

Capacity for Self-Control and Individuals' Interest in Exercising Self-Control

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We identify and elaborate a conceptual distinction between capability for self-control and the desire to exercise it, and employ data from a city survey to explore the empirical viability of such a differentiation. Separate scales measuring ability and desire to exercise self-control both prove to be significant and moderately strong predictors of several measures of criminal/deviant behavior, showing independent, cumulative, and interactive relationships with each other. For some measures of crime/deviance, self-control capability is most effective when the individual's interest in exercising self-control is low but its effect is greatly reduced or eliminated when desire to exercise self-control desire is high. Combinations of capability for self-control and interest in exercising it prove to be particularly good predictors of the absolute level of misbehavior.

KEY WORDS: self-control; *self-control ability*; capacity for self-control; interest in exercising self-control; *self-control desire*; deviant behavior; criminal behavior.

1. INTRODUCTION

Gottfredson and Hirschi's (1990) general theory has been widely tested and cited (see, Pratt and Cullen, 2000). It contends that people with low self-control are less able to anticipate or appreciate the long range consequences of their actions than are those with better self-control. Since criminal (and other analogous, often deviant) behavior is advantageous, all people are presumably motivated to do it. When faced with a temptation for immediate gratification of needs and desires, those with low self-control tend to respond, while those with high self-control tend to refrain in anticipation of the bad consequences likely to follow. Therefore, criminal behavior is an outgrowth of low self-control, in combination with opportunity.

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However, since opportunities for criminal conduct are generally plentiful, low self-control will, over time, almost always manifest itself in some sort of misbehavior. Therefore, a general negative association between self-control and criminal or deviant behavior is predicted. The theorists contend that low self-control does not inevitably lead to crime, which implies that other things affect the predicted association between self-control and misconduct. However, they do not think the variables criminologists have long embraced, such as morality, strain, peer influences, and social bonds have much influence as conditioners or independent causes of crime (Gottfredson and Hirschi, 1990, pp. 154–168). In fact, low self-control is theorized as the main explanation for all known variations in criminal probability among individuals and socio-demographic categories except age variation, which the theorists contend is inexplicable with social variables and therefore not a challenge to theory (Hirschi and Gottfredson, 1983; Gottfredson and Hirschi, 1990, pp. 123–144). In other words, low self-control is said to be “for all intents and purposes, *the* individual-level cause of crime” (Gottfredson and Hirschi, 1990, p. 232).

Literature concerning the theory provides much support but suggests a need for refinement and elaboration. We contend that self-control theory could be improved by recognizing that individuals’ capacity for self-control is distinct from their interest in restraining themselves, that the two are both important, and that they vary independently. The potential import of this differentiation is explored with data from a city survey.

1.1. The Empirical and Theoretical Status of Self-Control Theory

A meta analysis of 10 years of research (Pratt and Cullen, 2000) shows self-control to be one of the strongest and most persistent correlates of crime, even with other theoretical and exogenous variables controlled. A relationship between low self-control and criminal or analogous behaviors has been documented for non-student adults (Grasmick *et al.*, 1993; Evans *et al.*, 1997; Avakame, 1998); college students (examples: Gibbs and Giever, 1995; Cochran *et al.*, 1998; Sellers, 1999); youth (examples: Brownfield and Sorenson, 1993; Junger and Tremblay, 1999; Vazsonyi *et al.*, 2001); males as well as females (Keane *et al.*, 1993; Burton *et al.*, 1998; LaGrange and Silverman, 1999); those with (Longshore, 1998; Longshore and Turner, 1998) and without official criminal backgrounds (all cited studies except the previous two); and among people in various countries (examples: Moffitt *et al.*, 1995; Wright *et al.*, 1999; Nakhaie *et al.*, 2000) and places (Winfrey and Bernat, 1998). In addition, many types of measures of self-control predict a variety of acts (Muraven *et al.*, 1998; Pratt and Cullen, 2000; Finkel and Campbell, 2001). At least some measures of self-control predict some mis-

behavior for cross-sectional (examples: Grasmick *et al.*, 1993; Nagin and Paternoster, 1993; Evans *et al.*, 1997) and longitudinal samples (examples: Polakowski, 1994; Avakame, 1998; Paternoster and Brame, 1998) as well as for experimental subjects (White *et al.*, 1994; Finkel and Campbell, 2001).

Despite widespread support, self-control theory has not been established as the ultimate general theory. The nature of the evidence, criticisms of the range and applicability of the theory and research, and discussions of other theoretical possibilities suggest a need for refinement.

1.1.1. Issues to Be Addressed

Scholars have raised many critical questions bearing on self-control theory (Akers, 1991; Barlow, 1991; Tittle, 1991; Benson and Moore, 1992; Grasmick *et al.*, 1993; Steffensmeier and Allan, 1995; Cohen and Vila, 1996; Reed and Yeager, 1996; Tittle and Grasmick, 1997; Cochran *et al.*, 1998; Gibbs *et al.*, 1998; Baumeister and Exline, 1999; Geis, 2000; Hay, 2001), three of which we attempt to address.

1.1.1.1. Absence of Contingencies. Although self-control is one of the strongest and most persistent correlates of crime and deviance (Pratt and Cullen, 2000), reported associations between self-control and misbehavior have usually not exceeded 0.30 and are often lower. This level of prediction suggests that self-control may not be as potent as the authors of the general theory contend. For self-control to more fully account for criminal/deviant behavior, the theory will probably have to identify other variables that intermesh with it to produce misconduct (Akers, 1991; Barlow, 1991; Benson and Moore, 1992; Grasmick *et al.*, 1993; Reed and Yeager, 1996; Geis, 2000).

Research has shown that the predictive power of self-control may be contingent on emotions (Giner-Sorolla, 2001), neighborhood context (Lynam *et al.*, 2000), family, school, and peer relations (Nakhaie *et al.*, 2000), perceived risks and rewards (Nagin and Paternoster, 1993), gender (Keane *et al.*, 1993; Burton *et al.*, 1998; LaGrange and Silverman, 1999), age (Burton *et al.*, 1999), and sequences of temptations (Muraven *et al.*, 1998; Baumeister and Exline, 2000). Another aspect of self-control not fully incorporated into Gottfredson and Hirschi's conceptualization and more reflective of the immediate situation—individuals' interest in controlling themselves—may also affect how well self-control is related to misbehavior.

1.1.1.2. Potency of Self-Control Relative to and in Conjunction with Other Variables. A few studies have contrasted the predictive power of self-control with variables from competing theories, mainly social learning/differential association (Evans *et al.*, 1997; Winfree and Bernat, 1998), strain (Burton

et al., 1998), and social bonds/social control (Brownfield and Sorenson, 1993; Evans *et al.*, 1997; Wright *et al.*, 1999). Although in most cases self-control continues to have significant effects with other theories' variables included, the effects of those other theoretical variables, especially social learning (usually measured in terms of peer influences), are persistent (see, Pratt and Cullen, 2000). Thus, self-control appears to be but one of many causes of criminal behavior, a possibility later acknowledged by Hirschi and Gottfredson (1995, p. 140), in contrast to the original portrayal of low self-control as practically the only cause (see, Gottfredson and Hirschi, 1990, especially page 232). This is particularly likely because competitive tests have typically used more thorough and reliable measures of self-control than of variables from competing theories, and all potential rivals have not yet been pitted against self-control. Still, focusing only on direct effects may actually underestimate the import of self-control because of possible indirect effects that operate through some of the variables from "competitor" theories (see, Nagin and Paternoster, 1993; Piquero and Tibbetts, 1996).

Hence, the strength of self-control relative to other variables in predicting or explaining crime and deviance remains problematic and the linkages of self-control with other theoretical variables has not yet been fully specified. We hope to facilitate integrative efforts by exploring the possibility that some people may have a strong capacity for self-control but may not always want to exercise it, while others may have weak self-control ability but have such a keen interest in controlling their deviant impulses that they end up conforming. Several social science theories incorporate ideas that seem to have in common the notion that people differ in their interest in exercising self-restraint. We believe this common strand of "desire to exercise self-control" can be extracted and treated as a unified, central concept and that if measured, it could serve as a key variable to be used in conjunction with self-control to better explain and predict misbehavior.

1.1.1.3. Conceptual Issues. Many apparent indicators of self-control, individually, or in combination, significantly predict deviant behavior. Scholars have used self-reported imprudent, analogous conduct (Keane *et al.*, 1993); behavioral measures, such as the length of time squeezing a hand grip, not laughing at funny things (Muraven *et al.*, 1998), and observed use of seat belts by drivers (Keane *et al.*, 1993); various cognitively based scales (examples: Grasmick *et al.*, 1993; Gibbs *et al.*, 1998; Wright *et al.*, 1999); ratings by teachers or parents (Caspi *et al.*, 1994; Tremblay *et al.*, 1995; Paternoster and Brame, 1998); correct drawing with a crayon through a maze (Wilson and Herrnstein, 1985), length of time tracing a circle when told to go as slowly as possible (White *et al.*, 1994); and even self-reported inability to avoid thinking about white bears when instructed to do so

(Muraven *et al.*, 1998). Yet, the actual nature of low self-control is uncertain.

Gottfredson and Hirschi's discussion (1990, pp. 85–120) stresses two main ideas. First, most of their statements actually say nothing about the trait or characteristic of self-control *per se*. They simply catalog ways that individuals differ in their *behavioral tendencies* or preferences. From their descriptions, *low self-control* appears mainly to be a phrase to describe patterns of what some people do, rather than being a quality that individuals possess. Thus, some people: “lack diligence, tenacity, or persistence,” “respond to tangible stimuli in the immediate environment,” “avoid criminal acts,” “be adventuresome, active, and physical,” etc.

Second, when Gottfredson and Hirschi (1990) do directly discuss the quality, or trait, they call low self-control, their statements suggest that it consists mainly of the lack of *capability* for controlling behavior. For example, they (p. 94) cite the research of Robins (1966, 1978) as being particularly significant and consistent with their ideas. They summarize her findings showing that adult criminals have difficulty persisting in a job, acquiring and retaining friends, and meeting the demands of long term financial commitments. We interpret this to mean that such individuals lack the ability to do those things. Our interpretation stems from Gottfredson and Hirschi's observation that “crime is among the least serious consequences of a lack of self-control in terms of the quality of life of those lacking it,” implying that those suffering such deficiencies would not choose to do so, but are unable to do anything about it. In a few places the authors actually say that those with low self-control lack “*ability* to calculate potential gain” (p. 95) and are less “*capable* of delaying gratification” (p. 97).

However, the theorists allude to another individual characteristic that bears on self-control—*desire* to restrain behavior. Although Gottfredson and Hirschi do not fully develop the idea that people differ in their desire to restrain themselves as well as their ability to do so, various scholars (see, Baumeister *et al.*, 1994, pp. 29–31; Baumeister, 1997; Jackson *et al.*, 2000; Trope and Fishbach, 2000; Finkel and Campbell, 2001) have recognized this distinction. Wanting to control one's actions, which is conceptually distinct from the absence of motivation (or desire) to do the act and thereby reap its benefits, may be as useful for predicting criminal behavior as is capacity for self-regulation. As noted before, those who can control themselves may not always want to do so; instead, they may sometimes deliberately choose to commit criminal acts, while those who lack the capacity for strong self-control may nevertheless so fervently want to control themselves that they refrain from criminal acts. And, people who simultaneously lack the capacity for strong self-control and who possess little desire to control themselves may be especially prone to criminal conduct, while those with strong capability

for self-control and with great interest in exercising that self-control may be especially unlikely to offend. Logically, then, self-control ability and interest in exercising self-control should interact in producing misbehaviors.

Although in four passages Gottfredson and Hirschi hint at possible variation among individuals in desire to exercise self-control, in general they seem indifferent to the idea. For example, on page 96 (1990) they describe low self-control as reflecting “the ability and *willingness* to delay gratification” and on page 97 (1990) they characterize those with high self-control as being “*more willing* to accept restraints.” However, these statements contrast sharply with 22 statements in Chapter 5 (1990) implying that self-control is simply a tendency to behave in certain ways or is a quality representing one’s capability for self-restraint. And, the authors explicitly deny that self-control involves conscience (1990, p. 88), a phenomenon that most people would interpret as a part of a desire to exercise self-restraint (Baumeister and Exline, 1999). Therefore, Gottfredson and Hirschi’s recognition of a distinction between self-control ability and self-control desire is subdued and ambivalent.

Perhaps as a result, researchers who have attempted to test self-control theory have focused their attention on measures of behavioral tendencies, or on measures of ability to exercise self-control, neglecting almost totally the possibility that people differ in how strongly they want to exercise self-control. We believe the theory, and the ability to explain and predict misbehavior, can be improved by explicitly accommodating this distinction.

2. THE STUDY

In exploring the possible empirical distinction between desire to exercise self-control and self-control as conventionally measured, which focuses mainly on ability to regulate one’s impulses, we use indirect indicators to try to establish the plausibility of desire for self-regulation as a distinct but coherent concept. The composite scale derived from these indirect indicators is expected to show an interaction with conventionally measured self-control in the prediction of criminal/deviant behavior. In particular, self-control ability, in the presence of a strong desire to exercise it, should predict criminal behavior especially well. Similarly, in the presence of a weak desire to exercise it, self-control ability should produce much poorer prediction.

2.1. Methods

2.1.1. Sample

Data were collected in the 16th (1994) annual Oklahoma City Survey. A simple random sample of adults (18 and older) was drawn from the

R.L. Polk Directory of households for the city. Initial contact was made by letter and later attempts to schedule appointments were made in person by trained interviewers. Three hundred and fifty face-to-face interviews were conducted. Forty percent of the initially targeted individuals provided a completed interview with the remainder of the sample being random substitutions. Respondents recorded information about their criminal behavior on a separate answer sheet, which the interviewer did not see.

Comparison of demographic characteristics of the survey sample with census data for 1990 shows the sample to be slightly more female (56% vs. 53% for those 18+ in the census), white (80% vs. 78% for those 18+ in the census), and perhaps older (mean of 46.4 for this sample of people over 17 vs. 32.3 for the census population that includes all ages) than the census 4 years earlier. Some of these differences may be because our sample contains only adults or because of demographic changes during the ensuing 4 years. However, the sample probably also reflects inherent biases in household surveying.

Hirschi and Gottfredson (1993, p. 48) contend that surveys miss people with extremely low self-control as well as high volume offenders. Therefore, effective surveys must reflect differences among individuals that are relevant to self-control theory. Consistent with that requirement, this survey included drinkers (17% report drinking more than two or three alcoholic beverages a week), smokers (28%), those who fail to use seat belts (38%), and people who admit acts of force or fraud (means ranging from 1.98 to 1.48 on various dichotomous self-reports where 1 is low and 2 is high). Since such markers presumably reflect low self-control, the data should permit addressing the issues posed. However, since the sample disproportionately contains people theoretically less likely to have low self-control and to commit crimes (females, whites, and older), we can expect the association between self-control ability and crime, as well as the association between desire to exercise self-control and crime, to be somewhat attenuated from what it might be if there were equal representation of all elements of the population. There is no reason, however, to think that the attenuation will be greater for one or another of the variables on which we are focusing and since neither of the measures incorporates actual reports of misbehavior, we assume that response biases will affect the two variables more or less equally.

2.1.1.1. The "Opportunity" Issue. One weakness of this survey is the absence of an attempt to measure criminal opportunity or temptation. Although the authors of self-control theory initially alluded to the import of opportunity in the activation of deviant behavior, they minimized its significance, contending that opportunities for criminal behavior are ubiquitous (see Grasmick *et al.*, 1993, for a discussion). Indeed, they (Hirschi and Gottfredson,

1993, p. 50) later state that self-control and opportunity are actually independent in their effects on crime, though more recently (Hirschi and Gottfredson, 1995, p. 140) they seem to put a little more stock in the conditional influence of opportunity. However, they never actually define opportunity. Grasmick *et al.* (1993) surmised that opportunity implies that a given act is possible (for example, cars to be stolen) without immediate costs (such as strong chances of being caught or punished). However, opportunity may be conceptualized in a more useful way—as a situation where a given act is physically possible.

An opportunity to rob a bank exists where there are banks and nothing to physically prevent robbery, such as armed guards and unbreakable locks. Perceived chances of apprehension, fear of sanctions, motivation to rob stimulated by absolute or relative deprivation, or other such things seem to go beyond a workable notion of opportunity. It appears useful to differentiate the immediate physical phenomenon of opportunity from aspects of the situation that may influence decisions about whether to misbehave, given that opportunity. Some of those situational aspects that might influence a person's decision to offend or not, such as fear of sanctions, help make up what we call *desire to exercise self-control* while others, such as the value of the act for the potential perpetrator, may also affect the probability of offending.

People no doubt differ in their perceptions even of physical opportunities for crime, and taking such perceptual differences or actual opportunities into account might enhance the predictive and explanatory capability of self-control ability as well as self-control desire. But, as the theorists note, opportunities, however conceived, for most forms of misbehavior, are widespread. This ubiquity is particularly true if opportunity is conceived to be a possibility for committing a self-gratifying act. Without some possibility of deviance, self-control ability and desire to exercise self-control would both be irrelevant because misbehavior could not occur. And, if many perceived opportunities allow low self-control to reflect itself in high probabilities of misbehavior, so should such perceived opportunities permit low interest in exercising self-control to result in misbehavior. There may be situations where actual or perceived opportunity would affect one or another of these variables differently. And to the extent that this is the true, our results will be distorted. However, such circumstances would seem to be unusual.

2.1.2. Measures of Independent Variables

2.1.2.1. Self-Control Capability. We first assess whether conventional indicators of self-control are distinguishable from indicators that we think

reflect desire to exercise self-restraint. Most studies of self-control use cognitive scales tapping tendencies to behave in certain ways or of expressions of certain preferences, which we refer to as measures of *ability to exercise self-control*. The one most often used (Grasmick *et al.*, 1993) is based on 23 total items, including four representing each of five “dimensions,” and three reflecting a sixth “dimension,” that Gottfredson and Hirschi (1990, pp. 89–90) identify as essential components of low self-control. We use those same items with four response categories. To match the direction of our measure of “interest in exercising self-control,” we reverse the scoring so that high scores reflect stronger capability for self-control.

2.1.2.2. Desire to Practice Self-Restraint. Once formed, self-control, as conceived by Gottfredson and Hirschi, is totally “in the person,” lacking connection with future social environments or situational contexts. Interest in exercising self-restraint, however, is conceptualized as having strong linkages with the immediate social world (cf. Lynam *et al.*, 2000; Miller and Lynam, 2001). But because self-control desire is a recent idea, these 1994 data do not contain direct indicators of it. However, drawing on theories concerning the interactions of individuals with their social environments, we identify several items in the survey that seem to reflect a desire to self-regulate. Various social science theories (self-theories, particularly from the symbolic interaction perspective, social learning theory, social bonds, or social control theory, and rational choice theory), though ostensibly different, actually deal with a common central theme that seems to concern individuals’ desire to exercise self-restraint in the face of temptation.

Self-theories (Cooley, 1902; Mead, 1934; Blumer, 1969; Rosenberg, 1979; Kaplan, 1980; Stryker, 1980; Matsueda, 1992) suggest that people concerned about the effect of potential misbehavior on their self-esteem or self-image, or on the reactions of significant others whose responses would have the most effect in reinforcing a sense of self, should have a strong desire to avoid following impulses for misbehavior. Two sets of items seem to reflect these notions. In one of those sets, the respondent agreed/disagreed (using a five point format) with the following question: “Generally, in most situations my feelings of pride in myself would be increased if [hypothetically] I did *not* (offense).” The question does not elicit an actual self-report of resisting misbehavior, but instead prompts respondents to assume a temptation and imagine, for their sense of pride, the consequences of resisting. Imagining doing or not doing something and thinking about the consequences is not the same as actually doing or refraining from the behavior because most people, even those who probably would never actually commit a given act, can vicariously contemplate what would happen if they did. Indeed, the notion of deterrence is based on this very process. Therefore, the scale to be

derived, which includes such items, is not likely to be tautologically related to measures of actual or projected misbehavior. Since pride in oneself is closely linked to notions of self (Baumeister *et al.*, 1994, p. 17, 140–141), particularly self-esteem, responses are scored so that greater agreement signifies greater desire to exercise self-control.

In the second set of items, respondents judged the likelihood that “people whose opinions you value” would lose respect for them if (hypothetically) they were to do each of five deviant acts (from “definitely would” to “definitely would not”). These answers, seemingly reflecting concerns with having one’s self-image reinforced by significant others, are scored so that greater likelihood of losing respect indicates greater interest in constraining one’s urges to misbehave.

Social learning theory (Bandura, 1969, 1977; Akers, 1985; Wilson and Herrnstein, 1985) contends that human behavior follows patterns of reward and punishment, both in situational contexts and in the formation of more or less stable attitudes, values, skills, and motivations. Accordingly, those who anticipate reward for constraining themselves and punishment for failing to exercise self-control should have greater interest in self-regulation. Several sets of items in the survey concern perceptions of potential benefits and costs for showing self-restraint. We have already mentioned the items concerning respondents’ perceptions of possibly losing the respect of people important to them. Those items suggest an effort to preserve a self-image, but they also reflect a type of potential sanction for behaving in an unconstrained way. In addition, respondents were asked “Would most of the people whose opinions you value express praise for you for [hypothetically] *not* (offense)”. Again, this is not an actual self-report of misbehavior, but is a prompt for the respondent to assume a temptation and then imagine the consequences of not yielding to it. We scored responses so that the greater the expressed chances of such praise (on a five point continuum from “definitely would” to “definitely would not”), the greater the desire to exercise self-control. Further, using the same response categories, subjects reported the chances they would get caught if they engaged in each of the five offenses. Greater chances of apprehension were scored to reflect greater desire to restrain impulses toward those misbehaviors.

One of the things a person can learn, according to social learning theory (Bandura, 1977, p. 129), is morality. When the learning process results in internalization of moral values, people want to control their own behavior to avoid the emotional pain of guilt. The survey includes two sets of items bearing on such moral feelings and anticipations of psychic pain in hypothetical instances of violation. Using a five category format from “strongly agree” to “strongly disagree,” one set of items asked respondents, “Generally, in most situations, I would feel guilty if I (offense).” Higher agreement was scored to reflect higher desire to exercise self-control. In addition,

respondents were asked their degree of agreement or disagreement with the statement: "It is always morally wrong to [offense]." Scoring assumes that greater agreement about the act's moral wrongness implies greater chances of an internalized moral code mandating self-control.

Most of the items described above are also common to social control, or social bonds (examples: Reiss, 1951; Toby, 1957; Hirschi, 1969; Felson, 1986), and utilitarian theories (Bentham, 1948 [1780]; Beccaria, 1963 [1764]; Cornish and Clarke; 1986). According to social bond theory, mechanisms generating conformity include seeking social approval (Felson, 1986; Braithwaite, 1989; Horwitz, 1990), fearing loss of investments (Toby, 1957; Hirschi, 1969), caring about others (Hirschi, 1969; Braithwaite, 1989), sharing beliefs (Reiss, 1951; Hirschi, 1969), and preserving a good self-concept (Reckless *et al.*, 1957; Matsueda and Heimer, 1997). When people are concerned with these things, as reflected by the items described above, they should have strong interests in self-regulation. Similarly, utilitarian theory (economic or rational choice theory) suggests that fear of getting caught for misbehavior and anticipating praise from others for avoiding criminal conduct should indirectly indicate a desire to exercise self-control. Imagining benefiting from an act by getting praise or avoiding loss of respect by doing it, should make people want to commit that act but anticipating cost should generate desire to self-regulate.

Self-learning, social bonding, and rational choice arguments all seem to identify influences on peoples' desires to exercise self-restraint, and many of the influences they identify appear similar. Therefore, we begin by imagining that a collection of items bearing on the stimuli noted by these theories, provided they are independent of the items conventionally used to measure self-control ability, may be reasonably combined to reflect an interest in self-regulation. We put that assumption to a test with the 30 items, which are listed in Table I. In investigating self-control hypotheses, a few researchers have already made use of indicators similar to some of these (Nagin and Paternoster, 1993; Piquero and Tibbetts, 1996), especially in examining the possibility of indirect effects of self-control. However, such items have not previously been conceived as part of one underlying concept, as we are doing here.

We conceptualize desire to exercise self-control as an individual characteristic, but not as a completely stable or "inherent" quality. Thus, we differentiate it from Gottfredson and Hirschi's notion of self-control both in content (one reflects ability to exercise self-control and the other reflects interest in self-regulation), and by the nature of the constructs (one is completely internally driven and the other is partly externally linked). While a desire to exercise self-control probably has some kinship with personality, it is also different in being more responsive to immediate social stimuli.

Table I. Items Potentially Indicating Desire to Exercise Self-Control

	Factor 1	Factor 2	Scale factor	Mean	SD
Generally, in most situations my feelings of pride in myself would be increased if:					
1. I did <i>not</i> participate in illegal gambling on a sporting event.	0.658	0.004	0.650	3.05	0.997
2. If I <i>refrained from</i> physically hurting another person on purpose.	0.544	0.006	0.560	3.50	0.800
3. If I <i>refrained from</i> taking something from someplace worth <i>less than \$20</i> ...	0.480	-0.003	0.481	3.54	0.793
4. If I did <i>not</i> drive an automobile while under the influence of alcohol.	0.533	-0.003	0.540	3.50	0.765
5. If I did <i>not</i> fail to report certain income or claim an undeserved deduction ...	0.661	0.156	0.690	3.20	0.910
Would most of the people whose opinions you value lose respect for you if:					
6. You gambled illegally on a sporting event or other situation.	0.660	0.002	0.610	2.50	0.981
7. You physically hurt another person on purpose.	0.496	0.115	0.521	3.31	0.780
8. You took something from someplace worth <i>less than \$20</i> ...	0.484	0.168	0.520	3.37	0.740
9. You drove an automobile while under the influence of a moderate amount of alcohol.	0.569	0.003	0.580	3.20	0.854
10. You failed to report certain income or claimed an undeserved deduction ...	0.620	0.003	0.623	2.63	0.910
Would most of the people whose opinions you value express praise for you:					
11. For <i>not</i> participating in illegal gambling on a sporting event or other situation.	0.719	-0.185	0.690	2.65	0.910
12. If you <i>refrained from</i> physically hurting another person on purpose.	0.574	-0.162	0.562	3.20	0.833
13. If you <i>refrained from</i> taking something from someplace worth <i>less than \$20</i> ...	0.624	-0.202	0.610	3.11	0.870
14. If you did <i>not</i> drive an automobile while under the influence ...	0.569	-0.257	0.540	3.20	0.850
15. If you did <i>not</i> fail to report certain income or claim an undeserved deduction ...	0.696	-0.127	0.683	2.70	0.900
Do you think you would get caught if:					
16. You gambled illegally on a sporting event or other situation.	0.565	-0.006	0.550	2.45	0.880
17. You took something from someplace worth <i>less than \$20</i> that did not belong to you.	0.510	-0.004	0.552	2.99	0.810
18. You drove an automobile while under the influence of a moderate amount of alcohol.	0.571	-0.124	0.550	2.92	0.810
19. You failed to report certain income or claimed an undeserved deduction ...	0.559	-0.000	0.552	2.91	0.802
20. You physically hurt another person on purpose.	0.418	-0.005	0.397	3.29	0.683

Table I. (Continued)

	Factor 1	Factor 2	Scale factor	Mean	SD
Generally, in most situations, I would feel guilty if:					
21. I failed to report certain income or claimed an undeserved deduction ...	0.565	0.405	0.610	2.74	1.120
22. I gambled illegally on a sporting event or other situation.	0.598	0.288	0.621	3.60	0.741
23. I drove an automobile while under the influence...	0.516	0.241	0.549	3.24	0.885
24. I physically hurt another person on purpose.	0.380	0.367	-	-	-
25. I took something from someplace worth <i>less than</i> \$20 that did not belong to me.	0.297	0.363	-	-	-
Morality:					
26. It is always morally wrong to gamble illegally.	0.373	0.276	-	-	-
27. It is always morally wrong to physically hurt another person on purpose.	0.346	0.206	-	-	-
28. It is always morally wrong to drive while under the influence of alcohol.	0.278	0.150	-	-	-
29. It is always wrong to steal, no matter what the value of the item is.	0.241	0.222	-	-	-
30. It is always morally wrong to cheat on your income tax.	0.371	0.337	-	-	-

Some people may draw on long established patterns of wanting (or not) to control themselves, take pride in reflecting such tendencies, and tap into deep notions of self in their cognitive reflections about exercising self-control. However, whether that interest in self-regulation manifests itself probably depends on many contextual contingencies, including one's perception of the composition and quality of the social audience, specific types of misbehavior that might be at issue, and one's experience and reputation.

Initially, to ascertain if the potential indicators of desire to exercise self-control identified above are distinguishable from the conventional Grasmick *et al.* self-control items, we performed a principal components factor analysis with an oblique, forced two factor solution for the entire set of items. The results show that 23 (bolded, Column 1 of Table I) of the 30 "desire to self-regulate" items load well (greater than 0.48) on Factor 1 but poorly on Factor 2. By contrast, 21 of the 23 self-control ability items load heavily on Factor 2 (0.30 or greater) but poorly on Factor 1 (not shown). This suggests that the two constructs bearing on self-control are distinct and that we may be able to identify two unified underlying variables that are basically independent of each other and can be tapped with factor composite scales. To test that possibility, we performed principal component factor analyses separately on each of the two sets of items that we found to be differentiated from each other, and used the factor loading to construct separate scales that show a correlation with each other of only 0.007.

2.1.2.3. Measure of Self-Control Ability. Scales composed of the 23 Grasmick *et al.* self-control items have achieved at least moderate popularity despite debate about unidimensionality (Arneklev *et al.*, 1993; Grasmick *et al.*, 1993; Longshore *et al.*, 1996; Longshore *et al.*, 1998; Piquero and Rosay, 1998; Arneklev *et al.*, 1999; Piquero *et al.*, 2000; Miller and Lynam, 2001; Vaszonyi *et al.*, 2001). Here those items, as in other studies, form more than one factor with an eigenvalue greater than one, but the number of

Table II. Differences in Eigenvalues for Self-Control Ability and Self-Control Desire

Factor	Self-control ability (Grasmick <i>et al.</i>)		Desire to exercise self-control	
	Value	Difference	Value	Difference
1	5.24	–	7.94	–
2	2.75	(2.48)	2.75	(5.20)
3	2.00	(0.76)	2.02	(0.73)
4	1.77	(0.23)	1.75	(0.27)
5	1.63	(0.14)	1.20	(0.55)
6	1.10	(0.53)	1.09	(0.11)

factors is partly a function of the number of items. Therefore, we look to differences in adjacent eigenvalues (Nunnally and Bernstein, 1994, pp. 482–484) for guidance. As table II shows, the difference between the first and second factors (2.48), compared to the difference between the second and third factors (0.76), suggests that a one factor model is appropriate, even though there is a small discontinuity in differences between the fifth and sixth factors. Therefore, as others have done, we combine all of the items into a factor based composite scale⁵ by multiplying the z score for each individual by the regression factor score for each item and summing. Results with this and other factor based scales to be described are similar with missing values deleted listwise and with means assigned to missing cases. The final scale has a mean of zero, with scores ranging from -3.1 to 2.1 , a standard deviation of one, and an α of 0.82.

2.1.2.4. Measure of Self-Control Desire. Exploratory factor analysis of the indirect indicators of “interest in self-restraint,” even more strongly than for self-control desire, justifies a composite scale. Although more than one factor emerges with a large eigenvalue, the great difference in eigenvalues between the first and second factors (5.20) relative to that between the second and third factors (0.52) suggests the appropriateness of a single factor model (Nunnally and Bernstein, 1994), even though there is again a small discontinuity in differences between the fourth and fifth factors. The factor composite *self-control desire* scale, formed by multiplying the z scores by the regression factor score, has a mean of zero, a standard deviation of one, and an α of 0.91. As shown later, its performance contributes to a sense of construct validity.

It is important to recognize that self-control desire, as we conceptualize and measure it, is *not* the same as “desire to commit criminal acts,” and is *not* similar to “motivation for criminal conduct.” A person can have an urge, impulse, or desire to commit some act (that is, the act can have strong appeal because of its potential gratifying capability), but at the same time the person may know that committing it is wrong or likely to be costly. Thus, such a person may simultaneously strongly desire to exercise self-restraint and to misbehave, but the two are different phenomena. By contrast, some people may have little motivation for criminal acts while also possessing strong desires to exercise self-control. And others may have strong urges for deviance along with weak interest in self-regulation. For instance, feeling pride in oneself for refraining from potential criminal acts

⁵We also constructed two alternative scales. In one we multiplied the z score for each individual by the factor loading and summed, and in the other we used a simple addition of raw scores. The results are substantively the same with all three methods. Therefore, we report the findings only for the basic composite scale where z scores are multiplied by the regression factor score.

(one of the sets of items in our self-control desire scale), may characterize someone who is actually strongly attracted to the act. The impulse, or desire, to commit the act in question, or as some refer to it (Nagin and Paternoster, 1993; Piquero and Tibbetts, 1996), the “pleasure of the act,” constitutes criminal motivation, but knowing there is a price for actually committing the act helps make up a desire to curb those impulses.

Critics (examples: Benson and Moore, 1992; Grasmick *et al.*, 1993) contend that self-control theory can be improved by taking into account deviant motivation. Unfortunately, our data contain no measures of the pleasure or appeal of misconduct. Consequently, we assume, as Gottfredson and Hirschi (1990) theorize, that our respondents are sufficiently motivated that ability and desire to exercise self-control can come into play in affecting whether or not they actually offend. However, even if that assumption is incorrect, variation in actual motivation for criminal behavior should affect the operation of *self-control ability* and *self-control desire* more or less equally, leaving our comparisons unaffected.

2.1.3. Measures of Dependent Variables

2.1.3.1. General Crime Index. We combine seven self-reports of past misbehavior (since being an adult and during the past 5 years) and five projections of future misbehavior, oriented around different offenses—assault (four items), stealing something worth less than \$20 (two items), cheating on income tax (two items), illegal gambling (two items), and impaired driving (two items). Table III shows the items, along with relevant statistics, that were combined into a composite factor scale using the method described before. The 12 items show a reliability coefficient of 0.77.

Past reports and future projections are combined into one scale to increase reliability and efficiency of presentation. But to make sure our results are not biased by this combination, we constructed general crime indexes separately for past reports (using reports for the past 5 years) and for future projections and analyzed the indicators of specific offenses separately. Although the magnitude and significance of coefficients sometimes differed using one or the other of these alternative measures relative to the combined scales, the substantive patterns are the same. In addition, the coefficients for future projections are generally slightly larger than for past reports. This discrepancy could arise because those with low self-control ability but a strong desire to self-regulate may project low probabilities of future offense but in actual situations in the past found they could not resist temptation. This is consistent with the notion that self-control ability and self-control

Table III. Items Included in Crime/Deviance Indexes

	Factor loading			Mean	SD
	Gen crime/dev	GH crime			
1. As an adult, i.e., since you were 18, how often have you beaten or punched another adult?	0.546	0.614	1.08	0.267	
2. In the future will you ever take something from someone worth <i>less than</i> \$20 that does not belong to you?	0.444	0.604	1.05	0.230	
3. In the past 5 years have you ever failed to report a certain income or claimed an undeserved deduction on your income tax return?	0.637	0.636	0.118	0.390	
4. In the past 5 years have you ever taken something worth <i>less than</i> \$20 that does not belong to you?	0.514	0.640	1.13	0.333	
5. In the past 5 years have you ever physically hurt another person on purpose?	0.553	0.553	1.11	0.310	
6. In the future will you ever physically hurt another person on purpose?	0.517	0.611	1.10	0.270	
7. In the future will you ever fail to report a certain income or claim an undeserved deduction on your income tax return?	0.602	0.619	1.17	0.376	
8. As an adult, how often have you threatened someone with physical violence?	0.455	0.462	1.48	0.741	
9. In the future will you ever gamble illegally on a sporting event or other situation?	0.674		1.23	0.453	
10. In the future will you ever drive an automobile while under the influence of a moderate amount of alcohol?	0.551		1.23	0.413	
11. In the past 5 years have you ever driven an automobile while under the influence of a moderate amount of alcohol?	0.499		1.31	0.463	
12. In the past 5 years have you ever gambled illegally on a sporting event or other situation?	0.725		1.29	0.452	

desire are separable phenomena, but the discrepancy in magnitude of coefficients is not great enough to call into question our results using the combined measures.

2.1.3.2. A Gottfredson/Hirschi Crime Index. Because Gottfredson and Hirschi's theory is designed to explain acts of force or fraud undertaken for personal gratification, we constructed an index using force and fraud items. That scale is composed of the first six items in Table III and it has an α coefficient of 0.68.

2.1.3.3. Specific Offenses. We also use measures of the five specific offenses making up the general indexes. Since the pattern of results is similar for self-reports of past misbehavior and future projections, we combine both indicators for each offense, using our standard scaling procedure, to create crime specific measures.⁶ For the assault index, we used items 1 and 5 from Table III. For the theft index, items 2 and 4 from Table III are used. Items 9 and 12 from the first panel of Table III are combined in a measure of illegal gambling. Tax cheating was measured by items 3 and 7 from the top panel of Table III. To measure DWI, we used items 10 and 11 from Table III.

2.1.3.4. Control Variables. We include six control variables: sex of respondent, race, age, education, childhood family intactness, and the type of place where the respondent spent the most time growing up. Sex is coded "1" for females and "2" for males. Race is non-white (1) and white (2). Age is continuous with a mean of 46.4 and a standard deviation of 17.3. Education of the respondent, which we assume also roughly reflects the educational achievement of the parents, is in eight categories: (0) less than high school graduate; (1) high school graduate; (2) post-high school training; (3) some college; (4) college graduate; (5) some graduate work; (6) having a master's degree; (7) some post-master's work and (8) an advanced graduate degree. Childhood family structure was tapped by the following item: "Think back to when you were growing up: *in general*, which of the following describes your family situation?" Most of the time, you were living with (1) your mother or mother-figure (like a stepmother); (2) only your father or a father-figure (like a stepfather); (3) both your mother (or mother-figure) and father

⁶Some might think we should use future projections of criminal behavior as dependent variables, controlling past offenses (cf. Piquero and Tibbetts, 1996). However, if self-control ability is completely formed in childhood, as Gottfredson and Hirschi contend, it affects offenses committed later (either within the past 5 years or since being an adult) just as it affects future projections. Therefore, controlling past offenses would reduce some of the legitimate effect of *self-control ability* on the crime/deviance measures, giving our measure of *self-control desire* an unfair advantage since some of its effect is presumably due to more immediate influences.

(or father-figure); (4) other. We scored the responses: “1” for “only father...” and “other”; “2” for “only mother...”; and “3” for both parents, whether biological or surrogate. Finally, child residence is in five categories from farm to city.

2.1.4. Analysis

We use three analytic steps, the first of which employs multiple regression with nine predictors: *self-control ability*, *self-control desire*, six control variables, and a multiplicative interaction term for ability and desire. This basic analysis is repeated for each of seven different measures of crime/deviance. Second, following procedures laid out by Aiken and West (1991, pp. 12–22), we examine the nature of significant interactions of *self-control ability* and *self-control desire* in predicting the measures of crime. Third, we illustrate how these two variables work in combination by focusing on the absolute magnitude of reported crime/deviance among four subgroups of respondents representing different combinations of *self-control ability* and *self-control desire*. In identifying the subgroups, we divided the respondents into approximately equal numbers, according to median scores on the respective scales, although the results are similar if we use cut off points for high self-control of the top third and the top two-thirds.

3. RESULTS

We hypothesized, first, that *self-control desire* would predict crime/deviance as well as *self-control ability*. The first row of the Table IV shows the coefficients for *self-control ability*, without *self-control desire* or an interaction term in the equations. The second row shows the coefficients for the *self-control desire* measure developed in this research, under the same conditions. The equations producing these coefficients contain six control variables.

The figures in row one are consistent with previous research in showing modest, statistically significant negative coefficients for *self-control ability* in predicting all of the measures of crime/deviance. Remember that our scale reflects *greater* ability to exercise self-control, so previous studies using similar scales (example: Grasmick *et al.*, 1993) reported positive coefficients (higher *low self-control ability*, more criminal behavior) while ours are negative (greater self-control ability, less criminal behavior). However, the figures in row two suggest that *self-control desire* predicts the crime measures equally well. All of the coefficients are negative (greater the interest in self-regulation, the less the chances of criminal behavior) and statistically significant. In addition, for only two of the crime/deviance measures are the *self-control desire* and *self-control ability* coefficients significantly different

Table IV. Self-Control Ability and Self-Control Desire, Predicting Various Measures of Crime (Standardized Coefficients in Parentheses)

Predictor	General CR Index	G-H CR Index	Assault	Theft	Tax cheat	Illegal gamble	DWI
Self-control measures without the other controlled:							
Self-control ability	-0.30 (-0.30)*	-0.30 (-0.30)*	-0.29 (-0.29)*	-0.17 (-0.17)*	-0.16 (-0.16)*	-0.18 (-0.18)*	-0.12 (-0.12)*
Self-control desire	-0.39 (-0.39)*	-0.28 (-0.28)*	-0.19 (-0.19)*	-0.16 (-0.16)*	-0.24 (-0.24)*	-0.34 (-0.34)*	-0.30 (-0.30)*
Difference	-0.09 (-0.09)	0.02 (0.02)	0.10 (0.10)	0.01 (0.01)	-0.08 (-0.08)	-0.16 (-0.16)**	-0.18 (-0.18)**
Interaction analysis ^a :							
Self-control ability	-0.25 (-0.25)*	-0.27 (-0.27)*	-0.27 (-0.27)*	-0.15 (-0.15)*	-0.12 (-0.12)*	-0.14 (-0.14)*	-0.01 (-0.08)
Self-control desire	-0.36 (-0.36)*	-0.25 (-0.25)*	-0.16 (-0.16)*	-0.14 (-0.14)*	-0.23 (-0.23)*	-0.32 (-0.32)*	-0.29 (-0.29)*
Ability × desire	0.10 (0.11)*	0.15 (0.16)*	0.18 (0.20)*	0.00 (0.07)	0.00 (0.06)	0.00 (0.04)	-0.00 (-0.03)
Adjusted r ²	0.35	0.26	0.20	0.08	0.08	0.21	0.21

* $P < 0.05$; t test for regression coefficients.** $P < 0.05$; z test according to formula presented by Paternoster *et al.* (1998) for differences in coefficients.^aAll predictors are centered, and all equations contain six control variables: sex, race, age, education, childhood family structure, and childhood residence.

(the coefficients for *self-control desire* are significantly larger for Illegal Gambling, and DWI).

Not only do both constructs predict the crime/deviance measures reasonably well, but their effects appear to be independent. The figures in the second panel of Table IV, Row 1, show that when *self-control desire* is at its mean, which is zero in this case (Aiken and West, 1991, p. 13), in almost all instances *self-control ability* still predicts the measures of crime/deviance significantly and reasonably well. The exception is DWI, a form of misbehavior that does not fit the Gottfredson/Hirschi definition of force or fraud for self-gratification, where the coefficient is small and insignificant. The figures in row two of the second panel, concerning *self-control desire*, show statistically significant independent coefficients representing the effect of *self-control desire* when *self-control ability* is at its mean (zero) for all of the measures of crime/deviance. Thus, it appears that among this sample people's desire to self-regulate has as much import as their ability to do so. And, given the relatively low r^2 , other things may be operative also.

Further, the lower panel of Table IV shows a significant interaction between *self-control ability* and *self-control desire* in predicting the three most reliable crime/deviance indexes (General Index, the G-H Crime Index, and the Assault measure). Even though *self-control ability* and *self-control desire* have independent effects on most forms of crime/deviance, they also bear an interactive relationship for these three. The magnitude of the coefficient for *self-control ability* decreases as the magnitude of *self-control desire* increases.

This interaction is illustrated in Table V where the columns represent the magnitude of the effects of *self-control ability* when *self-control desire* is one standard deviation below the mean, at the mean (zero), and one standard deviation above the mean (Aiken and West, 1991, pp. 14–21). For all three measures, the coefficient for *self-control ability* becomes smaller (less

Table V. Regression Coefficients Representing the Effects of Self-Control Ability on Three Measures of Crime/Deviance, at Different Levels of Self-Control Desire

	Level of desire to exercise self-control		
	One SD below mean	Mean (zero)	One SD above mean
Crime/deviance index:			
General index	-0.35*	-0.25*	-0.15*
G-H CR index	-0.42*	-0.27*	-0.12
Assault	-0.46*	-0.27*	-0.01

* $P < 0.05$.

Note: All equations contain six control variables, and all variables are centered.

negative) moving from low scores on *self-control desire* to higher scores, even becoming non-significant for the G-H Crime and Assault indexes at the higher level of *self-control desire*. For example, the coefficients for *self-control ability* predicting the General Crime Index are -0.35 when the measure of interest in exercising self-control is one standard deviation below the mean. That coefficient declines to -0.25 when the measure for *self-control desire* is at the mean (zero). And, it becomes -0.15 when *self-control desire* is one standard deviation above the mean.

The results in Table V suggest that *self-control ability* has fairly strong predictive ability even when people have weak desire to exercise that self-control, contradicting one of our hypotheses. Being able to restrain oneself apparently helps people actually restrain themselves, as self-control theory suggests. However, when people strongly desire to exercise self-restraint, *self-control ability* apparently has much less predictive power. This again contradicts our prior thinking because we thought that predictive strength would have become most obvious among those with a strong desire to exercise self-control. Nonetheless, this result appears contrary to self-control theory. Rather than *self-control ability* predicting strongly in all circumstances, as the generality claim of the theory would anticipate, the magnitude of its effects appear to depend on a person's interest in self-regulation. Ability to exercise self-control appears to be most relevant in inhibiting deviance when an individual's desire to control his or her actions is weak. Under that condition, ability appears to "stand alone" as a major contributor to misbehavior. However, when the desire to control one's behavior is strong, the ability to do so becomes much less relevant in predicting offending. Strong desire to exercise self-control, therefore, may help

Table VI. Mean Scores on Various Measures of Crime/Deviance for Subgroups Varying with Respect to Dichotomous Combinations of Self-Control Ability and Self-Control Desire

	Subgroups			
	Low ability/Low desire ($N = 90$)	High ability/Low desire ($N = 71$)	Low ability/High desire ($N = 75$)	High ability/High desire ($N = 88$)
Crime/deviance measures:				
General index	0.66	0.01	-0.22	-0.51
G-H crime index	0.57	-0.12	-0.01	-0.38
Assault	0.55	-0.19	-0.01	-0.33
Theft	0.38	-0.13	0.00	-0.24
Tax cheating	0.25	0.00	-0.11	-0.19
Illegal gambling	0.52	0.16	-0.27	-0.42
DWI	0.42	0.33	-0.29	-0.44
Mean	0.48	0.01	-0.13	-0.36

“override” the potential influence of weak self-control ability in leading to misbehavior.

Nevertheless, the cumulative effects of the two aspects of self-control are as predicted. Table VI shows the absolute scores on the measures of crime/deviance for subgroups of respondents representing different dichotomous combinations of *self-control ability* and *self-control desire*: (1) those scoring below the median of ability and desire, (2) those scoring below the median of ability but above the median of desire, (3) those scoring above the median on ability but below the median on desire, and (4) those scoring above the median on both ability and desire. For every measure, the mean deviance scores for those who simultaneously scored low on the *self-control ability* and *self-control desire* scales are the highest of the various subgroups (0.48), while those who simultaneously scored high on the *self-control ability* and *self-control desire* scales show the lowest mean deviance scores (−0.36). Those with high/low combinations of scores on the two measures display medium absolute amounts of deviance. However, a high level of desire to exercise self-control appears to be more influential in generating conformity because the mean deviance score is −0.13 for those with strong desire and weak ability, but somewhat greater (0.01) for those with strong ability but low desire. With minor exceptions these same patterns emerge when the high scorers are designated as those scoring in the top third as well as when they are designated as those scoring in the top two-thirds on the scales.

4. DISCUSSION

Our analysis confirms that *self-control ability*, which is rooted in the personality, with few links to the contemporary social environment, and *self-control desire*, which is fundamentally sensitive to the external social context, are two separate individual characteristics and that both are important in the production of conformity. Moreover, the two constructs seem to have cumulative and interactive relationships to each other, at least for some measures of misbehavior. Prediction of criminal/deviant behavior is enhanced when both are taken into account simultaneously, but for some measures of misbehavior, the operation of *self-control ability* appears to be dependent on *self-control desire*—when desire is low, ability has a strong influence but when desire is high, ability has much less influence. These results bear on three issues.

First, some contend that the theory of self-control could be enhanced by specifying contingencies for the operation of its main variable and showing how and why the effects of self-control vary under those different conditions. Our results suggest a specific contingency, *self-control desire*, which seems to condition the operation of self-control as conventionally conceived (ability).

Interest in self-regulation not only seems to be important in its own right, but at higher levels may depress the effect of self-control ability. This result, combined with previous research showing that the effect of self-control ability depends on other conditions (Keane *et al.*, 1993; Nagin and Paternoster, 1993; Burton *et al.*, 1998, 1999; Muraven *et al.*, 1998; LaGrange and Silverman, 1999; Baumeister and Exline, 2000; Lynam *et al.*, 2000; Nakhaie *et al.*, 2000; Giner-Sorolla, 2001), seems to point to the need for theoretical refinement.

Second, our results bear on issues about the strength of self-control, relative to variables from other leading theories. We find *self-control desire*, a composite variable developed in this research, to be of equal utility with *self-control ability*, the concept set forth by Gottfredson and Hirschi. Our measure of *self-control desire* is indirect, composed of indicators of internal and external variables that influence individuals to want to restrain their impulses for immediate gratification. Its variables are derived from self, social control, rational choice, and social learning theories. Therefore, the conclusion that *self-control ability* is only one of several influences on misbehavior rather than being “the cause” of misbehavior seems justified. Hence, it would be useful for theorists to show how ability to exercise self-control links with variables from other theories, including those concerning people’s desire to control their impulses.

Finally, our results call attention to conceptual incompleteness in the existing statements of self-control theory. The theorists do not actually describe the trait or quality of self-control, turning instead to descriptions of patterns of behavior or preference. In so doing, they minimize the possibility that people’s interest in self-regulation is an important concept and that people differ greatly with respect to it. Our results suggest that a full understanding of self-control and criminal/deviant behavior requires that thinking about self-control be expanded beyond the simple idea that ability to control oneself is sufficient for explanation and prediction, at least to include the desire to restrain oneself. At the very least, our results, based as they are on indirect, exploratory measures, suggest that the notion of variations in people’s desire to exercise self-control be further investigated using more direct measures.

5. LIMITATIONS

Although our work is exploratory and suggestive, caution is still warranted. Respondents are from one city, and surveys inevitably miss a disproportionate number of those highly prone to criminal behavior and presumably those with weak self-control. It is possible that such biases may differentially affect one or the other of our measures bearing on self-control. In addition, the data were collected at one point in time, precluding proper time sequencing of the variables. And, we were unable to test the effects of

the two measures in combinations with criminal motivation or of perceived opportunity for misbehavior. Indeed, there is some possibility of overlap between our measure of *self-control desire* and both motivation for crime and opportunity for it, at least as some people conceptualize motivation and opportunity. Future researchers should strive to bring all of these variables into play with direct measurement. Before they can do that, however, all of the concepts identified or implied in self-control theory need to be clarified.

The most important limitation perhaps concerns measurement of people's interest in exercising self-restraint. Our indirect measure may be an inadequate substitute for a direct measure of desire to exercise self-control. In addition, even though the rationale for combining indicators is greater for the desire scale than for the ability scale, there may still be insufficient statistical justification for deriving a composite measure of *self-control desire*. Therefore, the results we have presented, suggesting that individuals' desire to control themselves is a separate construct, distinguishable from *self-control ability* and with equally predictive capabilities, have to be tempered. Furthermore, several of our indicators of self-control desire ask respondents to imagine how they would feel, how they think others would react, and what the consequences would be if they were, hypothetically, to commit or refrain from committing particular criminal acts. Some might argue that such hypothetical reasoning is akin to actual self-reports of misbehavior. We have argued that this is not the case, but if such questions, in fact, do reflect actual misbehavior, or if they are too closely linked with the cognitive processes involved in self-reports of criminal behavior, then our measure may be at least partially tautological.

Questions can also be raised about the scale of *self-control ability*. Critics doubt its unidimensionality, and the authors of the theory contend that cognitive based scales are inferior to behaviorally based ones (Hirschi and Gottfredson, 1993, p. 49). And, more sophisticated analytic techniques could have produced a different outcome. Still, the results might have pointed more convincingly to the need for theoretical revision had more perfect methods been used.

6. CONCLUSION

Results are consistent with past research in showing that self-control, as conventionally conceptualized and measured, which we refer to as *self-control ability*, is a relatively good predictor of criminal/deviant behavior. However, another individual quality bearing on self-control, that of desire to exercise it, largely ignored by statements of self-control theory, is empirically identifiable and equally predictive of measures of criminal

behavior. Our data suggest that *self-control ability* and *self-control desire* have independent predictive capabilities and that they have a cumulative and an interactive relationship with each other in predicting at least some measures of crime/deviance. Moreover, people with various combinations of *self-control ability* and *self-control desire* show marked differences in absolute levels of self-reported misbehavior, suggesting that both should be taken into account for full explanation and prediction.

Our results also confirm that several prominent criticisms of self-control theory may be valid. First, as others have found, self-control ability appears to be at least somewhat contingent in its predictions. Second, while self-control ability has at least modest and persistent capacity for predicting measures of misbehavior, it is not the only thing, or perhaps not even the only aspect of self-control that affects criminal/deviant behavior. Finally, the conceptualization of self-control set forth by Gottfredson and Hirschi appears to be incomplete.

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