral fellow at the Australian National University in Canberra. Her research interests include regulation and compliance in organisational settings and patterns and attitudes toward drug use.

John Braithwaite is a professorial fellow in the Research School of Social Sciences, Australian National University and a Visiting Fellow at the American Bar Foundation.

APPENDIX 1
BELIEF IN THE STANDARDS BY DIRECTORS
OF NURSING

	Percent	
	Desirable	Practical
Residents are enabled to receive appropriate medical care by a medical practitioner of their choice when needed.	98	93
Residents are enabled and encouraged to make informed choices about their individual care plans.	96	80
All residents are as free from pain as possible.	100	99
All residents are adequately nourished and adequately hydrated.	100	98
Residents are enabled to maintain continence.	100	88
Residents are enabled to maintain, and if possible improve, their mobility and dexterity.	100	96
Residents have clean healthy skin consistent with their age and general health.	100	99
Residents are enabled to maintain oral and dental health.	100	97
Sensory losses are identified and corrected so that residents are able to communicate effectively.	100	94
Residents are enabled and encouraged to have visitors of their choice and to maintain personal contacts.	100	97
Residents are enabled and encouraged to maintain control of their financial affairs.	95	76
Residents have maximum freedom of movement within and from the nursing home, restricted only for safety reasons.	100	93
Provision is made for residents with different religious, personal and cultural customs.	100	97
Residents are enabled and encouraged to maintain their responsibilities and obligations as citizens.	99	92
The nursing home has policies which have been developed in consultation with residents and which: —enable residents to make decisions and exercise choices regarding their daily activities; —provide an appropriate balance between residents' rights and effective management of the nursing home; —and are interpreted flexibly taking into account individual resident needs.	98	78
Residents and their representatives are enabled to comment or complain about conditions in the nursing home.	100	97
Management of the nursing home is attempting to create and maintain a homelike environment.	100	88
The nursing home has policies which enable residents to feel secure in their accommodation.	99	96
The dignity of residents is respected by nursing home staff.	100	99
Private property is not taken, lent or given to other people without the owner's permission.	99	95
Residents are enabled to undertake personal activities, including bathing, toileting and dressing in private.	99	95
The nursing home is free from undue noise.	100	95
Information about residents is treated confidentially.	100	99
Nursing home practices support the resident's right to die with dignity.	100	98
Residents are enabled to participate in a wide range of activities appropriate to their interests and capacities.	100	95

The resident's right to participate in activities which may involve a degree of risk is respected.	95	86
Nursing home design, equipment and practices contribute to a safe environment for residents, staff and visitors.	100	97
Residents, visitors and staff are protected from infection and infestation.	100	99
Residents and staff are protected from the hazards of fire and natural disasters.	100	99
The security of buildings, contents and people within the nursing home is safeguarded.	100	99
Physical and other forms of restraint are used correctly and appropriately.	99	96

NOTE: Exact wording of question was "Do you have any doubts about the desirability or practicality of any of the standards?"

APPENDIX 2
DEFINITIONS, MEANS, AND STANDARD
DEVIATIONS FOR CONTROL
VARIABLES

Variable	Definition	Mean	SD
Nonprofit home[a]	1 = yes, 0 = no	.34	(.47)
Number of Beds in the Home[a]	Number	49	(36)
Age of the Home[a]	Years	36.4	(30.6)
Percent of Residents Female[b,c]	Percentage	77.19	(14.93)
Percent of Residents Married[b,c]	Percentage	23.51	(11.02)
Mean Disability of Residents[b,d]	Mean Hours of Funded Care	19	(2.11)
Number of Inspectors[a]	From a Low of 2 to a High of 4	2.49	(.60)
Queensland Home[a]	1 = Yes, 0 = Other	.18	(.39)
Victoria Home[a]	1 = Yes, 0 = Other	.23	(.42)
New South Wales Home[a]	1 = Yes, 0 = Other	.41	(.49)
Sample Home	1 = Yes, 0 = No	.59	(.49)

[a]These variables were taken from the interviews conducted with directors of nursing.

[b]These variables were taken from the Commonwealth Department of Community Services and Health data base, which contains basic demographic information about all residents within a nursing home.

[c]Percent of females in the home and the percent of married residents are calculated by taking all residents in the home and calculating the percentage within each group for each home.

[d]Each resident entering a nursing home is allocated to one of five service need categories (resident's classification index, or RCI). The commonwealth has determined that residents allocated to level one require 27 hours of nursing and personal care (NPC); those at level two require 23.5 NPC hours; those at level three require 20 NPC hours; those at level four require 13 NPC hours; and those at level five required 10 NPC hours. To calculate the mean hours of nursing home care provided by each home, each resident's RCI was multiplied by the NPC and then the mean number of hours for all residents within the home was deduced.