Embeddedness, Reflected Appraisals, and Deterrence: A Symbolic Interactionist Theory of Adolescent Theft

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Abstract This chapter builds on work by Matsueda (1992) by incorporating expected consequences of behavior into a symbolic interactionist theory of reflected appraisals and delinquency. Following Granovetter (1985), we frame the problem of integrating a theory of the self and rational choice as specifying how decisions are embedded in the structure of social relations. We argue that Mead's (1934) theories of the self and role-taking provide a theory of decision-making that incorporates social relations concretely in the social act and abstractly through taking the role of the generalized other. We derive several testable hypotheses from a theory of delinquency based on Mead, and test them using longitudinal survey data from the Denver Youth Survey. Using random-effects negative binomial models for counts of self-reported acts of theft, we find general support for our model: Theft is strongly related to reflected appraisals as a rule violator, as well as to the expected costs and rewards to theft. We also find that the deterrent effect of arrest is weaker for youth who see themselves as rule violators.

Keywords The self · Identity · Delinquency · Theft · Longitudinal design · Embeddedness · Symbolic interactionism · Rational choice · Deterrence · Reflected appraisals · Panel model

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1 Introduction

The problem of social control—how society controls the behavior of its members—has traditionally been at the heart of sociology as a discipline (Ross 1901). Research in criminology has examined the problem of controlling crime, exploring two forms of social control: formal control by the legal system, and informal control by social groups. Under formal control, the state threatens offenders with punishment, including arrest, conviction, and incarceration, to deter them from unlawful behavior. Undergirding the legal system is a set of behavioral principles rooted in the classical ideas of the Enlightenment period, which assume people are rational actors calculating costs and benefits associated with all behavior, including crime. It follows that threats of punishment will deter crime by increasing its costs. Historically, sociological criminologists have been skeptical of rational actor models, and therefore, tended to deemphasize the deterrence question. This changed in the late 1960s, as the United States embarked on a policy of mass incarceration to stem the rising tide of crime. Stimulated by Gary Becker's (1968) seminal paper, which applied standard economic utility theory to the question of criminal deterrence, a large body of individual-level survey research has examined deterrence from a neoclassical economic perspective (e.g., Piliavin et al. 1986; Nagin 1998). That research finds consistent but modest effects of the certainty (but not severity) of punishment on offending (see Pratt et al. 2006). Such research has led criminologists, including sociologists, to reconsider rational choice theories of crime (e.g., Cornish and Clarke 1986; Opp 2020).

Sociological criminologists have traditionally emphasized the informal control of crime, in which social groups such as families, schools, peers, and neighborhoods curtail criminal behavior. Research has demonstrated the importance of early childhood socialization by families and peers, as well as informal controls in schools and communities, in launching trajectories of offending. More specifically, research has examined the role of the self—a person's subjective awareness of themselves as an object, including awareness of their abilities, behaviors, and unique characteristics—as a mechanism explaining how social relationships influence delinquent behavior (e.g., Schwartz and Stryker 1970; Matsueda 1992; Heimer and Matsueda 1994; Maruna 2001; Giordano et al. 2002; Paternoster and Bushway 2009). We build on this line of research by specifying a sociological theory of delinquency that integrates a symbolic interactionist conception of the self with rational action.

Previous research incorporating formal and informal controls has often relied on an ad hoc integration of concepts and variables into a statistical model. Typically, a rational choice model of deterrence and crime is specified and then variables representing informal control are added to multivariate models (e.g., Grasmick and Bursik 1990; Nagin and Paternoster 1994). Such research has failed to specify, theoretically, exactly how social relationships enter into decisions about crime. This is an important theoretical question because it asks how utility maximization—an economic concept—can accommodate sociological concepts of social relations, social organization, and the social self.

Our theoretical task is to incorporate social relationships into a model of decision-making. In economics, Akerlof and Kranton (2000, 2010) have incorporated the concepts of social interaction and social identity within a standard neoclassical utility model, treating identity as another argument in the utility function. We take a different strategy, specifying a thoroughly sociological model of social relations and decision-making based on George Herbert Mead's (1924–25, 1934) theory of the self and social control. We then apply the model to the empirical case of the control of delinquent behavior (see Matsueda 2006a).

Our theoretical framework unfolds in five steps. First, we draw on Granovetter's (1985) embeddedness thesis, which critiques utilitarian models for failing to specify how actors' decision-making is embedded in social relations, and which delineates the requisites for a theory of decision-making that includes social relations without reverting to an oversocialized conception of human behavior. Second, we show that Hirschi's (1986) integration of social control theory and rational choice incorporates social relations into decision-making; however, by rejecting the possibility of normative conflict and embeddedness in criminal networks, the control-choice theory is incompatible with embeddedness. Third, we argue that a theory of the self based on Mead is consistent with normative conflict, embeds decision-making in social relations through the generalized other, and provides a theory of information and preference formation.

Fourth, we discuss the development of the self from childhood to adulthood. Adolescence, we argue, is a transitional period in which more complex forms of social organization appear in decision-making through the development of the generalized other. Finally, we apply this symbolic interactionist theory to explain delinquent behavior among adolescents. In contrast to an interpretive symbolic interactionism that uses qualitative methods to explore how meanings are negotiated in interaction (Blumer 1969), we follow the work of Sheldon Stryker (1980) and adopt a structural symbolic interactionism that emphasizes the patterned meanings, selves, and purposive actions that persist across situations and are amenable to quantitative analysis. We argue that the self is a reflection of appraisals by significant others, and that incentives and reflected appraisals may affect delinquency both additively and interactively.

We provide a preliminary test of these ideas using longitudinal data from the Denver Youth Survey (DYS). Although our interactionist model implies dynamic processes involving interactions between individuals with feedback, it also has strong implications for static hypotheses specified for individuals without feedback. We use panel models with lagged covariates to test several key static individual hypotheses.[1]

2 Embeddedness, Social Control, and Differential Social Organization

2.1 The Problem of Embeddedness and Rational Choice

Granovetter (1985) provided a seminal critique of the neoclassical economic model for failing to incorporate social relationships, social organization, and social structure—in short, the stuff of interest to sociologists.[2] Central to this critique is the Hobbesian problem of order: How does society control acts of force and fraud—acts conventionally defined as unlawful? Granovetter restates, approvingly, Wrong's (1961) critique of sociology as guilty of positing an "oversocialized conception of man," in which people are motivated solely by the desire to achieve a positive image of self in the eyes of others, behavior is determined by internalizing consensual norms and values, and conduct is totally shaped by institutionalized patterns. This "oversocialized conception" was popularized by Parsons (1937), whose theory of social action was, in turn, an attempt to solve the problem of order by transcending the atomized utilitarian model favored by Hobbes and other Enlightenment scholars. Absent in such a conception is human agency, choice, and conflict.

In the spirit of Wrong's (1961) critique, Granovetter (1985) calls the utilitarian economic model, an "undersocialized conception of human action," because it ignores the role played by social structure, social organization, and social relations in shaping purposive action. Instead, the utilitarians assume that individuals independently pursue self-interest, resulting in atomization. For Hobbes (1651 [1996]), the pursuit of self-interest results in a war of all against all, pitting atomized individuals against each other and generating a breakdown in social order. The Hobbesian solution to the problem of order is autocratic authority: Members of society agree to a social contract, in which they give up some liberty in exchange for protection of individual rights by the state.

By contrast, neoclassical economics—and classical liberalism—assume social order is achieved through perfect competition under full information (Granovetter 1985). Competitive markets eliminate force or fraud in the long run: When market actors encounter malfeasance, they can simply move their transactions to market sectors containing trusted actors. Order is maintained not by social relations, but by the invisible hand of the market and coercive action of the state. Here, social relations are not only unnecessary for social control, they create friction in transactions, impeding the efficiency of perfect markets. Because frictionless markets are only an ideal realized in the long term, small amounts of unwanted behaviors will be endemic to the system. Those behaviors will be deterred by the threat of punitive sanctions by the state, which is a last resort, rather than a principal mechanism of control. When economists recognize that force and fraud appear to persist in competitive markets with state-sanctioned punitive sanctions, they posit that trust is replaced either by institutional arrangements or a generalized morality (reputation) (Granovetter 1985).

Between the polar opposite cases of over- and undersocialized conceptions of human activity lies embeddedness. For Granovetter (1985, 487):

> Actors do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy. Their attempts at purposive action are instead embedded in concrete, ongoing systems of social behavior.

The problem of embeddedness in social relations suggests that a model of criminal decisions can rest neither on the assumption of atomistic rational actors maximizing utility (undersocialized man), nor the internalization of norms and values by actors motivated solely by the opinions of others (oversocialized man). Instead, scholars must recognize that actors are capable of exercising agency and making choices, but at the same time, are interdependent and embedded in social relations. But, does this simply replace one functionalist solution (frictionless market competition, clever institutional arrangements, generalized morality) with another (social relations)? For Granovetter, the answer, for three reasons, is no.

First, social relations do not guarantee the absence of fraud and trust, but instead can increase opportunities for malfeasance by creating more interpersonal trust. Second, force and fraud are most efficiently committed by teams or groups, which require internal trust. In other words, there is "honor among thieves." Third, social relations create the potential for far greater disorder than envisioned by Hobbes, who described a war of all against all involving atomized individuals acting on their own self-interest, which at times conflicts with interests of others. By contrast, embeddeness creates the possibility of the formation of coalitions with structurally antagonistic interests. The extreme case of two competing coalitions containing bonding ties within groups and few bridging ties across groups can result in extreme conflict, as in war between nation-states (Granovetter 1985). In contrast to atomistic individuals pursuing myriad forms of self-interest, here we have two groups in structural normative conflict, and their competing coalitions characterized by what criminologist Sutherland (1947) termed, "differential group organization": conflicting coalitions differentially organized against each other.

Granovetter (1985, 486) suggests a potential solution to the problem of embeddedness when he argues for a sophisticated conception of culture based, for example, on symbolic interaction:

> Culture is not a once-for-all influence but an ongoing process, continuously constructed and reconstructed during interaction. It not only shapes its members but also is shaped by them, in part for their own strategic reasons.[3]

We build on this suggestion by developing a symbolic interactionist theory of the self, identity, and decision-making and apply it to the control of delinquent behavior. Specifically, we draw on Mead's (1934) writings on the self and social control, which begin with—as the unit of analysis—the social act, consisting of concrete social relations. This makes Mead's (1934) view consistent with an embeddedness argument. Before presenting Mead and symbolic interaction, however, we first critically evaluate an integration of social control and rational choice theories to explain crime proposed by criminologist Travis Hirschi (1986).

2.2 Social Control Theory, Rational Choice, and Embeddedness

Hirschi (1986) argued that his control theory of crime offers a way of integrating social relations and rational choice. We maintain that this approach is not fully compatible with an embeddedness approach, because it rejects the possibility of normative conflict in favor of normative consensus. Hirschi (1969) distinguishes his social control theory—including self-control theory (Gottfredson and Hirschi (1990)—from all other sociological theories of crime by four key assumptions. First, society contains a single moral order (normative consensus), rather than competing subcultures (normative conflict). Second, because of human nature, animal impulses, or the Freudian id, all human beings are equally and naturally capable of committing crime. Crime is not learned behavior, but is rather inherent in all humans. Thus, the motivation to deviate from consensual norms is *constant across persons*, and therefore, is not an explanatory *variable*. Crime is assumed or taken for granted; what is problematic and in need of explanation is conformity. Given human nature, why do some people conform to the law? Third, individuals conform because they are strongly bonded to the single moral order and capable of self-control in the face of deviant opportunities. Fourth, low self-control or weak bonds to society free individuals to violate the law if it is in their interest to do so.

Hirschi (1986) formalized an integration between control and rational choice with the concepts of "criminality"—stable individual propensities to commit crime—and "criminal events," the situational opportunities to commit crime (see also Gottfredson and Hirschi 1990). Accordingly, control theories explain criminality (crime propensity) by virtue of the inculcation of strong bonds to conventional society, including attachment to others, involvement and commitment to conventional activities, and strong moral beliefs. Rational choice theories explain criminal events (a situational decision to commit crime) using the concepts of objective opportunities to violate the law and the costs and returns to crime present in the situation (e.g., Clark and Cornish 1985). Thus, lucrative criminal opportunities, energy required to sustain a criminal act, and sudden threats of punishment change situations, and accordingly appear in rational calculations by individuals. For Hirschi, such situational inducements and disincentives will have stronger effects on the weakly bonded (because they are susceptible to temptation) than the strongly bonded (because they are already dissuaded from crime).

Social relations enter into this formulation in two ways. First, attachment to others, a key element of the social bond, dissuades individuals from crime: in situations of temptation, those attached to family, friends, and colleagues will consider the reactions of those others, which will always be negative, and thereby deter them from crime. Insofar as commitments and involvements in conventional activities involve interactions with others, those others will be negatively associated with crime. Second, in criminal situations, the presence of others can both increase and decrease the utility of crime. Criminal companions can increase opportunities for crime by serving as sentinels or lookouts. Other individuals present in criminal situations can

decrease criminal opportunities by serving as potential guardians of targets, acting as witnesses to crime, and calling authorities, such as police. These others exert an indirect effect on behavior by influencing a criminal's expected utility function. In sum, control theory contains a theory of social relations that explains conformity; for individuals freed from the restraints of social relations, rational choice explains decisions to commit crime.

This conception of social relations and criminal decision-making is not fully compatible with an embeddedness thesis. Recall that control theory assumes all people are equally motivated to commit crime, society consists of a single moral order, and severed social bonds free individuals to commit crimes if it is in their interest to do so. Control theory regards deviant subcultures as non-existent or impotent, and deviant organization as mythical (Kornhauser 1978; Gottfredson and Hirschi 1990). Hirschi's integrated control-choice theory rules out organization among criminals, and thereby precludes the possibility that embeddedness of criminals may facilitate force or fraud. Instead, criminals are atomized actors unable to form trusting relationships or commit crimes efficiently through teams. Social relationships cannot facilitate crime; Granovetter's (1985) claims notwithstanding, there is no honor among thieves. For Hirschi, like Hobbes, the breakdown of social integration produces a society of atomistic individuals pursuing self-interest independently. The assumption of consensus, which rules out normative conflict, precludes the possibility that disorder is intensified by competing coalitions clashing over norms and interests. In sum, a control theory of crime integrates social relations with rational choice using the functionalist solution of a unidimensional generalized morality embedded in social relations. By contrast, to be compatible with embeddedness, we need a theory of crime and decision-making that allows for the possibility of normative conflict, deviant subcultures, and criminal organization.

2.3 Normative Conflict and Differential Social Organization

Long ago, Sutherland (1947), influenced by the Chicago school of sociology, argued that crime is rooted in normative conflict within society. Primitive, undifferentiated societies consist of relative uniformity in beliefs, norms, and values (absence of normative conflict) along with very little crime. Modern industrial societies, by contrast, consist of groups conflicting over beliefs, norms, and values (presence of normative conflict) along with substantial crime. Moreover, social groups not only can be organized against crime, they can be organized in favor of crime. Sutherland (1947) gave the name, "differential social organization" to explain the crime rate of a group or society: The extent to which a group is organized against crime versus organized in favor of crime determines its crime rate. For example, the Mafia is strongly organized in favor of racketeering and weakly organized against racketeering (Cressey 1969). Sex workers and their clients are organized in favor of sex work and weakly organized against sex work. By contrast, moral crusaders are organized against sex work, and the two groups—sex workers and moral crusaders—are in normative conflict over

sex work. In short, crime is the result not only of weak organization against crime (social disorganization), as specified by control theory, but also of the strength of organization in favor of crime.

Social relations enter into decision-making through differential social organization: individuals are embedded in multiple intersecting social groups consisting of internal role-relationships. Those groups, in turn, are embedded in a wider network of social relations. Participation in social groups and networks structures individuals' understanding of expected role behavior, expected goals, attitudes, and views of the self. Differential social organization is compatible with embeddedness for three reasons. First, for differential social organization, social relations do not guarantee the absence of force or fraud, but instead can at times increase the likelihood of deviance by increasing trust and other forms of organization among criminals. Second, when organization among criminals is strong, crime is more efficiently carried out in groups (see Matsueda 2006b). Professional theft rings seek to commit crimes with impunity by dividing labor based on members' abilities, creating a rudimentary social organization, and by enforcing a common set of rules, such as "divide gains equally" (Sutherland 1937; Steffensmeier and Ulmer 2007). There can be honor among thieves. Third, normative conflict suggests the possibility of individuals coalescing into competing groups with antagonistic interests, creating far greater disorder than Hobbes's atomistic individuals whose interests occasionally conflict.

How does differential social organization produce individual criminal acts? Sutherland (1947) argued that individual criminal behavior is a result of differential association—having learned an excess of definitions favorable to crime—a functionalist solution to the problem of trust, analogous to general morality. We depart from this deterministic explanation and adopt a pragmatist perspective based on Mead (1934), in which decisions are rooted in social relations, the self is a reflection of social organization, and the duality of the self allows embeddedness and agency.

3 A Symbolic Interactionist Theory of Embeddedness, Role-Taking, and Social Control

3.1 Mead's Analysis of the Social Act: Habit, Role-Taking, and Social Cognition

Mead's (1934, 7) pragmatist theory of the self begins with methodological holism, in which "the whole (society) is prior to the part (the individual), not the part to the whole; and the part is explained in terms of the whole, not the whole in terms of the part or parts." The whole consists of organized groups, institutions, and societies. In analyzing cognition and decision-making, Mead assumes an organized society and asks the question, how is social interaction and decision-making influenced by organized groups? To answer this question, Mead uses as his unit of analysis, the social act, which is a transaction between two or more individuals. Therefore,

the analysis begins with embeddedness at two levels: Abstractly, individuals are embedded in the social relations and organized groups in which they participate. Concretely, the analysis begins not with an atomized individual, but rather with a transaction among individuals embedded in social relationships. Although Mead did not develop a theory of society, he constantly made reference to society and organized social groups. Organized groups contain multiple roles that are structured by mutual obligations, expectations, norms, and attitudes. Individuals fit their behavior into organized group activities by considering the expectations of the relevant group roles. Social organization enters into behavior through symbolic interaction.

Within an ongoing social process, social acts are built up by participants acting instrumentally to achieve tentative objectives, mutually adjusting their responses to each other, and jointly modifying, shaping, and creating an emerging goal or "end in view" (Dewey 1958).[4] The evolving responses shaping the goal constitute the evolving meaning of the social act. Symbolic interaction is possible when interactants use language, or significant symbols, which call out the same response in self as they do in others, allowing individuals to share meanings and perspectives.

When adjustments are smooth and routine—as in institutionalized settings—situations are non-problematic, behavior non-reflective, and habits dominant. For example, when insulted on the street, streetwise young men may follow the norms embodied in the "code of the street" and instantly retaliate with an in-kind insult or threat to maintain their street status (Anderson 1999). In such situations, the direction a transaction takes emerges from how each interactant—given their biographical histories embedded in social organization—responds to others in shaping emergent goals, ends, and objectives. Most behavior is unreflective and habitual—the scripted actions carried out with little consciousness, particularly in highly institutional settings. Actors respond automatically to each other and carry out scripted joint activities.

Habitual behavior no longer suffices when an actor's response (impulse) is temporarily blocked, and the situation becomes problematic. Here, an emotion is released, and the impulse is transformed into an image of one's self. The actor seeks solutions to the problematic situation by taking the role of others, viewing themselves as an object (the "me") from the standpoint of relevant significant others.[5] That image is responded to by another impulse (the "I") which carries the solution to overt behavior, combines the solution with another, or blocks the plan. If blocked, the situation remains problematic, and the actor again takes the role of others, and considers new alternatives from the perspective of those others. This serial process of cognition continues until the problem is solved or the act fades. The response of the "I" is a social one, including emotional responses, such as shame, repugnance, fear, and anger, as well as instrumental considerations, such as the anticipated consequences of behavior. Here, perceived costs and rewards enter decision-making: those alternatives that have negative consequences are less likely to solve the problem than those with positive consequences. For example, youth motivated by the excitement of committing crime with friends may suddenly fear getting caught—which they have learned in previous situations—and manage to convince their peers to cease the crime.

Mead termed the image (view of self from others) the "me" and the acting impulse the "I." The duality of the "I" and the "me," constitutes social cognition, an inner dialogue identical in form and content to conversations between concrete people, except that here it takes place in the mind between phases of the self. When problematic situations end, the results of social cognition, including the "I" are retained in memory as an updated "me"—a relatively enduring self—available to be called up to solve future problematic situations. Moreover, because interactants can share meanings via significant symbols, when social cognition is observable, its results can be retained as updated "me's" by all interactants, who have now learned from the experience. For example, in considering stealing a car for joyriding, youth embedded in a delinquent peer network may fear getting caught, which blocks delinquent impulses, making the situation problematic. In response, youth take the role of the peer group and view themselves as "being cool" for committing the crime, and thereby choose crime. The idea of being seen as cool for joyriding is retained as part of the "me," which helps shape habitual behavior and is available to solve problematic situations in the future.

When similar problematic situations are solved repeatedly in functionally identical ways (Miller 1973), they become progressively less problematic, and behavior becomes increasingly habitual and non-reflective. Thus, Mead specified a dual process model of social cognition—habit dominates in institutionalized settings and the duality of the self dominates in problematic situations—that presaged recent advances in dual process theories in cognitive psychology. (For a discussion of parallels between Mead's model of cognition and recent dual process theories, see Stryker and Stryker 2016.) Mead's theory is also consistent with research in cognitive psychology on the development of morality, in which cognitive moral responses are enabled by an inhibition mechanism, in which an aggressive or antisocial impulse is blocked, creating an aversive response and activating cognitive schemas. For example, Blair (1995, 3) argued that a "violence inhibition mechanism" is essential for the development of moral emotions, the inhibition of violent action, and distinctions among types of moral transgressions.

From this discussion, we can extract a decision-making model. Reflective decisions occur in problematic situations, in which an impulse or habitual response is blocked, causing individuals to take the role of the other and, in an imaginative rehearsal (Dewey 1922), consider alternatives from the standpoint of others. Decisions result from a dialectical relationship between the "me," the self as an object representing the socially-derived possibilities and their embeddedness in organized social relations, and the "I," the situational agent or acting subject. Thus, decision-making is embedded in larger socially-organized groups in which the individual participates.

Furthermore, decision-making consists of trying out possibilities sequentially in imagination before acting. Rather than maximizing utility among an indefinite number of alternatives, individuals consider the first salient alternative that comes to mind and choose the one that "works." While most decisions are made quickly, involving but a few alternatives—particularly among adolescents—rare exceptions occur that require great deliberation, active searching for information, and consideration of many social consequences. Implicit in this model is a theory of information, which

derives from the accumulated history of participation in organized social groups and an implicit theory of preference formation. More light can be shed on the embeddedness question by illuminating the development of the generalized other over the life span.

3.2 The Structure of the Self and Identity

The enduring self, consisting of an individual's interactional history of "me's" has a definite structure, corresponding to the organization of groups in which the individual participates: "Inner consciousness is socially organized by the importation of the social organization of the outer world" (Mead 1912, 406). The extent to which an individual considers this social organization follows a developmental process of socialization, beginning with childhood. This developmental sequence is revealed by Mead's (1924–1925) analogy of "play" and "the game." While children learn to take the role of concrete others through play—playing a police officer, they arrest someone—adolescents begin to learn "the game," in which they take the role of the entire organized group or "generalized other."

Mead (1934) illustrates this distinction with a baseball game, in which participants are not only able to take the role of individual positions serially, such as pitcher, catcher, and first baseman, but also to take the role of all nine positions simultaneously, including how they relate to each other through role-expectations and informal rules. For example, when an outfielder throws home, the catcher knows the pitcher is required to back him up, which allows the catcher to swipe at the ball with his mitt, catching and tagging out the runner in one quick motion. Note, however, that if the catcher knows that today's pitcher, Smith, is notorious for forgetting to back up throws, he may adjust his behavior and not gamble on a single-motion swipe. In this way, players are able to modify abstract role-expectations with information about the concrete people occupying the roles.[6]

Over the life span, individuals become more proficient at taking the role of an increasingly abstract generalized other (Matsueda and Heimer 1997). While preschool children begin taking the role of concrete others within their sphere of family and friends, adolescents expand their sphere to the school and some aspects of the world of adults, and learn to take the perspective of organized social groups, including the rules, obligations, and expectations governing those groups. They begin to see themselves from the standpoint of parents, teachers, and peers. The self becomes a reflection of how significant others view the individual. Adults expand their social worlds further, to include other people they encounter in adult contexts, including work, community, and religious life. Adults come to understand not only the complex organization of role-relationships in such settings, but also how such settings are embedded in broader social institutions. These understandings constitute information for individuals to fit their purposive actions into organizations and institutions in a meaningful way. In the limiting case, a "fully-developed self" is one in which

the individual is able to take the role of all of humanity and adjust his or her lines of action to fit society by using a universal complex generalized other (Mead 1934).

By beginning with the whole (society) rather than the individual, analyzing individuals interacting in social transactions rather than in isolation, and by specifying the self as an object embedded in social relations, Mead's analysis of the social act is consistent with an embeddedness thesis. Does this lead to another oversocialized conception of human behavior by merely replacing generalized morality with role-relationships in a functionalist, deterministic model devoid of human agency? The answer, for three reasons, is no (see Stryker 1980). First, in contemporary complex societies, individuals participate in many overlapping social groups with varying levels of participation, which suggests that each individual will have a unique set of generalized others from which to draw. Second, the invocation of a specific "me" depends on the situation and the problem at hand. Third, the response of the "I" to the "me" is not deterministic, but rather is a dialectical relationship that entails an element of emergence, novelty, and creativity resulting in human agency (Matsueda 2006a). Thus, while the self maintains strong continuity over time, it is also being modified with each experience of role-taking in problematic situations. By using Mead's theory of the self and social cognition, we can specify a decision-making model explicitly embedded in the structure of social relations.

4 Reflected Appraisals, Incentives, and Adolescent Theft

The foregoing discussion of social cognition, role-taking, and habitual behavior implies three features for a theory of youth theft. First, when situations involving the possibility of theft are repeatedly solved with theft, stealing in those situations becomes habitual, automatic, and non-reflective, resulting in continuity in theft over time. Second, in problematic situations, the self as an object arises partly endogenously within situations, and partly exogenously from prior situational selves being carried over from previous experience (Matsueda 1992). Self-images ("me's") called up in a situation resemble previous "me's," while the "I" responds in novel ways. In problematic situations involving theft, youth who see themselves from the standpoint of others as a bad kid, a rule violator, and a troublemaker, are more likely to violate the law than youth who see themselves as a good kid, law abiding, and conformist. Third, when taking the role of the other and considering alternative solutions, the individual considers the anticipated consequences of theft, such as important expected costs and rewards from stealing. Fourth, anticipated consequences and views of the self may interact in their effects on theft. For example, the threat of sanctions may have a stronger deterrent effect for youth who see themselves as good kids from the standpoint of others; such youth may have more to lose by getting caught and punished for stealing.[7] Conversely, youth who think of themselves as bad may be less deterred by sanctions because they have less to lose. In applying these concepts to delinquent theft, we first discuss the self in adolescence.

4.1 Adolescence and Role-Taking

We apply this model to moral decisions made during adolescence, a key period in transitioning from childhood to adulthood. We draw on the writings of developmental psychologist Kohlbeg, who went beyond Mead's concepts of play and the game to describe stages of moral development from childhood to adulthood. For Kohlberg (1981), children first learn to obey authority figures to avoid punishment, and then learn the norm of reciprocity, allowing them to enter simple exchange relationships. During adolescence, youth begin to recognize that they are members of a larger group or society. They begin to form good relationships, showing concern for significant others, and developing trust, loyalty, and moral consciousness (Kohlberg and Gilligan 1971). They begin to place themselves in the shoes of others to evaluate their own behavior. Then, later in adolescence, they learn the laws of society in general, how rules and expectations govern role-relationships, and begin to take the role of the generalized other. Finally, in early adulthood, they can imagine what an ideal society looks like, come to appreciate the social contract and individual rights, and ultimately come to appreciate universal ethical principles of justice, which they recognize as undergirding the law.

Thus, adolescence is a period in which youth become embedded in social relationships, which expand beyond parents and peers to include other adults, such as teachers. In addition to avoiding punishment from authority figures, their moral decisions increasingly include social relationships. Those relations enter decision-making in problematic situations when youth take the role of the generalized other, see themselves as an object from the standpoint of others, and consider alternative lines of action. Thus, identities, a reflection of self from the standpoint of others, enter into social cognitive processes. Mead (1934, 142) termed this self "multiple personality" to emphasize that it is a reflection of multiple generalized others. McCall and Simmons (1978) and Stryker (1980) viewed it as "role-identities" to emphasize that it corresponds to multiple roles people play. Cooley (1902) termed it the "looking glass self" to emphasize that it is a mirror image of how others see one. Kinch (1963) conceived it as "reflected appraisals" to emphasize that it is a reflection of appraisals made by significant others (Matsueda 1992, 1582). We use the concept of reflected appraisals—the self as an object relevant to delinquency—as a reflection of appraisals of significant others.

4.2 Youth Theft: Conceptual Model and Hypotheses

We can now apply symbolic interaction to model adolescent decisions to engage in theft. The key concepts of our conceptual model appear in Fig. 1, which depicts habitual (non-reflective) behavior and role-taking (reflective) behavior. Youth are likely to engage in theft when they have stolen things in past situations and encounter similar situations in the future. Those situations, in which there are suitable targets

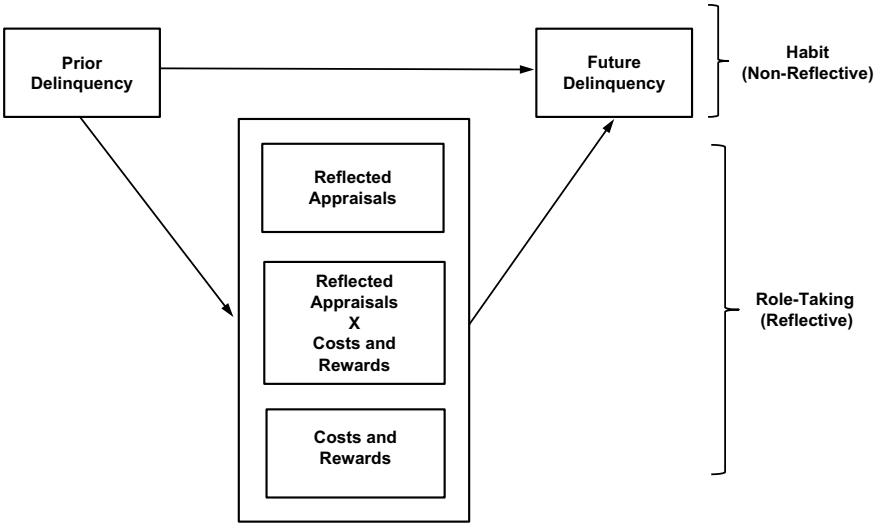

Fig. 1 A symbolic interactionist theory of delinquency: habit, role-taking, and social cognition

to steal, such as being in a department store where they once experienced sneaky thrills from stealing or being with a group of friends with whom they stole, may trigger the habit to steal. When habits are strong, youth are more likely to have impulses to steal, and less likely to inhibit those impulses. The result is that prior delinquency will directly affect future delinquency, regardless of reflected appraisals or anticipated consequences. These mechanisms imply some stability in delinquent behavior over time.

Hypothesis 1 (Habit Formation): Delinquent theft will exhibit some stability due to habit formation.

Delinquency will not be perfectly stable, however, because habits fail to suffice when situations become problematic—even in situations repeatedly solved with delinquent behavior. A delinquent line of action can be inhibited by (1) a reaction internal to the individual; or (2) an external change in the objective situation that impedes the ongoing delinquent act. For example, an internal reaction might be a new feeling of guilt, fear of being caught, or skepticism about the morality of the act—each of which may have been learned in the past through symbolic interactions with parents, teachers, or other significant others. An external change in the objective situation might include the risk of arrest increasing by the new presence of capable guardians, the diminishing of rewards from the crime, or peer influence from a co-offender exhibiting second thoughts.

Once inhibited, the blocked delinquent act is transformed to an image, in which the youth takes the role of relevant others, forms an image of themselves—a reflection of how others view them—and considers alternative lines of action. Role-taking usually entails taking the role of members of reference groups, which serve as a

source of perspectives, attitudes, and evaluations of behavior (Shibutani 1961). For adolescents and young adults, reference groups include parents, friends, teachers, and co-workers, but also concrete organized groups (generalized others), such as gangs, peer groups, classmates, and families. With respect to illegal behavior, the key is the degree to which reference groups are organized against crime versus organized in favor of crime (Sutherland 1947; Matsueda 2006b).

When the reflected appraisal is congruent with a self that engages in delinquency, the youth is more likely to resolve the problematic situation using illegal behavior. Conversely, when the reflected appraisal is inconsistent with a self that commits delinquency, youth are less likely to deviate.

> Hypothesis 2 (Reflected Appraisals): Delinquent theft is likely when youth see themselves from the standpoint of others consistent with one who commits delinquent acts, and inconsistent with one who conforms.

When delinquent situations remain problematic, youth may consider the consequences of their actions. For example, they may consider whether the illegal behavior would result in positive outcomes, as in immediate excitement or increases in social status, such as being seen as cool in the eyes of others. The greater the perceived likelihood of such returns, the more likely they will commit the delinquent act:

> Hypothesis 3 (Rewards from Delinquency): Delinquent theft is likely when youth perceive positive returns from unlawful behavior, such as immediate excitement or increased social status from being seen as cool.

Conversely, youth may consider the likelihood of delinquency's negative consequences. Perhaps the most salient cost of delinquency is the threat of being caught, arrested or jailed for continuing the unlawful action, which reduces the likelihood of delinquency. This is the deterrence hypothesis, stated as certainty of sanction:

> Hypothesis 4 (Costs of Delinquency): Delinquent theft is less likely when youth perceive that punishment is certain to follow law violation.

Finally, it may be that the threat of punishment deters some youth but not others, depending on their views of self from the standpoint of others. For example, youth who see themselves as "bad" and troublemakers from the standpoint of others may be beyond deterrence, as they discount consequences with long time horizons. For less-troubled youth, the threat of punishment may be sufficient to deter them from crime. Stated differently, the deterrent effect of threats of punishment may vary by identity because the meaning of punishment depends on identity: For youth with reflected appraisals as troublemakers, punishment may be seen as neutral or even a badge of courage; by contrast, youth who see themselves as good kids may view punishment as stigmatizing and aversive. The result is that deterrence is conditional on seeing oneself as a good kid:

> Hypothesis 5 (Conditional Deterrence): The deterrent effect of certainty of sanction may be ineffective for youth who see themselves as bad from the standpoint of others.

We can specify a competing interaction hypothesis between threat of sanction and reflected appraisals. It could be that youth with strong reflected appraisals as

a good kid will conform to the law, and the threat of punishment is unnecessary. Conversely, youth with strong reflected appraisals as a bad kid may be destined to commit delinquent acts, unless something else stops them. Given that informal controls (inculcating a law-abiding identity) have failed, the threat of punishment by the state is a last resort preventing crime.

Hypothesis 6: (Deterrence as Last Resort): The deterrent effect of certainty of sanction may be effective only for youth who see themselves as bad from the standpoint of others.

5 Data, Measures, and Models

5.1 The Denver Youth Survey

To test our hypotheses about social cognition, deterrence, and social control, we use data from the Denver Youth Survey (DYS), a longitudinal study of delinquency and drug use in high risk neighborhoods in Denver (Esbensen and Huizinga 1990). High risk neighborhoods were chosen for two reasons: (1) the most serious problems of drugs, crime, and delinquency of interest to policy makers and social scientists tend to concentrate in these areas; and (2) these neighborhoods are likely to yield samples of individuals exhibiting substantial variation in delinquency. To identify high-risk neighborhoods, the Principal Investigators (PI's) cluster-analyzed block groups based on census variables (e.g., family structure, ethnicity, SES, housing, mobility, marital status, and age composition) and identified seven clusters (of which three were deemed disorganized). Within each of these three areas, they selected census block groups that fell within the top one-third of the distribution of arrests. This yielded a total of 99 block groups (out of 590 with nonzero populations in Denver) within 33 census tracts (out of 142 with nonzero population). Using vacancy and completion rates, the PI's selected 20,300 of 48,000 enumerated households from which they drew a stratified probability sample of households proportional to population size. Finally, they used a screening questionnaire to identify appropriately aged respondents (i.e., 7, 9, 11, 13 or 15 years old).

This procedure yielded a sample of 1,527 completed interviews in the first wave (1987), which constitutes a completion rate of 85% of eligible youths (see Esbensen and Huizinga 1990 for more details). Attrition rates were relatively low across waves (7–9%). The resulting sample is reasonably representative of neighborhoods at high risk of delinquency, where high risk is defined as socially disorganized high-crime neighborhoods. We will draw inferences from this sample to the population of youth within high-risk neighborhoods, and exercise caution in generalizing to low risk neighborhoods. We use the first five waves of annual data for youth beyond the age of culpability, and for which all of our measures are present. The age range of our sample covers the adolescent period (10–20 years of age).

5.2 Concepts and Measures

Figure 2 depicts our statistical model of role-taking, decision-making, and delinquency. The model consists of four blocks of variables: neighborhood-level control variables; individual-level control variables; measures of social cognition (role-taking), including reflected appraisals of the self; and consequences of illegal behavior, including perceived costs and returns to delinquency. Descriptions of our measures and concepts appear in the Appendix.

The first block of variables consists of neighborhood structural covariates known to affect criminal behavior. There are four contextual variables taken from administrative sources. Crime Rate 84 is the total number of crimes reported to the police per 10 residents by neighborhood in 1984. To measure neighborhood disorganization, we factor-analyzed four census block group variables, identified two dimensions found

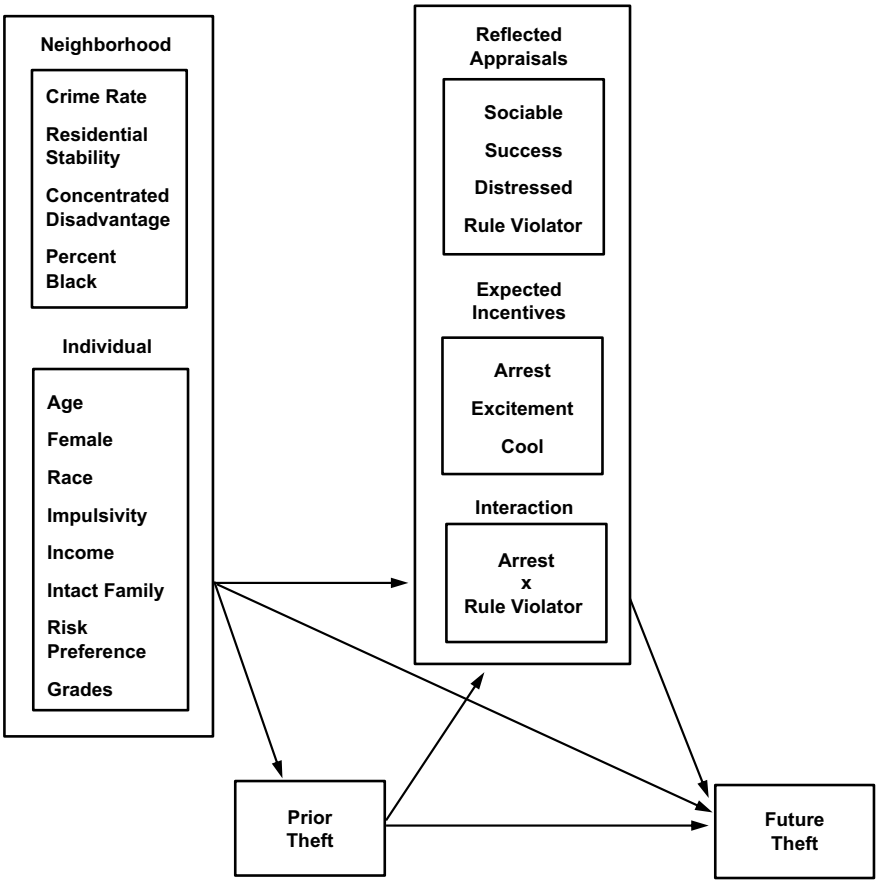

Fig. 2 A model of reflected appraisals, incentives, and delinquent theft

in previous studies, and created two scales: residential stability (percent homeowners and percent non-movers in the past 5 years), and concentrated disadvantage (percent poverty, unemployed, and female-headed households). We treat proportion Black in a neighborhood as a distinct covariate.

The second block of variables consists of individual-level demographic and behavioral characteristics known to covary with delinquency. Demographics include self-reports of gender, age, Black, Hispanic, income, and family structure. We use a dummy variable (not shown) to control for the eleven percent missing values on income. Following prior studies of impulsivity and crime, we also create a scale from four parent-reported measures in 1988 to capture early childhood impulsivity (see Appendix). Given our symbolic interactionist framework, this captures differences across individuals in the ability to block delinquent impulses. Self-reported preference or taste for risk is measured with the question: Do you agree with the statement, "I like to do daring things?" From a rational choice perspective, this captures individual variation in risk aversion. Previous research has consistently found measures of risk-taking to predict delinquency (Hagan et al. 1987; Matsueda et al. 2006). Measures of grades and employment capture commitment to conventional roles and the potential opportunity costs associated with delinquency. We include a dummy variable for missing values on grades due to high-school graduation or drop out. Finally, we control for prior behavior by including a measure of self-reported theft occurring in the previous year.

The third block of variables, reflective appraisals of the self, capture the process of taking the role of the other. Reflected appraisals capture a succession of relatively

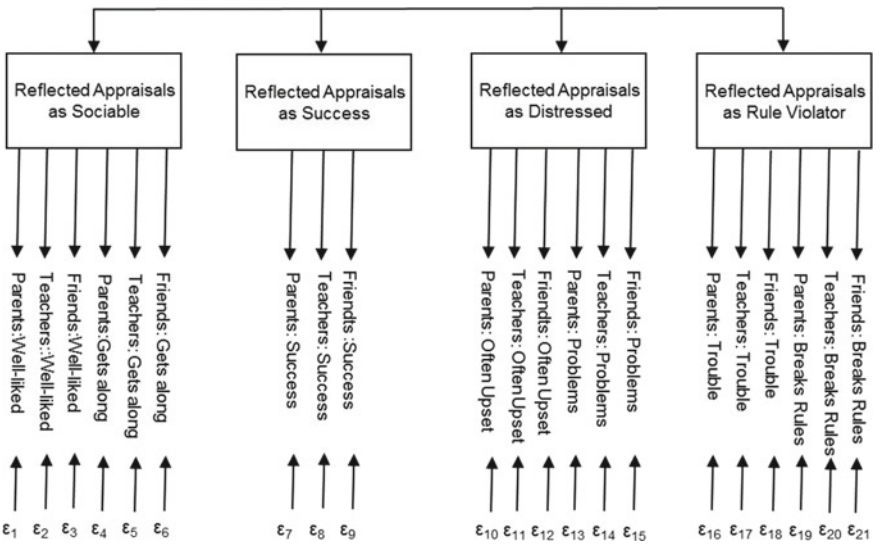

Fig. 3 Measurement model of reflected appraisals from the standpoint of parents, teachers and friends. Adapted from Matsueda (1992)

enduring "me's" –appraisals of the self from the standpoint of others—invoked in past role-taking and available to solve future problematic situations. Given the self is multidimensional, it is important to identify key dimensions of the self for the domain of behavior (law violation) and period of the life-span (adolescence). Following Matsueda (1992), we examine four dimensions of reflected appraisals capturing both pro-social (sociable and success) and anti-social (distressed and rule violator) domains. Respondents were asked whether teachers see them as sociable (measured by well-liked and gets along with others), successful (measured by likely to succeed), distressed (measured by often upset and has a lot of problems), and rule violator (measured by breaks rules and gets in trouble). Matsueda's (1992) respondents answered these questions with reference not only to teachers, but also to parents and friends. His confirmatory factor analyses found that items clustered by substantive domain (sociable, success, distressed, and rule violator) and not by significant others (teachers, parents, and friends) (Fig. 3). In other words, within each substantive domain, respondents reported relative consensus in appraisals by teachers, parents, and peers. We estimated a confirmatory factor model of the teacher items (see Fig. 4) and found a strong fit to the data and factor loadings nearly identical to those of teacher items estimated by Matsueda (1992).[8] From the confirmatory factor model, we calculated factor score regression weights for observable indicators and used them to create weighted factor scores for each of the reflected appraisal constructs.

Our principal hypothesis is that reflected appraisals as a rule violator will be positively associated with future delinquency. We also examine whether other dimensions of the self are associated with delinquency. For example, youth who see themselves (from the standpoint of others) as likely to succeed and sociable, may be likely to pass up delinquent behavior in favor of conventional acts more consistent with their reflected appraisals. By contrast, youth with reflected appraisals as upset and beset with personal problems, may more susceptible to deviant temptations.

Our final block of variables captures expected consequences of behavior. We use three measures of expected costs and rewards from engaging in theft (see Matsueda et al. 2006). To capture the cost of crime, we use respondents' perceptions of the likelihood of arrest for committing theft, measured on a 0–100 probability scale weighted by how good or bad an arrest would be for them. To measure the rewards of crime, we follow Katz's (1988) qualitative study of theft among high school students in which he found that youth anticipated "sneaky thrills"—such as excitement and kicks—from stealing consumer goods. Our measure of rewards of crime asks respondents the likelihood of getting "excitement and kicks" from theft and then constructs a probability scale weighted by how good or bad excitement would be. We also use as a measure of rewards, perceptions of the probability of being seen as cool for committing theft weighted by how good or bad being seen as cool would be. This captures a potential increase in status in the eyes of one's peers from committing theft.[9]

The final variable consists of the dependent variable for our analysis, self-reported theft, measured by eight items, each of which is measured by the number of offenses committed in the past year. The items are summed to provide an index of counts of theft.

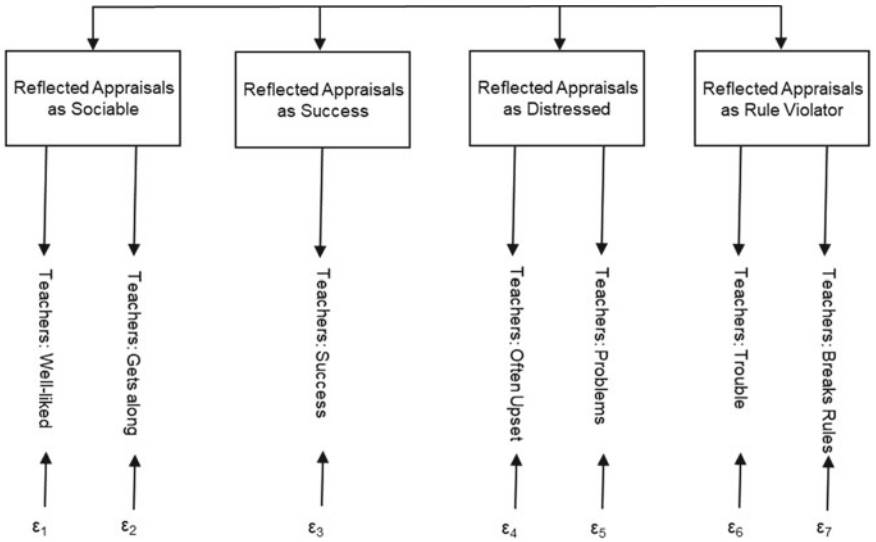

Fig. 4 Measurement model of reflected appraisals from the standpoint of teachers

5.3 Statistical Models

We pool our five waves to create a person-year dataset. We lose the first two waves because the model requires lagged-variables (and we examined second-order lagged delinquency as an instrumental variable, as well), yielding 2822 person-years for 1322 individuals. Using this pooled dataset, we estimate a panel model to address two potential problems of endogeneity: reciprocal causation and unobserved heterogeneity. To address possible reciprocal causation, we use first-order lagged predictors. Our lagged endogenous predictor, y_{it-1}, captures the stability of delinquency over time and tests the hypothesis of delinquency as habit. It also helps control for potential omitted-variable bias (unobserved heterogeneity) from possible unmeasured time-invariant individual characteristics.[10] We use lagged time-varying covariates, x_{it-1}, to insure that the temporal ordering of our variables is consistent with our theoretical specifications.

In our person-year dataset, person-years for the same individual will be more similar than person-years for different individuals, which violates the assumption of independent observations. To correct for this dependence, we estimate random effects models, which estimate person-specific random intercepts assumed normally distributed and orthogonal to time-invariant covariates. The random effects help overcome bias in the estimate of the effect of the lagged endogenous predictor, y_{it-1} (and therefore, other estimates) by allowing for approximately equal autocorrelations among disturbances (see Hausman et al. 1984).

Because our dependent variable, self-reported theft, is measured as counts of theft, treating it as continuous and linear may result in biased and inconsistent estimates of parameters. A better procedure would assume the counts y_{it} follow a Poisson distribution with parameter y_{it}. We estimated a Poisson regression and found over-dispersion—the variance exceeded the mean—due to a large number of zeros. Therefore, we use a negative binomial model, which allows for over-dispersion (Long 1997). Our model, then, specifies that y_{it} follows a gamma distribution with shape parameters (γ_{it}, δ_i), which produces the negative binomial distribution for y_{it}. We parameterize γ_{it} in the usual way as an exponential function of explanatory variables, $\gamma_{it} = e^{x_{it}\beta}$, where x_{it} is a vector of our predictor variables and β is a vector of coefficients. This model allows for overdispersion in the Poisson model with the inclusion of δ_i, and then layers a random individual effect onto the negative binomial model by assuming $\delta_i/(1 + \delta_i)$ follows a beta distribution with parameters a and b (Hausman et al. 1984). Unlike the random effects Poisson model, this model allows the rate to vary across individuals and time even if the x_{it}'s are constant because it is a realization from a gamma distribution each year.

6 Results

Table 1 presents results for our random effects negative binomial model of theft. We present five models, beginning with a baseline model of background variables, followed by adding, incrementally, the following variables: prior theft, reflected appraisals (sociable, success, distressed, and rule violator), and perceived costs and rewards from crime. Our final model adds a product term between rule violator and arrest certainty to test the hypothesis that the deterrent effect of arrest is conditional on reflected appraisal as a rule violator.

Model I regresses theft on background control variables. We find that theft is greater among males than females, and among Blacks and Hispanics relative to Whites. We also find theft greater among those with high impulsivity scores, as well as risk-taking scores, a finding consistent with psychological theories of low impulse control, economic theories of risk aversion, and criminological theories of low self-control (Gottfredson and Hirschi 1990). As expected, youth who come from non-intact families and who reside in higher-crime neighborhoods, tend to commit more acts of theft.

Model II adds prior theft to the equation and reveals significant and substantial stability in theft (standardized coefficient = 0.20).[11] This result is consistent with the symbolic interactionist notion of habit formation: As problematic situations involving potential stealing are repeatedly solved with theft, the situations become increasingly less problematic, and theft becomes increasingly non-reflective and habitual. Thus, we find support for Hypothesis 1.[12]

Model III adds our four reflected appraisal constructs to the equation for theft. As hypothesized, reflected appraisal as a rule violator is positively associated with theft; it has the largest relative effect in the model for theft (standardized coefficient of 0.24).

Table 1 Random effects negative binomial model of role-taking, rational choice, and theft

Observations	2822				
Individual respondents	1322				
	Model I	Model II	Model III	Model IV	Model V
Variables					
Intercept	−1.32* (0.52)	−1.79*** (0.50)	−2.42*** (0.60)	−2.36*** (0.61)	−2.02*** (0.62)
Female	−0.56*** (0.11)	−0.47*** (0.11)	−0.41*** (0.11)	−−0.36*** (0.11)	−0.37*** (0.11)
Age	−0.03 (0.02)	−0.04 (0.02)	−0.03 (0.02)	−0.03 (0.02)	−0.03 (0.02)
Black	−0.01 (0.20)	−0.07 (0.18)	−0.13 (0.18)	−0.14 (0.18)	−0.13 (0.18)
Hispanic	0.33* (0.16)	0.27 (0.14)	0.20 (0.14)	0.19 (0.15)	0.19 (0.15)
High impulsivity	0.28* (0.12)	0.24* (0.11)	0.19 (0.11)	0.19 (0.11)	0.18 (0.11)
Crime rate 1984	0.14* (0.07)	0.15* (0.06)	0.14* (0.06)	0.15* (0.06)	0.15* (0.06)
Concentrated disadvantage	−0.11 (0.07)	−0.10 (0.06)	−0.10 (0.06)	−0.10 (0.06)	−0.10 (0.06)
Percent Black	−0.14 (0.26)	−0.07 (0.24)	−0.06 (0.24)	−0.08 (0.24)	−0.07 (0.24)
Residential stability	0.12 (0.08)	0.11 (0.07)	0.10 (0.07)	0.12 (0.07)	0.12 (0.07)
Lagged variables (t − 1)					
Biological parents	−0.57*** (0.13)	−0.55*** (0.12)	−0.47*** (0.12)	−0.48*** (0.12)	−0.48*** (0.12)
Household income	−0.005 (0.004)	−0.004 (0.003)	−0.005 (0.004)	−0.006 (0.004)	−0.006 (0.004)
Grades	−0.08 (0.05)	−0.07 (0.05)	−0.04 (0.05)	−0.05 (0.05)	−0.05 (0.05)
Risk preference	0.48*** (0.12)	0.46*** (0.12)	0.40*** (0.12)	0.34** (0.12)	0.33** (0.12)
Prior theft	–	0.29*** (0.05)	0.23*** (0.05)	0.16** (0.05)	0.18*** (0.05)
Social	–	–	−0.58** (0.22)	−0.54* (0.22)	−0.56* (0.22)
Success	–	–	0.12* (0.06)	0.16** (0.06)	0.16** (0.06)
Distressed	–	–	−0.32 (0.27)	−0.32 (0.27)	−0.39 (0.28)

(continued)

Table 1 (continued)

Observations	2822				
Individual respondents	1322				
	Model I	Model II	Model III	Model IV	Model V
Rule violator	–	–	0.94*** (0.18)	0.83*** (0.18)	0.49* (0.24)
Theft excitement	–	–	–	0.19** (0.06)	0.18** (0.06)
Theft arrest certainty	–	–	–	−0.09** (0.03)	−0.27*** (0.09)
Theft coolness	–	–	–	0.16*** (0.04)	0.15*** (0.04)
Interaction terms					
Rule breaker × Arrest certainty	–	–	–	–	0.20* (0.09)
Wald χ^2 (df)	100.4 (13)	154.7 (14)	205.2 (18)	242.8 (21)	242.7 (22)
log-likelihood	−2250.0	−2237.3	−2218.1	−2201.0	−2198.5

Both findings replicate Matsueda's (1992) most important result, found in national data, supporting a symbolic interactionist theory, and supporting Hypothesis 2. We also replicate his finding that, as expected, reflected appraisal as sociable is associated with fewer acts of deviance. Unlike Matsueda, whose models predicted a general index of delinquent behaviors, including violence, theft, and vandalism, we find that likely to be a success is associated with slightly more acts of theft. Thus, ambitious youth who see themselves as likely to succeed from the standpoint of teachers are more likely to steal, perhaps because of their early interest in pecuniary activities. Because our reflected appraisal variables intervene between prior and future theft, we can examine the possibility that the stability of theft is partially mediated by reflected appraisals. Additional analyses (not shown) reveal a significant indirect effect of prior theft on future theft through rule violator. Thus, the effect of prior theft on future theft is partly mediated by reflected appraisals as a rule violator. In other words, role-taking helps explain the continuity of acts of stealing over time.

Model IV adds perceived costs and benefits of theft into the model. As hypothesized, the certainty of arrest is associated negatively with theft, supporting the deterrence thesis, and Hypothesis 4. This is consistent with a subjective expected utility model of criminal behavior: youth who perceive greater certainty of arrest are less likely to engage in future acts of theft. Also as hypothesized, the expected probability of getting excitement and kicks from theft is positively associated with future counts of stealing. This finding is consistent with the rewards side of the expected utility equation, as well as a "sneaky thrills" hypothesis of stealing (Katz 1988). Furthermore, the reward to theft, probability of being seen as cool for committing theft, is also positively associated with future acts of theft. Thus, consistent with role-taking, youth who anticipate that their status among peers—being seen as "cool"—will

increase by committing theft are more likely to steal. Together, these two findings support Hypothesis 3 (Fig. 4).

Finally, we examined potential interaction effects between reflected appraisals as a rule violator, on the one hand, and perceived costs and benefits of theft. Model V shows the significant interaction between rule violator and arrest certainty. The positive coefficient (0.20) suggests that the deterrent effect of perceived certainty of arrest (−0.27) decreases as rule violator increases. This interaction is graphed in Fig. 5, which depicts the deterrent effect of perceived arrest on future theft for various levels of reflected appraisals as a rule violator, when all other variables are held at their means. According to the graph, the effect of arrest certainty on rule violator is negative and substantial for youth who score at the mean of rule violator. For those who are one standard deviation below the mean (more conforming), the deterrent effect is slightly stronger; for those two standard deviations below the mean, the effect is again slightly stronger. In contrast, for those who score one standard deviation above the mean on rule violator, the deterrent effect is negligible; and for those two standard deviations above the mean, the effect actually reverses. Thus, for youth at the extreme of the distribution of rule violator, greater certainty of sanction increases acts of theft. Here youth with an extreme looking-glass self as rule violators may believe they will gain status from being arrested.[13] Consistent with Hypothesis 5, but inconsistent with Hypothesis 6, the deterrent effect of threat of sanctions is more effective for youth who do not see themselves as a rule violator from the standpoint of others.[14]

7 Conclusions

In sum, we find support for our model of social cognition, role-taking, and rational choice. Consistent with the concept of role-taking, our models find theft predicted substantially by reflected appraisals as a rule violator, and also as sociable and likely to succeed. Consistent with the rational choice aspect of our model, theft is predicted by perceived certainty of arrest, expectation to be seen as cool, and expected excitement and kicks. Finally, we find an interaction effect between perceived threat of sanctions and the reflected appraisal of being a rule violator. While the threat of sanctions deters good kids and non-rule violators—who have their conventional identities to lose by arrest—threat of sanctions fails to deter bad kids and rule violators, who have little to lose. Taken as a whole, these results provide evidence consistent with hypotheses drawn from a symbolic interactionist theory of role-taking, social cognition, and criminal theft, in which decision-making is embedded in social relations.

These empirical results have provided a first test of several key static hypotheses derived from an interactionist theory. Additional research, some of which requires different research designs, is needed to test other arguments derived from our perspective. First, our measures of the self as a reflection of appraisals of others, while tapping into multiple roles—rule violator, success, sociable, and distressed—has not captured the complex role-relationships embodied in organized groups. An important

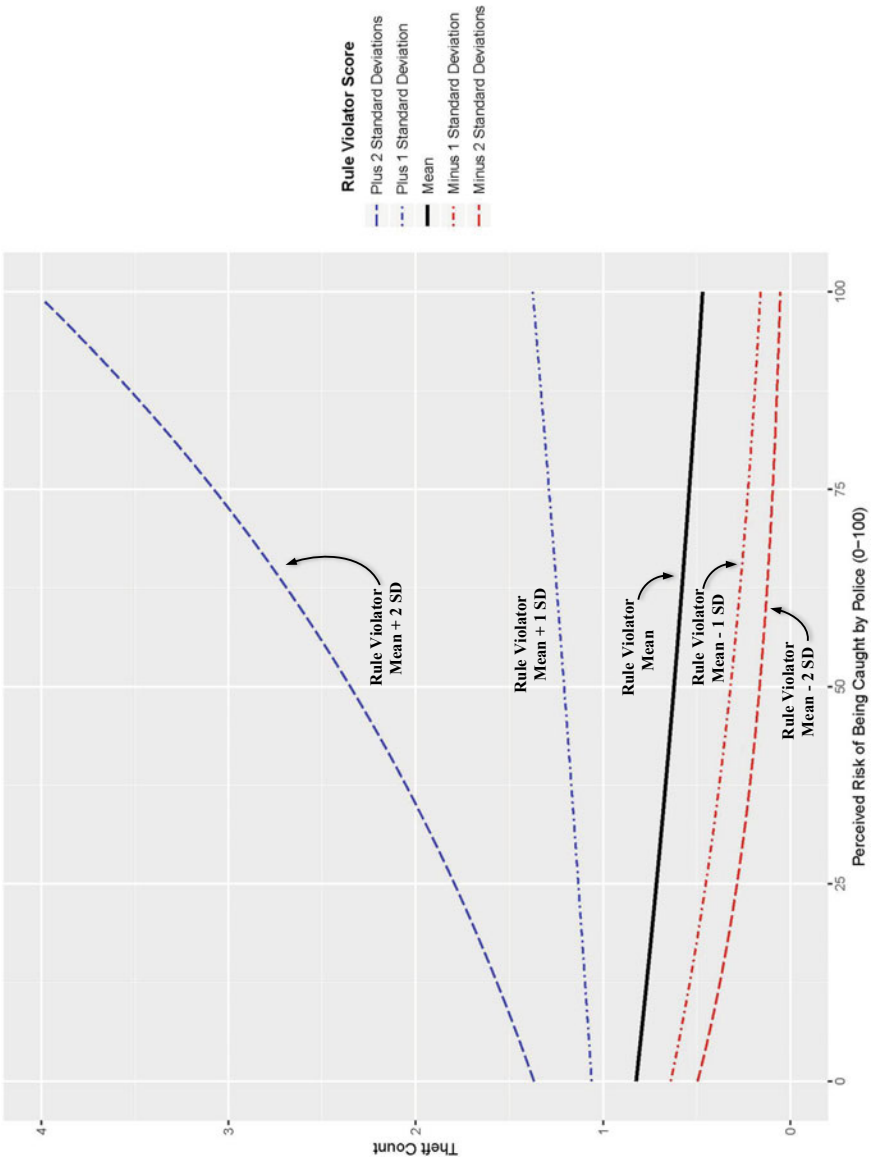

Fig. 5 Effect of risk certainty by values of rule violator in the model of theft

question is to what extent such complex role-relationships enter into decision-making at the adolescent stage of the life span. A survey approach to the self as a generalized other would pose new challenges, including identifying, for a sample of youth, relevant social groups, and, for each group, the youth's role and relationships with other roles, including norms, rules, and reciprocal role-expectations. Qualitative research within organized groups, such as delinquent gangs (e.g., Decker and Van Winkle 1996), is perhaps needed to identify interrelationships among roles, a prerequisite for measuring those role-relationships with surveys.

Second, while our theory of the self is rooted in Mead's (1934) analysis of the social act—a transaction between two or more individuals—our research design necessarily focuses on individuals, incorporating the influence of others via survey respondents' reports of perceptions of others. We applied that strategy to incorporate significant others into reflected appraisals and consequences of delinquency for social status. Additional research is needed to examine additional characteristics of peers, including their delinquent behavior and attitudes toward delinquency. Furthermore, research is needed to explore social networks of youth with other peers as well as adults, and consider the role-relationships within concrete groups arising within these networks.

Moreover, a stronger examination of concrete social relations would explore interactions among two or more individuals and capture the dynamics of social interaction. Such a study would require a different research design, such as a qualitative observation study. An excellent example of the latter is Short and Strodtbeck's (1965) classic mixed-methods study of delinquent gangs. Short and Strodtbeck analyzed qualitative data on a gang leader's decision to join an emerging gang fight. Consistent with our interactionist perspective, the authors identified two salient consequences of the decision to join the fight: (1) a loss of the social status enjoyed by the gang leader for failing to join the fight; and (2) the negative consequences of seriously injuring someone by shooting a gun, which would result in the leader's arrest. According to symbolic interaction, the gang leader takes the role of the gang, locates his position as leader, and considers alternatives from the standpoint of the gang. His reflected appraisal of the gang to his failing to join the fight is extremely negative, including a dramatic loss of personal social status and sense of self as a strong gang leader.

This rudimentary decision model in which arrest is considered against preserving a sense of self can be generalized to an n-person game, including utility functions for each individual combatant. If we had survey data on preference functions of individuals, we could use agent-based models to simulate outcomes under varying assumptions (for examples involving social identities, see Akerlof and Kranton 2000). Such simulations would more fully explore our symbolic interactionist theory of social cognition, reflected appraisals, and delinquency.

Finally, as we noted earlier, our model of decision-making and embeddedness derived from Mead is a thoroughly sociological framework, which contrasts with Akerlof and Kranton's (2000, 2010) economic model, which incorporates, into a standard economic model, Tajfel's (1974) and Tajfel and Turner's (1979) concept of social identity. The model incorporates social relations—as social categories—indirectly through the genesis and maintenance of social identities, which are specified

as arguments in the utility function. Concrete social relations in a situation also affect decision-making directly by influencing expected utility. Thus, the model is consistent with embeddedness.

Our sociological model based on Mead differs in three key ways. First, the self is based not on mere social categories, but derives from social roles embedded in social organization and enacted through role-taking.[15] Second, our decision model is based on a dual process model of social cognition; Akerlof and Kranton (2010), like most economists, are agnostic about cognitive theory.[16] Third, our pragmatist theory of cognition and choice, in which alternatives are considered serially and selected based on what "works" to solve the problem, is closer to "satisficing" under bounded rationality—including information limited by past selves—than utility maximization (Simon 1957; Tversky and Kahneman 1974; Kahneman 2011).

Future research is needed to explore these distinctions and in particular, examine whether these differences matter empirically. Does the distinction between habit and deliberation have important empirical implications? Is utility maximization a sufficient approximation of bounded rationality to ensure accurate predictions of behavior? Does the complexity of the fully developed generalized other in adults imply that social identity theory oversimplifies the role of identity in decision-making? Answers to these questions will help build on the results of this study. Our findings, that criminal theft is the result of both reflected appraisals and incentives, and that the deterrent effect of threats of sanction is weaker for youth who see themselves as bad, rule violators, and troublemakers, support our symbolic interactionist theory of delinquency. Our theory, in turn, integrates a structural symbolic interaction concept of self with rational choice principles in a way that retains the fundamental insight that individual decision making, like all behavior, is fundamentally embedded in social relations.

Endnotes

1. Specifically, the dynamic implications of the model suggest that an actor's moves are contingent on the moves of other actors, resulting in feedback across individuals. A test of these effects requires a different research design based on, for example, game theory.
2. The concept of embeddedness has not been thoroughly incorporated into criminological theory and research. For an early application of embeddedness in labor markets to unemployment and crime, see Hagan (1993).
3. See Fine and Kleinman's (1979) symbolic interactionist treatment of subcultures.
4. Mead's (1938) theory of the past, present, and future has strong implications for his analysis of the stages of the social act (see Matsueda 2006a).
5. Mead (1934) focused on the instrumental aspects of the social act, and left the analysis of emotions to Dewey (1958).

6. The important point of this example is that role-taking involves different levels of abstract groups, ranging from a concrete group bounded in space and time to an abstract social institution transcending time and space. Human beings are capable of moving seamlessly between different levels of abstraction.
7. Some anticipated consequences of behavior may have strong implications for the self, whereas others may have weak implications. For example, obtaining money is culturally valued because of what it can buy, an instrumental consequence not necessarily tied to a conception of self. By contrast, for those whose sense of self is strongly tied to being wealthy—and the power and status that accompanies wealth—accumulating money is essential for the self. The degree to which anticipated consequences of a particular behavior is imbued with self-value is an empirical question.
8. Note that if Matsueda's (1992) measurement model for parents, teachers, and peer significant others is properly-specified, our model for teachers will adequately capture the true reflected appraisals as a rule violator, successful, sociable, and distressed, even without data on parents and peers.
9. This measure has implications for identity: If one sees oneself as cool, or aspires to be seen as cool, and expects that stealing will cause others to see oneself as cool, stealing will confirm one's identity.
10. Controlling for prior self-reported behavior also helps control for potential response effects between our key endogenous predictors—reflected appraisals and incentives for delinquency—and future self-reported delinquency.
11. Following Long (1997), our standardized coefficients are $\exp(\beta\ \sigma_x) - 1$.
12. Alternatively, the finding of stability of stealing could be partly a methodological artifact, due to response effects in self-reported theft that remain invariant over waves or unobserved stable omitted individual characteristics. Our research design is unable to rule out these alternatives.
13. Alternatively, for extreme rule violators, the finding that offending increases with certainty of arrest could reflect defiance against conventional institutions (see Sherman 1993).
14. We did not find evidence of any other interaction effect among out reflected appraisals and incentives.
15. Akerlof and Kranton (2010) show how their utility function can be revised to incorporate a "looking glass self." On the differences between social identity and a symbolic interactionist conception of identity, see Stets and Burke (2000).
16. See Kahneman (2011) for a discussion of dual process models of cognition and rational choice.

Appendix

Concepts and measures

Variable	Description
Background and contextual variables	
Crime rate 84	Total crimes reported to police in 1984 by neighborhood
Residential stability	Sum of percent homeowners and percent in same household by census block group
Concentrated disadvantage	Sum of percent poverty, percent unemployed, percent female-headed households by census block group
Proportion black	Percent black by census tract
Female	Dummy variable for sex
Age	Age of respondent in 1988
Black	Dummy variable for blacks
Hispanic	Dummy variable for Hispanic origin
High impulsivity	Parent report of high impulsivity 1988 from items (1) can't sit still, restless, or hyperactive, (2) impulsive or acts without thinking, (3) wants to have things right away, (4) impatient
Income $_{t-1}$	Family income reported by parent (in thousands of dollars)
Family Structure $_{t-1}$	Dummy variable indicating living with biological parents
Explanatory variables	
Reflected appraisals	
Social$_{t-1}$	Weighted sum of two items: "How much would your teachers agree that you are (1) well-liked and (2) get along well with other people?"
Success$_{t-1}$	"How much would your teachers agree that you are likely to succeed?"
Distressed$_{t-1}$	Weighted sum of two items: "How much would your teachers agree that you (1) are often upset and (2) have a lot of personal problems?"
Rule Violator$_{t-1}$	Weighted sum of two items: "How much would your teachers agree that you (1) get into trouble and (2) break rules?"
Prior theft$_{t-1}$	The natural log of the sum of prior theft counts: (1) stolen less than $5, (2) stolen between $5 and $100, (3) stolen between $5 and $100, (4) stolen over $100, (5) shoplifting, (6) purse snatching, (7) auto larceny, (8) fencing
Risk preference$_{t-1}$	Do you agree with the statement, "I like to do daring things"
Grades$_{t-1}$	Self-reported grade-point average
Theft excitement$_{t-1}$	Probability of excitement for committing theft (0-100, 10 point increments) weighted by how good or bad it would be (5-point scale)

(continued)

(continued)

Variable	Description
Theft coolness$_{t-1}$	Perceived probability of being seen as cool for committing theft weighted by how good or bad it would be
Theft arrest certainty$_{t-1}$	Perceived probability of being picked up by the police for committing theft weighted by how good or bad it would be
Dependent variable	
Theft$_t$	Sum of self-reported theft counts: (1) stolen less than $5, (2) stolen between $5 and $100, (3) stolen between $5 and $100, (4) stolen over $100, (5) shoplifting, (6) purse snatching, (7) auto larceny, (8) fencing

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