CRIMINOLOGY

INCORPORATING ROUTINE ACTIVITIES, ACTIVITY SPACES, AND SITUATIONAL DEFINITIONS INTO THE SOCIAL SCHEMATIC THEORY OF CRIME*

RONALD L. SIMONS,[1] CALLIE H. BURT,[2] ASHLEY B. BARR,[3] MAN-KIT LEI,[1] and ERIC STEWART[4]

[1]Department of Sociology, University of Georgia
[2]School of Criminology and Criminal Justice, Arizona State University
[3]Department of Sociology, University at Buffalo, SUNY
[4]School of Criminology, Florida State University

KEYWORDS: criminal propensity, neighborhood, action contexts, routine activities

Simons and Burt's (2011) social schematic theory (SST) of crime posits that adverse social factors are associated with offending because they promote a set of social schemas (i.e., a criminogenic knowledge structure) that elevates the probability of situational definitions favorable to crime. This study extends the SST model by incorporating the role of contexts for action. Furthermore, the study advances tests of the SST by incorporating a measure of criminogenic situational definitions to assess whether such definitions mediate the effects of schemas and contexts on crime. Structural equation models using 10 years of panel data from 582 African American youth provided strong support for the expanded theory. The results suggest that childhood and adolescent social adversity fosters a criminogenic knowledge structure as well as selection into criminogenic activity spaces and risky activities, all of which increase the likelihood of offending largely through situational definitions. Additionally, evidence shows that the criminogenic knowledge structure interacts with settings to amplify the likelihood of situational definitions favorable to crime.

How do past experiences influence an individual's propensity to offend? This key theoretical question drives criminological theorizing. Most theories of individual offending attempt to identify the elements of criminal propensity and the mechanisms and processes whereby past experiences give rise to these characteristics. In their recently developed social schematic theory (SST), Simons and Burt (2011) proposed social schemas to be the

* Additional supporting information can be found in the listing for this article in the Wiley Online Library at http://onlinelibrary.wiley.com/doi/10.1111/crim.2014.52.issue-4/issuetoc.

Ronald L. Simons and Callie H. Burt contributed equally to this article. This research was supported by the National Institute of Mental Health (MH48165 and MH62669) and the Center for Disease Control (029136–02). Additional funding for this project was provided by the National Institute on Drug Abuse (DA021898 and 1P30DA027827) and the National Institute on Alcohol Abuse and Alcoholism (2R01AA012768 and 3R01AA012768–09S1). Direct correspondence to Ronald L. Simons, Department of Sociology, University of Georgia, 324 Baldwin Hall, Athens, GA 30602 (e-mail: rsimons@uga.edu).

 doi: 10.1111/1745-9125.12053

key theoretical mechanisms that account for the effect of past experiences on criminal behavior.

SST emphasizes the role of several criminogenic social environments in shaping social schemas. In doing so, it integrates findings from a variety of traditions in criminology that evince the importance of social adversity in shaping criminality, including those related to neighborhood conditions, parenting, and racial discrimination (e.g., Agnew, 2006; Loeber and Farrington, 2000; Sampson and Laub, 1993; Tittle, 1995; Unnever and Gabbidon, 2011). What unites these seemingly disparate social influences, according to SST, is that all teach similar lessons about the future, social norms, and the nature of people and relationships. As such, learning is central, and SST can be thought of as a life-course learning theory. However, SST departs from the dominant learning theory in criminology in several ways. Primary among these is its focus on the *content* of learning rather than on its form. Whereas Akers's (1985) social learning theory emphasizes operant learning principles, SST shifts the focus to the messages or tenets implicit in the repeated patterns of interaction that occur in an individual's social environment. Simons and Burt (2011) argued that criminogenic conditions such as harsh parenting, racial discrimination, and community disadvantage promote social schemas involving a hostile view of people and relationships, a preference for immediate rewards, and a cynical view of conventional norms. Furthermore, they posited that these three schemas are interconnected and combine to form a criminogenic knowledge structure (CKS) that gives rise to situational interpretations legitimating or compelling criminal and antisocial behavior.

In their initial test of the theory, Simons and Burt (2011) found strong support for the SST model, as the identified social factors strongly influenced individuals' social schemas, which in turn increased the likelihood of offending. Indeed, with one exception, the effects of all of the social factors they examined as well as of sex/gender and prior offending were fully mediated by the CKS. Additional support for the theory was provided by Simons and Barr (2012), who reported that much of the effect of romantic relationships on desistance is explained by a reduction in the CKS. In addition, Burt and Simons (2013) showed that racial discrimination increased the likelihood of offending through the CKS and that a resilience factor, racial socialization, reduced offending through its effect on the CKS.

Thus, the initial support for SST is strong and promising. This work can be extended in two clear ways. First, SST proposes that the CKS increases an individual's probability of engaging in crime by making it more likely that situations will be perceived as justifying or requiring acts of law violation. As a result of data limitations, prior tests of SST were unable to test the idea that the CKS influenced offending through definitions of the situation. With the addition of a measure of criminogenic situational definitions in the most recent wave of the Family and Community Health Study (FACHS), we can test the idea that criminogenic situational definitions are the mechanism through which CKS increases the likelihood of offending. This is the first aim of the current study.

In addition, in their initial presentation of the theory, Simons and Burt (2011) focused on the role of social environments as contexts for learning and development. As Wikström et al. (2012; Wikström and Sampson, 2003) have noted, however, contexts are not only sites for development but also sites for action. Individuals bring their social schemas into various contexts, but schemas alone are not sufficient to motivate action. Actions, including crime, result from the combination of individual characteristics and situational cues. Moreover, individuals are not randomly placed in various contexts, but they actively seek out certain contexts consistent with their aims and preferences. Consistent with

recent work, rather than viewing selection as a nuisance in modeling, we view it as an important mechanism and causal force (e.g., Wikström et al., 2012; Sampson, 2012). Thus, we examine whether individuals' CKSs influence their likelihood of offending in part by influencing the contexts in which they choose to spend their leisure time (selection). In addition, we explore the idea that an individual's CKS interacts with criminogenic contexts to amplify the likelihood of criminogenic situational definitions and, in turn, criminal behavior. This idea, as will be elaborated on in the following section, is that individuals with high CKSs are more likely to respond to situational inducements with crime than those with lower criminal propensity.

In sum, the purpose of this article is both to elaborate SST and to test this elaboration in a theory-sensitive research design. In doing so, we incorporate the role of social contexts as sites both for development and for action into the theoretical model. In addition, we test whether situational definitions serve as the mechanisms through which social schemas and contexts influence criminal behavior. In the following pages, we discuss SST, focusing extra attention on the elaborated role of context as a site for action, drawing especially on insights and findings from situational action theory (Wikström et al., 2012), crime pattern theory (Brantingham and Brantingham, 1984), and routine activities theory (Cohen and Felson, 1979). We then test this model using several waves of panel data from a sample of several hundred African American young adults from the FACHS. Given its inclusion of measures of both developmental and interactional contexts, as well as a host of other strengths including its longitudinal design and measures designed to test SST, the FACHS is particularly well suited for evaluating the elaborated SST model under consideration.

SOCIAL SCHEMAS AND SITUATIONAL DEFINITIONS

SST starts with the assumption that humans adapt to survive in their environments, and a significant part of this adaptation is cognitive. The theory assumes, consistent with a burgeoning body of work on human morality, that humans are born with innate capacities to be fair, cooperative, and sympathetic (e.g., Alexander, 1987; De Waal, 2006; Hauser, 2006) as well as to be selfish, egoistic, and sometimes aggressive (Shermer, 2004; Smith, 2007). Rather than being born good, bad, or as empty vessels into which society pours its views of morality, SST assumes that we are born with the capacity (i.e., the wiring) to adapt our orientation to fit our environment. Humans have evolved to survive in a variety of contexts, which vary in the degree to which they are supportive and predictable versus hostile and dangerous and, thus, require different orientations and competencies (Belsky, Scholomer, and Ellis, 2012; Ellis et al., 2012). The emphasis is on the fact that individuals adapt to survive, not necessarily to thrive, in the contexts in which they find themselves and that egoistic, unkind, and criminal behavior can be incited by such adaptations. Given these assumptions, the theory's focus is on the role of social environments—especially persistent and memorable ones—in blunting humans' innate capacity to be sympathetic, fair, and cooperative into an orientation that is cautious, self-defensive, selfish, and even hostile.

From this perspective, offenders do not engage in criminal behavior despite their "morality" or commitment to conventional norms. Rather, individuals offend because their interpretations of situations shaped by past experiences lead them to believe that criminal acts are required or justified by the exigencies of the situation. This perspective is supported by evidence that most individuals do not believe that their illegal actions

are evil or immoral, but they consider their (mis)deeds to have been compelled by the situation (e.g., Black, 1998; Katz, 1988). Thus, crimes result when individuals come to define situations as requiring or justifying aggression, cheating, or coercion. Undergirded by these insights, SST aims to explain the process—the underlying mechanisms—that explain individual differences in situational definitions compelling or justifying crime, which are referred to as criminogenic situational definitions.

Drawing on insights from information processing theories in cognitive psychology (e.g., Dodge and Pettit, 2003) and social learning theories in criminology (e.g., Akers, 1985), Simons and Burt (2011) emphasized the primary role of persistent or memorable social experiences in shaping situational definitions. As noted, the emphasis in SST is on the content of learning. Whereas the dominant learning theory in criminology, Akers's (1985) social learning theory, focuses on the process of learning, SST focuses more on the lessons inherent in the reoccurring interactions that comprise an individual's existence. As Simons and Burt (2011) proposed, these lessons are stored as social schemas, which are cognitive representations of the patterns and messages from past interactions, and these schemas link social stimuli to future behavior through their effects on situational definitions (see Crick and Dodge, 1994). Individuals' social schemas are abstract principles and dispositions that specify the meaning and salience of various social stimuli and the probable consequences of various action alternatives (Baldwin, 1992; Crick and Dodge, 1994). Social schemas make defining and responding to situations both more efficient and more successful as they suggest which cues are worth noticing, what they mean, what responses are expected or necessary, and the likely outcomes of various lines of action. Importantly, social schemas are durable and transposable (Bourdieu, 1990; Sallaz and Zavisca, 2007), although they are malleable in response to changes in recurring patterns of interaction (Mickelson, Kessler, and Shaver, 1997; Simons and Burt, 2011).

Focusing on criminal acts, Simons and Burt (2011) proposed that various social factors identified in past research as strong predictors of criminal behavior increase an individual's propensity for crime because they foster social schemas that increase the likelihood of situational definitions conducive to crime. Offenders are more likely than their conventional counterparts to have experienced social environmental difficulties and challenges, such as those related to community disadvantage, inept parenting, criminal victimization, and racial discrimination. What unites these seemingly disparate social factors is that all impart messages about the supportiveness and predictability versus the hostility and unpredictability of the world in a manner that fosters schemas related to crime. The latter environments nurture a view of the world as harsh and dangerous, where delayed rewards do not predictably materialize, people are untrustworthy, and social rules and punishments do not apply to everyone equally. According to SST, these fundamental lessons are internalized as criminogenic social schemas that promote criminogenic definitions of the situation.

Integrating insights from prominent theories of crime and research evidence, SST identifies three key criminogenic schemas: hostile views of relationships (Anderson, 1999; Dodge, 2006), immediate gratification (or discounting the future; e.g., Gottfredson and Hirschi, 1990; Wikström and Trieber, 2007; Wilson and Herrnstein, 1985), and disengagement from conventional norms (e.g., Akers, 1985; Hirschi, 1969). Simons and Burt (2011: 556–61) argued that because these schemas are rooted in the same set of unpredictable and harsh social conditions, which convey similar messages about the value of delayed

gratification, the nature of relationships and benevolence of others, and the wisdom of following conventional norms, these three schemas are mutually reinforcing and operate in tandem. Specifically, SST proposes that these schemas coalesce into a higher order knowledge structure that incites criminogenic situational definitions: "It is not any one schema that predicts an individual's actions in a situation; rather, it is the dynamic interplay of the constellation of relevant schemas that is important" (Simons and Burt, 2011: 561). This higher order knowledge structure, referred to as a CKS, exists on a continuum. Individuals at the low end presumably have experienced consistently supportive, predictable, fair environments, in general, and thus, they have developed benign views of relationships and recognize the value of delayed gratification as well as the wisdom of following conventional rules. At the other (high) end are individuals who have learned to view the world as harsh, unpredictable, unforgiving, and unjust, and thus, they are more likely to define situations as justifying or requiring criminal behavior (Burt and Simons, 2013).[1]

In sum, in their initial presentation of SST, Simons and Burt (2011) proposed that social experiences influence individuals' criminality through the messages they convey about the hostility, predictability, and fairness of the world that are stored in a CKS. Central to this argument is the role of criminogenic situational definitions, which are proposed to mediate the effects of the CKS on crime. Although in their initial test of SST, Simons and Burt (2011) found strong support for their theoretical model, the mediating role of criminogenic situational definitions was assumed but not tested because of data limitations (the absence of a measure). Thus, they found that adverse community conditions, racial discrimination, and harsh parenting increased the risk of crime by increasing affiliation with delinquent peers and the CKS. The effect of affiliation with delinquent peers on offending was, like sex/gender and prior delinquency, fully mediated by the CKS. Indeed, with the exception of a small but significant direct effect of racial discrimination on offending, the effect of all of the social factors was fully mediated by the CKS. In addition, Simons and Burt (2011) also showed that changes in exposure to social conditions were associated with changes in the social schemas, supporting the notion that schemas are durable and transposable but also malleable in response to changes in social conditions. Two other studies that tested SST also have provided support for the theory. As noted, SST asserts that a persistently supportive environment can reduce an individual's CKS. Consistent with this idea, Simons and Barr (2014) showed that much of the effect of supportive romantic relationships on criminal desistance was explained by a reduction in the CKS. A second study by Burt and Simons (2013) found that the bulk of the effect of racial discrimination on increased offending was through the CKS and that racial socialization provided resilience to the criminogenic effects of racial discrimination by buffering the effect of racial discrimination on the CKS as well as the effect of the CKS on crime.

1. There is a shared aspect to schemas as individuals who inhabit similar social positions will have analogous experiences and thus develop comparable constellations of schemas. The consequence of the similar experiences and comparable schemas among individuals is similar interpretations of social interactions, expectations, and lines of action (Simons and Burt, 2011). This aspect of shared experiences shaping similar worldviews is central to cultural sociology and, in particular, the constructs of cultural frames (e.g., Lamont and Small, 2008; Snow and Benford, 1992) and cognitive landscapes (Sampson and Wilson, 1995).

Although these initial tests of SST provided clear support for much of the theoretical model, the role of a key mechanism in the theory—criminogenic situational definitions—has not been tested. Addressing this gap is the first goal of the current study. Similar to Wikström et al.'s (2012) theory, SST considers two types of situational definitions to be criminogenic. The first involves perceptions of provocation or threat. Crime is more likely to be viewed as justified or necessary when individuals perceive danger to their persons or property (physical threats) as well threats to their status, self- and social-esteem, or reputation (social and psychological threats). The latter includes, for example, perceptions of disrespect, which may be indirectly related to physical safety in some milieus (e.g., Anderson, 1999). These definitions might involve, for example, a perceived threat, slight, or injustice that requires a forceful reaction.

The second category of criminogenic situational definitions involves perceptions of opportunity. Individuals may, for example, discern an opportunity for a quick reward or an immediate benefit that is justified or excused by their views of the harshness and unpredictability of the social and physical world. Such perceptions tend to be associated with positive affect and excitement and to increase the chances of engaging in a criminal act to satisfy a need or want (Wikström et al., 2012).When situational cues are interpreted in such a way that the actor sees a justified or compelling opportunity to get over on someone or to obtain a valued resource by bending the rules a bit, crime is more likely. Questions tapping into criminogenic situational definitions were incorporated into the most recent wave of the FACHS data to test SST. As such, we provide the first test of the full SST model with criminogenic situational definitions in the context of a theory-sensitive research design.

The SST model also can be extended in another important way. As scholars have pointed out, social environments are not only contexts for learning and development but also "contexts for action" (Wikström and Sampson, 2003). Contexts for action arguments are concerned with the immediate effects of context: the way that the characteristics of an area influence the behavior of the actors operating within it (Wikström et al., 2012). Although social schemas may specify the import and meaning of stimuli and the intentions and probable actions of actors in various situations, such schemas have no effect on their own but only operate in response to situational stimuli. In the initial presentation of SST, Simons and Burt (2011) only theorized about the role of contexts for development. In this article, we will elaborate the model to include contexts for action, drawing on Brantingham and Brantingham's (1984) crime pattern theory, Wikström's (2006; Wikström et al., 2012) situational action theory, and routine activities theory (Cohen and Felson, 1979; Osgood et al., 1996). This is followed by a test of the elaborated SST.

SOCIAL ENVIRONMENTS AS CONTEXTS FOR ACTION

Given the predominance of contexts for development theorizing in criminology, contextual research has centered almost exclusively on residential neighborhoods (but see, Bernasco et al., 2013; Wikström et al., 2010). Although this focus may be warranted during the crucial formative years, it ignores the fact that adolescents and adults spend considerable amounts of leisure time outside of their residential neighborhoods (e.g., Brantingham and Brantingham, 2008; Weerman et al., 2013; Wikström et al., 2012). Context for action theorizing, in particular, requires a shift in focus toward broader contexts with the recognition that as children age they gain increasing mobility and freedom,

"exerting greater agency in their selection of social environments and greater autonomy in interacting with them" (Wikström et al., 2012: 46; see also Osgood, Anderson, and Shaffer, 2005). Thus, context in people's lives as it relates to crime is not limited to residential neighborhoods, but it requires a wider consideration of patterns of movement across space at different times, and this is particularly true of increasingly mobile adolescents and young adults who move about in space to hang out with their peers.

Brantingham and Brantingham's (1984, 2008) crime pattern theory provides a useful framework for viewing context outside of the residential neighborhood. Their theory highlights routine patterns of travel across space and time. Individuals have a range of daily activities that are concentrated around various "activity nodes," such as home, school, work, entertainment, and shopping, and they develop "routine movement patterns," which include the usual path between these activity nodes. Brantingham and Brantingham (2008: 84) introduced the concept of *activity spaces*, defined as the "set of normal nodes and the normal paths between them." This concept links the individual to the contexts he or she consistently spends time in, many of which are outside their residential neighborhood. In doing so, it facilitates the recognition that individuals living in the same residential neighborhood often spend much of their daily routines in very different settings and that individuals from different residential neighborhoods can share settings as a result of overlapping activity spaces (Brantingham and Brantingham, 1984; Wikström et al., 2012).

Activity Space and Risky Activities

Brantingham and Brantingham's (1984, 2008) concept of activity spaces provides a framework for distinguishing between residential neighborhoods as contexts for development and criminogenic activity spaces as contexts for (criminal) actions. Their discussion of activity spaces focuses on a person's daily activities as they unfold across space. Building on their approach, we view interactional settings or action contexts as consisting of two components that influence the probability of criminal acts. The first involves what individuals are doing, and the second involves the social and cultural characteristics of the space where they are doing it. To be sure, activities and activity spaces are related; however, we differentiate them because they are distinguishable and likely have independent influences on criminogenic definitions. After all, one can attend a rowdy party in an area high in social control and watch a movie or play charades in an area that is dangerous and where deviant behavior is prevalent. Additionally, although activities and spaces both influence the chances of crime through their effects on situational definitions involving provocation, threat, or criminal opportunity, the two constructs do so in different ways.

Risky activities increase the probability of criminogenic situational definitions to the extent that they include, by their nature, a degree of disinhibition and spontaneity, and they involve interaction within a boisterous crowd of strangers. Using these criteria, activities such as bar hopping, frequenting strip clubs, hanging out in a pool hall, and getting drunk at a large sports event are examples of risky activities. For instance, hanging out in a bar with a throng of intoxicated, animated strangers increases the probability of events such as someone cutting in line to order a drink, a socially insensitive remark, a purse being left on a bar stool, or a patron flashing a large sum of money and then stepping into the alley for a smoke. In contrast, activities such as going to a movie, eating out in a restaurant, watching television at a friend's house, or attending a party for close acquaintances

are considered low risk as they rarely involve events entailing provocations, threats, or criminal opportunities.

Although the nature of an activity directly influences the probability that it will lead to social encounters favorable to crime, activity spaces contribute to criminogenic situational definitions by dictating the norms and social controls that govern social encounters within an area regardless of activity. Consistent with insights from Wikström et al. (2012) and drawing on cultural (e.g., Anderson, 1999), structural/control (e.g., Sampson, 2012; Shaw and McKay, 1969 [1942]), and routine activities theories (Cohen and Felson, 1979; Felson and Cohen, 1980; Osgood et al., 2005), we view settings as criminogenic as a function of their moral norms and the extent of formal and, more importantly, informal social control. The moral norms of an area as they relate to crime are instantiated in the prevalence of crime and deviance as well as in the existence of a street culture. Social control is indicated by the willingness of individuals to intervene in conflicts when someone is breaking the law or conventional norms (Sampson, Raudenbush, and Earls, 1997). Thus, areas are considered criminogenic when the norms support deviant behavior and there is low social control. Such settings increase the likelihood of situational definitions involving provocations, conflict, and criminal opportunity, thereby making crime more likely.

Selection into Settings

An individual's routine activities and activity space are not, of course, a connection of random activity nodes. People do not indiscriminately end up at an opera house instead of at a strip club. Instead, selection processes are operative; individuals select themselves into certain settings as a result of their preferences.[2] "Selection is a 'kinds of people in kinds of settings' question," and as several scholars have recently lamented, much prior work treated selection as a bias to be controlled when examining contextual influences rather than as an important causal force (Sampson, 2012; Wikström et al., 2012: 37). Heeding these critiques, we treat self-selection not as a bias but as an important explanatory factor. Individuals develop personal characteristics and preferences that influence their participation in various settings, which are differentially criminogenic. A full theoretical account of the environment on individual actions, then, requires incorporating (1) the role of context as a site for development and action and (2) the role that selection plays in linking the two. Wikström and Sampson (2003: 127) argued, correctly in our view, that "what has been missing [from criminological theory] is a concept that directly links community context to individual behavior and actions." We believe that the CKS provides such a linkage.

Individuals with high CKSs are attracted to risky activities and criminogenic activity spaces. In such settings, they can engage in deviant behavior with friends unimpeded by guardianship or conventional morality, which facilitate criminogenic definitions of the situation. Thus, in addition to its direct effect on criminogenic situational definitions, the

2. Of course, other factors are at play such as structural and cultural constraints. For example: Although my preferences may lead me to elect to spend my leisure time at a beach-side mansion in Malibu, unfortunately, this option is not realistic given my monetary resources (or lack thereof). Likewise, many teenagers may prefer to hang out in over-21 clubs, but only some can satisfy this preference (with a fake ID or social connections).

CKS has an indirect effect on such definitions through selection into criminogenic settings. Importantly, selection does not render the setting irrelevant. As we have noted, actions are in response to situational stimuli. Individuals enter into situations with various goals (selection and motivation) but revise those goals and act in light of situational factors (i.e., provocations, threats, and opportunities). Thus, although we expect that part of the effect of risky activities and criminogenic activity spaces on situational definitions is a function of the CKS, another part of this effect is a result of the features of the setting itself.

Moreover, we expect that the CKS and the setting interact in shaping situational definitions. Individuals with high CKSs are more likely to attend to, encode, and respond to criminogenic features of settings and therefore define those settings as compelling or justifying crime than individuals with lower criminal propensity. Thus, given the same situational stimuli—a shove in a bar—individuals with high CKS are more likely to respond with crime—assaulting the pusher—than those with low CKS. Indeed, as Wikström et al. (2012) have pointed out, individuals with low criminal propensity often do not even perceive threats or criminal opportunities in the first place.

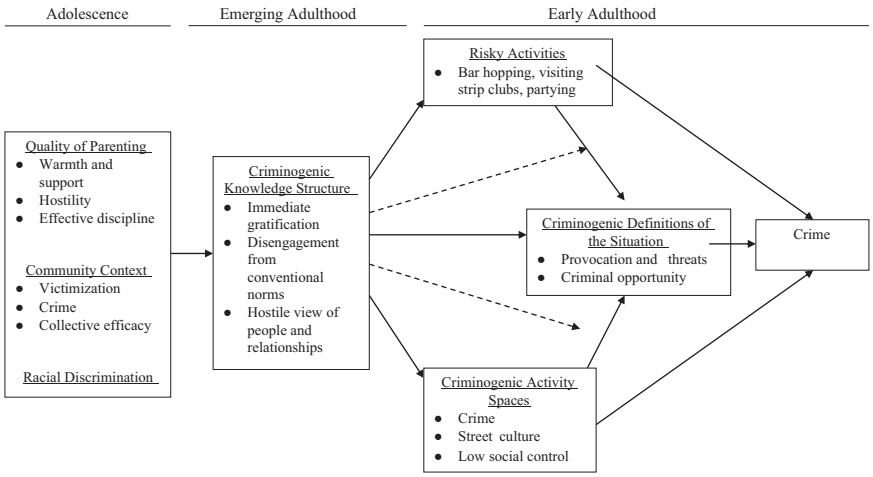
Summarizing our context for action arguments, we recognize that individuals act and react in settings. Individuals' CKSs influence their participation in settings that vary in criminogenic features (namely, activities, moral norms, and social control); thus, the CKS has an indirect effect on situational definitions conducive to crime (and, thus, crime itself) through selection into criminogenic spaces and risky activities. Additionally, criminogenic spaces and risky activities directly influence criminogenic situational definitions (and, thus, crime). Finally, the CKS, criminogenic spaces, and risky activities interact such that those with high CKSs are more likely to define features of criminogenic spaces and risky activities as conducive to crime than those with a low CKS, and thus, they are more likely to engage in crime.

CURRENT STUDY

The current study tests this elaborated version of SST, which is presented in figure 1. As shown, our measures of social adversity focus on the three developmental contexts—quality of parenting, community context, and racial discrimination—that were included in the analyses reported by Simons and Burt (2011). We expect that these key contexts for development—as well as sex/gender and past offending—influence individuals' CKSs. Contexts for development arguments are grounded in the idea that individuals adapt to their environments; thus, we expect that persistent exposure to these environments (operationalized by combining waves III, IV, and V) shapes the CKS measured at waves V and VI. We hypothesize that the CKS, in turn, increases the likelihood of criminogenic situational definitions directly, as well as indirectly through selection into risky activities and criminogenic activity spaces (measured at wave VI). Risky activities and criminogenic activity spaces, in turn, are expected to influence criminogenic situational definitions positively. Additionally, we predict that the CKS interacts with criminogenic contexts and amplifies their effects on criminogenic situational definitions. Finally, we hypothesize that situational definitions are strongly associated with and fully mediate the effects of these factors on crime.

The model is tested using waves III–VI of the FACHS, an ongoing investigation of the life-course trajectories of several hundred African American youth and their families. The FACHS is particularly well suited for testing the SST model. First, unlike most data

Figure 1. Elaboration of Social Schematic Theory from Early Adolescence to Young Adulthood



sets, the FACHS data have measures of both contexts for development and action in a longitudinal design. Moreover, although many criminological theories emphasize the relevance of situational states prior to the commission of crime, such as definitions, these states are invariably unmeasured given data limitations. The latest wave of the FACHS data includes a measure of situational definitions designed to test SST. Thus, the FACHS has many strengths that make it apposite for testing the SST model. To be sure, the nature of the data, especially the time intervals between waves, precludes our drawing causal connections for the observed associations. Thus, the analyses that follow should be viewed as a preliminary investigation concerned with establishing whether the basic pattern of associations is consistent with our elaboration of SST.

METHOD

DATA

To test the proposed model, we used the latest four waves of data from the FACHS, an ongoing investigation of the life-course trajectories of several hundred African American youth and their families, all of whom were living in Iowa or Georgia at the initiation of the study. The FACHS was designed to capture the diversity of African American families and the variety of communities in which they live. Block groups (BGs) were used to identify neighborhoods in Iowa and Georgia that varied on demographic characteristics, particularly racial composition (percent African American) and economic level (percent families living below the poverty line). These BGs (259 in total) were identified using 1990 U.S. Census data. Families living within the chosen BGs were randomly selected and recruited by telephone from rosters of all African American families who had a fifth grader (the target child) in the public school system (Gibbons et al., 2004; Simons et al., 2002).

The first wave of data collection began in 1997–1998, and follow-up interviews with the target children and their family members were conducted every 2–3 years thereafter. The

current study uses target child data from the third through sixth waves of data, collected in 2001–2002, 2004–2005, 2007–2008, and 2010–2011, respectively. These waves of data capture information from mid-adolescence at wave III through early adulthood at wave VI. Of the 889 targets interviewed at wave I, 699 (78.6 percent of the original sample) participated more than a decade later at wave VI.

If targets were unable or unwilling to be interviewed at any given wave, they were not removed from the study; rather, they were contacted for their participation at subsequent waves. The analytic sample, then, consists of the 623 individuals (369 women and 254 men) who provided complete data at wave VI and at least one earlier wave, most of whom (92.13 percent) provided complete data across all four waves used in this analysis. Little evidence of selective attrition has been found over the course of the study (e.g., Simons et al., 2011). Although when compared with earlier waves, a higher percentage of the wave VI respondents were female and were slightly less delinquent, no significant differences were found between participants and nonparticipants with regard to community measures, family structure, or parenting practices at earlier waves.

PROCEDURES

To enhance rapport and cultural understanding, African American university students and community members, all of whom received training in the administration of the self-report instruments, served as field researchers to collect data from the families. At each wave, the surveys were administered in the respondent's home and took an average of 2 hours to complete. In both waves III and IV, the instruments were presented on laptop computers. The questions appeared in sequence on the screen, which both the researcher and the participant could see. The researcher read each question aloud, and the participant entered an anonymous response using a separate keypad. Because many of the instruments administered at waves V and VI included questions regarding illegal behavior or potentially embarrassing sexual activities, audio-enhanced, computer-assisted, self-administered interviews were used to ensure further anonymity. Using this procedure, the respondent sat in front of a computer and responded to questions that were presented both on the screen and via earphones.

MEASURES[3,4]

Our general approach was to use multiple indicators of constructs when available. Given the complexity of our model, however, we were not able to treat these multiple measures as indicators of latent constructs. Rather, when multiple scales were available for a particular construct, they were standardized and summed to form a composite measure of the variable. The reliability of these composite constructs was assessed using Nunnally's (1978) formula for calculating the reliability of a linear combination of measures. As we will describe, these coefficients were used in our structural equation models to correct for attenuation in associations between constructs resulting from measurement error. Notably, structural equation modeling (SEM) cannot be used to assess quality of

3. All measures can be found in appendix A in the online supporting information.
4. Additional supporting information can be found in the listing for this article in the Wiley Online Library at http://onlinelibrary.wiley.com/doi/10.1111/crim.2014.52.issue-4/issuetoc.

measurement when composite measures are used in place of latent constructs. Two assumptions are especially important when composite measures are used. First, the subscales used to assess a particular construct need to load as a single factor, and second, they should show similar associations with other variables in the model. We tested these assumptions prior to performing our SEM analyses, and they were met for each of our composite measures.

Dependent Variable

Crime. Respondents' engagement in crime was assessed at wave VI using self-reports on a series of questions regarding how often during the preceding year they had engaged in 11 illegal acts, including physical assault, carrying a hidden weapon, pulling a knife or gun on someone, shooting or stabbing someone, and breaking into a building or house. Responses for each act were dummy coded (1 = yes, engaged in act, and 0 = no, did not engage in act) and then summed at each wave, resulting in a count indicator of the number of criminal acts in which the respondent participated in the previous year ($\alpha = .78$). At wave VI, most (80 percent) respondents reported committing zero crimes. Among those who committed at least one offense, approximately 48 percent reported engaging in two or more offenses, representing significant variation in individual offending.

The control for prior delinquency is also a variety count of acts committed in the prior year created by combining youth reports at waves III and IV. The items were gleaned from the conduct disorder section of the Diagnostic Interview Schedule for Children, Version 4 (American Psychiatric Association, 1994). Respondents answered a series of questions regarding how often during the preceding year the respondent engaged in 15 antisocial acts such as shoplifting, physical assault, setting fires, vandalism, burglary, and robbery (for more detail, see Simons and Burt, 2011). Although based on a different instrument than the outcome measure, this measure was selected because it captures offending prior to the measurement of the CKS in the model. (It is worth noting that the pattern of results is identical whether an equivalent measure of offending is used from wave V and without a control for prior offending.)

Adolescent Socialization

Our analyses are organized by our proposition that it is persistent exposure to particular social contexts during late childhood and adolescence that shapes criminogenic schemas (Simons and Burt, 2011). For these reasons, we average the scores from waves III, IV, and V (15.5 to 21.5 years of age) to form measures of the developmental contexts proposed to give rise to a criminogenic knowledge structure.

Supportive Parenting. We formed a composite measure of supportive parenting that assessed the various components of effective parenting specified by family sociologists and developmental psychologists (Simons, Simons, and Wallace, 2004). The instruments used in creating the composite parenting measure across waves III through V were adapted from scales developed for the Iowa Youth and Families Project (Conger and Elder, 1994) and were the same as those used by Simons and Burt (2011). Responses for all instruments were coded such that higher scores correspond to more supportive parenting. Target respondents answered nine items at waves III and IV and six items at wave V concerning *parental warmth* in the past year (e.g., "During the past 12 months, how often did your [Primary Caregiver] let you know s/he really cares about you?"). Cronbach's

alpha for the warmth scale was .90 at wave III, .91 at wave IV, and .89 at wave V. Target respondents answered 14 items at waves III and IV and 4 items at wave V concerning *parental hostility* in the past year (e.g., "During the past 12 months, how often did your [Primary Caregiver] criticize you or your ideas?"). Cronbach's alpha for the hostility scale was .81 at wave III, .83 at wave IV, and .65 at wave V.

In addition to parental warmth and hostility, both parents and target youth answered questions about effective discipline. At wave III, target respondents also answered two questions about their primary caregiver's use of *positive reinforcement* (e.g., "When you do something your [Primary caregiver] likes or approves of, how often does s/he let you know s/he is pleased about it?"). Cronbach's alpha for the positive reinforcement scale was .58. At waves III and IV, both targets and primary caregivers also answered four questions about their ability to *solve problems* (e.g., "How often do the same problems between you and your [Primary Caregiver] come up again and again and never seem to get solved?"). Cronbach's alpha was .66 for targets and .56 for primary caregivers at wave III and .62 for targets and .55 for primary caregivers at IV. Finally, at wave III, both targets and primary caregivers answered five questions about *inductive reasoning*, or the extent to which primary caregivers provide explanations for their decisions (e.g., "When you don't understand why your [Primary Caregiver] makes a rule for you to follow, how often does s/he explain the reason?"). Cronbach's alpha was .86 for targets and .77 for primary caregivers. The inductive reasoning, problem solving, and positive reinforcement scales were combined to form a composite measure of effective discipline.

After standardizing and averaging scales across waves to tap into the consistency of parental support over time, we performed confirmatory factor analysis to establish that the three parenting subscales (warmth, hostility, and effective discipline) loaded on a common construct. Factor loadings were all above .5. Furthermore, the various subscales all showed significant association with CKS. Hence, we standardized and summed the subscales to form a composite indicator of supportive parenting. The reliability of this composite measure was .81 and, like the other composite measures we will describe, was calculated using Nunnally's (1978) formula for the reliability of a linear combination of measures.

Community Context. For the sake of parsimony, we followed the example of Simons and Burt (2011) and used a composite measure of community to assess community adversity. Our composite measure was based on three subscales: community crime, criminal victimization, and (lack of) collective efficacy. The measure of *community crime* was assessed at waves III through V with a revised version of the community deviance scale developed for the Project on Human Development in Chicago Neighborhoods (PHDCN; Sampson, Raudenbush, and Earls, 1997). The measure is concerned with how often various criminal acts occur within the target's residential community. It includes behaviors such as fighting with weapons, robbery, gang violence, and sexual assault. Responses ranged from 1 "never" to 3 "often," and Cronbach's alpha was .76 at wave III, .87 at wave IV, and .82 at wave V. The measure of *criminal victimization* was based on targets' responses to two items at waves III through V. These items assessed the number of times that someone in "the neighborhood surrounding where you lived for most of the past 12 months used violence, such as in a mugging, fight, or sexual assault, against you or against any member of your household?" and "against one of your friends?" Intercorrelations for these items ranged from .62 to .83 across waves.

Finally, consistent with Sampson, Raudenbush, and Earls (1997), *collective efficacy* was assessed with two subscales, one measuring social cohesion and one measuring informal social control. Community social cohesion was assessed with a nine-item revised version of the Social Cohesion and Trust Scale developed for the PHDCN (Sampson, Raudenbush, and Earls, 1997) that was administered to the primary caregivers at wave III and to the targets at waves IV and V. The items focus on the extent to which individuals in the area interact, trust, and respect each other and share values (e.g., "People in your neighborhood do not share the same values" and "People in this neighborhood can be trusted"). Cronbach's alpha for the social cohesion scale was .80 at wave III, .78 at wave IV, and .80 at wave V. The social control scale, also answered by primary caregivers at wave III and targets at waves IV and V, consists of six items (also adapted from the PHDCN; Sampson, Raudenbush, and Earls, 1997) that assess the extent to which individuals in the neighborhood would take action if various types of deviant behavior were evident. For example, items included the following: "If some children were spray-painting graffiti on a local building, how likely is it that your neighbors would do something about it?" and "The adults in the area would not hesitate to call the authorities if a group of teens were fighting with each other." Cronbach's alpha was .82 at wave III, .85 at wave IV, and .82 at wave V. Both the community cohesion and social control indices were reversed coded, standardized, and averaged to form a composite indicator of low collective efficacy.

After standardizing and averaging scales across waves to tap into the consistency of community context over time, the three community subscales (crime, victimization, and low collective efficacy) were then standardized and summed to form a composite indicator of criminogenic community context. This variable was then logged to reduce positive skew. Confirmatory factor analysis indicated that the three measures formed a one-dimensional scale, and each of the subscales showed a significant association with CKS. Using Nunnally's (1978) formula for calculating the reliability of a linear combination of measures, reliability for this composite measure was .76.

Racial Discrimination. At waves III through V, target respondents completed 13 items from a revised version of the widely used and validated Schedule of Racist Events (SRE; Landrine and Klonoff, 1996). The SRE was originally designed for African American adults; the FACHS researchers revised the items to make them more appropriate for youth from late childhood through emerging adulthood. The items assess the frequency (from 1 = "never" to 4 = "frequently") with which various discriminatory events were experienced during the past year (e.g., "How often has someone said something insulting to you just because of your race or ethnic background?" and "How often has someone suspected you of doing something wrong just because of your race or ethnic background?"; see Burt, Simons, and Gibbons, 2012, for a list of items). Cronbach's alpha was .91 at wave III, .91 at wave IV, and .90 at wave V. The three scales were averaged across waves to create a measure of persistent discrimination throughout late adolescence ($\alpha = .72$).

Criminogenic Knowledge Structure

SST proposes that the CKS consists of three interrelated schemas that come together to form a higher order knowledge structure. Hence, three subscales (immediate gratification, low commitment to conventional norms, and a hostile view of relationships) are used to

assess the CKS. All subscales were assessed at both waves V and VI. (For a list of all of the items in the CKS, see Burt and Simons, 2013.)

The first schema, *immediate gratification*, was assessed via 16 items that combine Kendall and Williams's (1982) inventory of self-constraint (e.g., "You would rather have a small gift today than a large gift tomorrow") and Eysenck and Eysenck's (1977) scale of risk-taking tendency (e.g., "Life with no danger would be dull for you"). The items tap into respondents' impulsivity and short sightedness, which are essential elements in Gottfredson and Hirschi's (1990) self-control theory. Cronbach's alpha was .75 at both waves V and VI, and the reliability across waves was .76. *Disengagement from conventional norms* was assessed via 10 items that are similar to those used in Wikström et al.'s (2010) moral values scale. The respondents were asked to indicate the degree to which they think it is wrong for someone their age to engage in deviant acts, such as hitting someone in order to hurt them, stealing or shoplifting, lying, and selling drugs. Cronbach's alpha was .86 at wave V and .82 at wave VI. The reliability across waves was .82. Finally, the 18-item *hostile view of relationships* subscale was designed to measure commitment to a hostile attribution bias (Dodge, 2006) and consists of two dimensions: a cynical view of others' intentions (e.g., "When people are friendly, they usually want something from you") and a belief that aggression is often necessary to avoid exploitation (e.g., "Being viewed as tough and aggressive is important for gaining respect"). Cronbach's alpha was .90 at wave V and .89 at wave VI. The reliability across waves was .75.

Consonant with past studies (Burt and Simons, 2013; Simons and Barr, 2014; Simons and Burt, 2011), confirmatory factor analyses indicated that the immediate gratification, disengagement from conventional norms, and hostile view of relationships scales loaded on a common factor with all loadings greater than .50. Also consistent with Simons and Burt (2011), the three subscales showed comparable associations with other study variables including the developmental contexts, risky activities, activity spaces, and crime. Finally, consistent with SST's assertion that the three schemas are mutually reinforcing and operate in tandem, preliminary models using these three indicators as correlated traits rather than a latent construct fit the data worse than those using the latent construct. Therefore, the scales were standardized and summed to form a composite measure of *criminogenic knowledge structure*. The resulting measure provides an indicator of criminogenic knowledge structure during the transition to young adulthood (waves V and VI). The reliability of this composite measure using Nunnally's formula for a linear combination of measures was .88.

Criminogenic Settings

Risky Activities. At wave VI, we assessed the extent to which respondents spend their free time in a range of potentially risky activities. Respondents were asked to think about how they "spend [their] time on a typical weekend evening or night" and then to indicate how often (1 = never and 5 = weekly) they engage in each of 19 activities (e.g., go bowling, go to a movie, and watch TV or listen to music at a friend's house). A focus group with young African American adults was used to generate the list of activities. Eight of these activities, including bar hopping, clubbing, hanging out at pool halls or strip clubs, and drinking or getting high, were identified as risky activities that increase the probability of interactions involving provocation, threat, or criminal opportunity. These items were

summed to form a measure of risky activities. Cronbach's alpha for the eight-item index was .79. Because of right skew, we use the logged version of this variable in all models.

Criminogenic Activity Space. After the questions regarding risky activities, respondents were asked to indicate which activity they do most often and the area of town in which they engage in said activity. This area indicates the respondents' primary leisure activity space, about which they were asked to answer a series of questions regarding its norms and social controls. Because we conceptualize activity spaces as criminogenic to the extent that they have low informal social control, a high incidence of criminal and deviant behavior, and a collective commitment to the street culture, respondents were asked about each of these components.

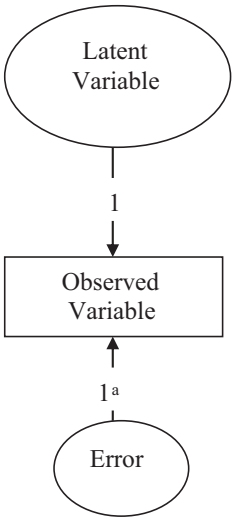
The first component, *lack of informal social control*, was assessed with six items similar to those used in the community context measure (e.g., "Adults in the area would call the police if they saw someone breaking the law."). The responses ranged from 1 "very true" to 3 "not at all true," and Cronbach's alpha for the index was .79. The second component, *criminal activity*, also was assessed via six items, each asking about the frequency of criminal and deviant behaviors that took place in the activity field and of which the respondent and his or her friends were not a part. These criminal and deviant behaviors included things like fighting with a weapon, the selling of drugs, a sexual assault or rape, and a robbery or mugging. Responses ranged from 1 "never" to 3 "often," and Cronbach's alpha for the index was .85. Finally, *commitment to a street culture* was assessed via another six items that asked respondents how strongly they felt people in the activity field would agree with statements like the following: "People tend to respect a person who is tough and aggressive" and "It is important to show other people that one cannot be intimidated." The responses ranged from 1 "strongly disagree" to 4 "strongly agree," and Cronbach's alpha for the index was .94. In addition to these three subscales, respondents were asked one question concerning how often they hung out in "tough and dangerous" neighborhoods.

To form a composite measure of *criminogenic activity spaces*, the low informal social control, crime, and street culture subscales, along with the "tough and dangerous" frequency item, were standardized and then summed. Confirmatory factor analysis indicated that the three subscales loaded on a common factor with all loadings greater than .50, and the reliability of this composite measure calculated using Nunnally's formula was .94.

Perception of the Situation

Criminogenic Situational Definitions. Situational definitions were assessed with 12 items designed to test SST at wave VI. The respondents were asked to indicate how often during the past year that they had encountered each of 12 different situations that have been described in ethnographic research as fostering violent and antisocial behavior (e.g., Collins, 2008; Katz, 1988). Half of the items tap into perceived provocations and threats (e.g., "When you are out and about, how often do you encounter situations where you feel the other people are not treating you with respect?"), and half relate to perceived opportunities for getting over on someone or an easy score (e.g., "When you are out and about, how often do you encounter situations where you become aware that there is an opportunity to help yourself at some sucker's expense?"). The responses ranged from 1 "never" to 5 "this happens all the time." Given that <5 percent of respondents indicated a

Figure 2. Adjusting Observed Variables for Error



[a] Error = (1 – reliability) × variance.

4 "very often" or a 5 "this happens all the time," responses were top coded to range from 1 "never" to 3 "frequently." These items were summed to form the measure of criminogenic definitions. Cronbach's alpha was high at .90.

Control Variables. In all the models we present, the sex of the respondent is controlled. This variable is coded as 1 = female and 0 = male. Furthermore, as indicated, we control for prior offending at waves III and IV when predicting wave VI crime to assess the change in offending in light of persistent exposure to environments.[5]

ANALYTIC STRATEGY

SEM was used to test our proposed model. Such an approach allows both for the estimation of substantive parameters simultaneously in the context of a full-information model and provides tests of significance for specific and general indirect effects. All analyses were conducted using the statistical program Mplus, Version 7.0 (Muthén and Muthén, 2012). Because our dependent variable, crime, is an overdispersed count measure, we used a negative binomial equation model to account for this non-normally distributed outcome. Furthermore, rather than use latent variables, which would unnecessarily complicate an already complex and large model, we chose simply to treat the composite measures described as observed and to specify, rather than to estimate, their measurement error (Muthén and Muthén, 2012; see figure 2 for an example). With the exception of sex and crime, we adjust all variables in the model for error in this way.

5. We also estimated the model controlling for prior offending at wave V using the same instrument used to assess wave VI offending as well as without any control for prior offending. The pattern of results from these models is identical to that presented here, and the former is presented in appendix A in the online supporting information.

To assess overall model fit, we use criteria for the comparative fit index (CFI) and root mean square error of approximation (RMSEA) proposed by Hu and Bentler (1999). A CFI greater than .95 and an RMSEA smaller than .05 indicate good model fit.[6] To compare the models during the model reduction process as well as the paths constrained and unconstrained by gender, we conduct chi-square difference tests using Satorra-Bentler scaled chi-square with robust standard errors (Muthén and Muthén, 2012). Given the non-normality of our count outcome variable, the Satorra–Bentler chi-square with robust standard errors divides the chi-square by a scaling correction factor to approximate the chi-square under conditions of non-normality.

RESULTS

DESCRIPTIVE INFORMATION

Table 1 presents the means, standard deviations, and ranges for all study variables for the analytic sample. Also shown in this table are the zero-order correlations between variables. The number of criminal acts committed by respondents ranges from 0 to 10, with a mean of .46 at wave VI. At this later wave, most respondents committed zero violent crimes. Roughly half (47.66 percent) of those who committed any crimes, however, engaged in two or more different acts, representing significant individual variation in offending. As expected, the wave III and IV deviance and wave VI crime measures are significantly correlated at .19 ($p < .001$).

Other zero-order correlations among study variables are largely as expected. All variables are significantly correlated with the dependent variable, crime. Exclusive of prior crime, these correlations range from –.10 to .34. Furthermore, all of the adolescent social-environmental variables are significantly related to the adult criminogenic knowledge structure in the expected directions. Perhaps most importantly, however, the criminogenic knowledge structure is significantly and positively related to both measures of criminogenic setting (risky activities: $r = .44$, $p < .001$; activity field: $r = .48$, $p < .001$) and to criminogenic definitions of the situation ($r = .53$, $p < .001$). Last, as expected, both risky activities ($r = .42$, $p < .001$) and activity field ($r = .45$, $p < .001$) are significantly associated with criminogenic definitions.

SEM RESULTS

Given that the model to be tested is an expansion of past work (Simons and Burt, 2011), we began our analyses with the full structural model. We then proceeded to improve model fit by dropping nonsignificant paths ($t < 1.5$) and by adding paths that were not part of the hypothesized model but were indicated in the modification indices to be significant. Given that chi-square difference tests based on log-likelihood values and scaling correction factors indicated that the model in which effects were free to vary by sex

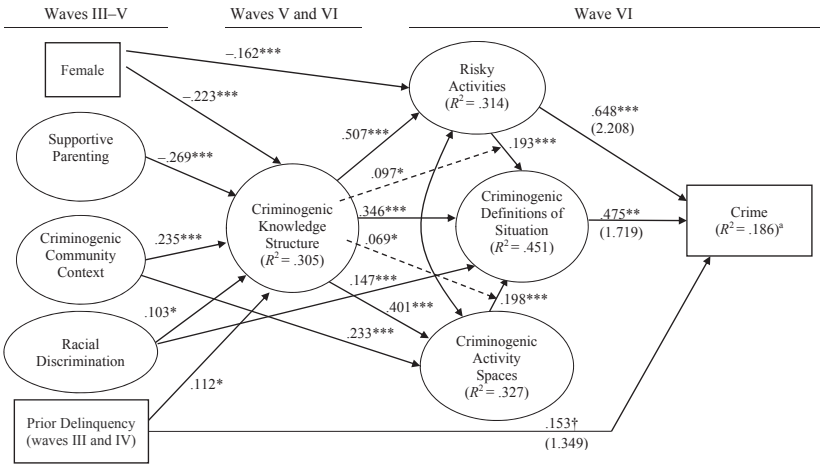
6. Given that the negative binomial estimator requires numerical integration, the indirect effects and model fit statistics cannot be calculated. Hence, model fit indices and the calculations of indirect effects are based on a continuous model with a non-normality robust estimator (MLM). Such a model allows for our indirect effects to approximate more closely the effects in the negative binomial models. Indirect effects are calculated for the unconstrained model that includes paths from all adolescent predictors to all endogenous variables.

Table 1. Correlations and Descriptive Statistics for All Study Variables ($N = 623$)

Variable	1	2	3	4	5	6	7	8	9	10
1 Crime (wave VI)	1.000									
2 Prior deviance (waves III and IV)	.188***	1.000								
3 Female	−.096*	.008	1.000							
4 Supportive parenting (waves III–V)	−.131**	−.207***	−.073†	1.000						
5 Community context (waves III–V)	.171***	.250***	−.009	−.279***	1.000					
6 Discrimination (waves III–V)	.166***	.124**	−.066†	−.134***	.211***	1.000				
7 Activity fields (wave VI)	.295***	.213***	−.159***	−.146***	.309***	.110**	1.000			
8 Risky activities (wave VI)	.285***	.097*	−.241***	−.094*	.091*	.110**	.390***	1.000		
9 Criminogenic definitions of the situation (wave VI)	.327***	.218***	−.186***	−.189***	.243***	.233***	.453***	.421***	1.000	
10 Criminogenic knowledge structure (waves V and VI)	.339***	.245***	−.200***	−.333***	.290***	.209***	.480***	.442***	.528***	1.000
Mean	.462	.234	.592	.015	1.384	−.015	−.033	2.643	17.455	−.079
Standard deviation	1.248	.555	.492	2.419	.419	.812	2.742	.337	5.063	2.225
Minimum	.000	.000	.000	−9.766	.000	−1.232	−3.961	2.079	12.000	−4.893
Maximum	10.000	4.000	1.000	5.375	2.814	3.556	12.121	3.584	36.000	7.199
Reliability	–	–	–	.809	.557	.720	.939	.790	.900	.876

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests).

Figure 3. Reduced Negative Binomial Model Predicting Crime: All Mediating Paths



NOTES: Standardized coefficients presented. Exponentiated unstandardized coefficients (incident rate-ratios) in parentheses. Female and prior delinquency controlled on all endogenous variables; only significant paths shown. All exogenous variables correlated. $p = .078$; CFI = .996; RMSEA = .045.[b]

$^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

[a] R^2 for this count outcome taken from a continuous, noninteractive model using Satorra–Bentler scaled chi-square and robust standard errors.

[b] Fit stats taken from a continuous, noninteractive model using Satorra–Bentler scaled chi-square and robust standard errors.

did not fit the data better than the constrained model ($X^2 = 22.26$, d.f. = 18, $p > .05$), figure 3 displays the results of the best fitting model for the full sample. With few exceptions, this final model maps onto the hypothesized model well. Although model fit indices are not available for the negative binomial model, the fit indices for the continuous model with the non-normality robust maximum likelihood estimator indicate that the model fits the data well (CFI = .996; RMSEA = .045).[7,8]

Given the complexity of this model, we progress through a discussion of the results in four stages. First, we focus on the left side of the model to explore the effects of persistent exposure to harsh, unpredictable environments on the development of a CKS. Doing so aids in our understanding of the developmental process whereby individuals acquire

7. We also compared this model with the fully saturated model using the Satorra–Bentler scaled chi-square with robust standard errors. The nonsignificant chi-square test (chi-square = 6.819, d.f. = 3, p > .05) indicates that the reduced model presented here fits no worse than the fully saturated model in which all paths are estimated.
8. The models presented here contain some overlap with regard to developmental periods (that is, adolescence is measured as waves III through V, emerging adulthood as wave V, and early adulthood as wave VI). It should be noted that the pattern of findings in models with no overlapping waves is similar to that presented here. We opted to present results for the overlapping waves (1) given the increased sample size it afforded and (2) to capture the process of developmental change over time.

schemas conducive to crime. Second, we move toward the right side of the model to explore the extent to which criminogenic situational definitions mediate the impact of the CKS on crime. This mediating effect was explicitly hypothesized by Simons and Burt (2011) and is an essential, yet untested, element of SST. Third, keeping to the right side of the model, we examine the extent to which both criminogenic situational definitions and crime are a function of the characteristics of the setting. Hence, we discuss paths linking the CKS to risky activities and criminogenic activity spaces and those linking these two variables to both criminogenic definitions and crime. Finally, we examine whether and how the CKS interacts with characteristics of the setting to enhance criminogenic definitions. We close out our presentation of results with a discussion of the mediation results.

With respect to the development of the CKS, figure 3 shows that all of the adolescent social-environmental variables are significantly associated with the criminogenic knowledge structure as predicted. Whereas both criminogenic community context and racial discrimination are positively associated with this knowledge structure ($\gamma = .235$ and .103, respectively), supportive parenting is negative in its association ($\gamma = –.269$). In addition to these socialization variables, both sex ($\gamma = –.223$) and prior delinquency ($\gamma = .112$) are significantly related to the CKS. Importantly, with the exception of prior delinquency, none of the adolescent social-environmental variables maintains a direct effect on crime in young adulthood. Rather, as shown in tables 1 and 2 and as will be discussed in greater detail later, their effects are indirect, largely through the criminogenic knowledge structure.[9] Such findings are consonant with those of Simons and Burt (2011) and consistent with the SST model that past experiences influence future offending through their effects on cognitive schemas about the value of delaying gratification, the wisdom of following conventional rules, and the trustworthiness and intentions of others.

SST predicts that criminogenic situational definitions account for the link between the CKS and offending. That is, the development of a CKS is expected to enhance perceptions of provocation, threat, and opportunity, thereby increasing the likelihood of crime. Consistent with this idea, figure 3 reveals that the robust link between the CKS and crime can be explained largely by criminogenic definitions of the situation. As shown on the right side of the model presented in figure 3, the CKS is positively associated with criminogenic definitions ($\beta = .346, p < .001$), which, in turn, is positively associated with crime ($\beta = .475, p < .01$). As shown in table 2, this indirect effect is highly significant and renders the direct effect from the criminogenic knowledge structure to crime nonsignificant.

SST proposes that criminogenic situational definitions are a function of both an individual's CKS as well as the features of the setting and that individuals with a high CKS select themselves into criminogenic activity spaces and risky activities. Consonant with these predictions, figure 3 reveals that the CKS is significantly and positively associated with both involvement in risky activities ($\beta = .507, p < .001$) and criminogenic activity spaces ($\beta = .401, p < .001$), and both of these variables go on to influence criminogenic situational definitions. More specifically, both risky activities ($\beta = .193, p < .001$) and criminogenic activity ($\beta = .198, p < .001$) significantly and positively predict criminogenic

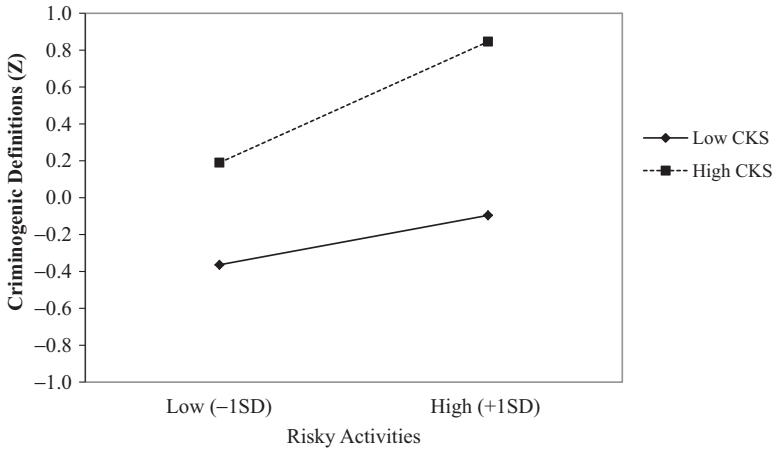
9. MPlus has two options, the delta and bootstrapping methods, for calculating the standard errors for indirect effects. The magnitude and significance levels of effects were found across methods (bootstrap with 1,000 replications). Hence, we present significance levels based on the default delta method.

Table 2. Total and Indirect Effects ($N = 623$)

	Outcome							
	Crime		CDS		Risky Activities		Activity Fields	
Predictors	**Indirect Effect**	**Total Effect**	**Indirect Effect**	**Total Effect**	**Indirect Effect**	**Total Effect**	**Indirect Effect**	**Total Effect**
Female	−.089***	−.090	−.159***	−.189	−.126***	−.273	−.100	−.162***
Supportive parenting	−.035†	−.045	−.107***	−.107	−.152***	−.152	−.121	−.121***
Community context	.046†	.168	.158***	.231	.132***	.132	.105	.417***
Discrimination	.046*	.109	.047	.171	.058†	.085	.046	.046†
Prior deviance	.025	.099	.064*	.064	.060*	.067	.048	.086†
CKS	.205***	.205	.195***	.521				
Risky activities	.034*	.251						
Activity fields	.028†	.028						

NOTES: Standardized indirect effects reported. Indirect effects calculated using the continuous, noninteractive SEM with a non-normality robust MLM estimator. Indirect effects calculated with unconstrained model.
ABBREVIATIONS: CDS = criminogenic definitions; CKS = criminogenic knowledge structure.
†$p < .10$; *$p < .05$; ***$p < .001$ (two-tailed tests).

Figure 4. Effect of Risky Activities on Criminogenic Definitions at High and Low Levels of CKS

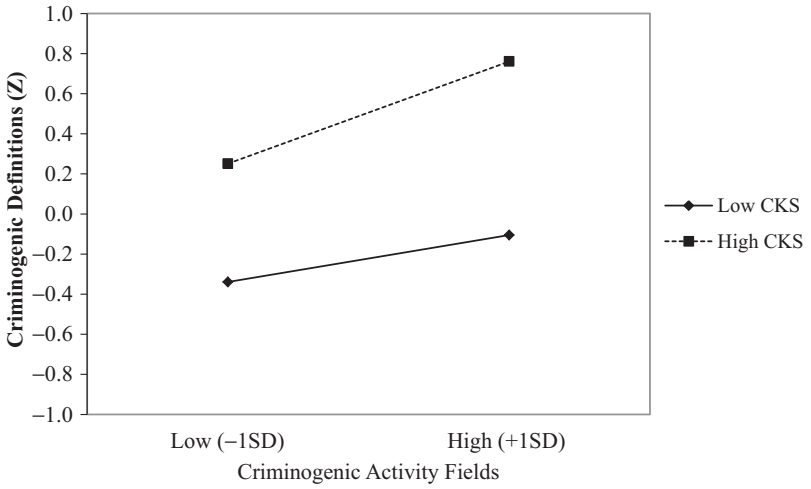


situational definitions. SST further predicts that situational definitions fully mediate the effects of both the CKS and criminogenic contexts for action on offending. Although the effect of activity spaces on crime is wholly indirect through criminogenic definitions (see figure 3), the measure of risky activities continues to have a direct association with crime. In fact, independent of criminogenic definitions, a 1 standard deviation increase in the logged risky activities scale predicts more than a twofold increase in the expected count of violent crimes. We return to this unexpected direct path in the discussion.

Finally, SST predicts that individuals with a high CKS are more likely to attend to criminogenic features of the situation. This prediction implies an interaction effect, specifically that the CKS amplifies the effects of criminogenic settings on criminogenic situational definitions. Consistent with this expectation, and as shown by the dashed lines in figure 3, the CKS augments the associations between risky activities and situational definitions and between criminogenic activity spaces and situational definitions. These moderating effects are illustrated in figures 4 and 5, respectively, and indicate that the association between risky activities and criminogenic definitions ($\beta = .097$, $p < .05$) as well as that between activity field and criminogenic definitions ($\beta = .069$, $p < .05$) are stronger for those with more criminogenic knowledge structures.

With the exception of a direct effect of risky activities on crime, the findings to this point are largely as predicted by SST. However, three other findings shown in figure 3 were unexpected. First, racial discrimination had a direct positive effect on criminogenic situational definitions unmediated by the CKS ($\gamma = .147$, $p < .001$). Hence, independent of criminal propensity, the experience of discrimination seems to enhance the degree to which young African Americans define situations as provocative and opportunistic. Second, although generally supportive of a self-selection effect with regard to characteristics of the setting, our model suggests that, independent of the CKS, the community context in which one lives seems to constrain one's choice of leisure activity spaces, as the direct path from community context to activity spaces is substantial and significant ($\gamma = .233$, $p < .001$). Finally, unsurprising albeit not predicted, the direct effect from sex or

Figure 5. Effect of Criminogenic Activity Spaces on Criminogenic Definitions at High and Low Levels of CKS



gender to risky activities is significant and negative. This finding indicates that, independent of the CKS, females engaged in these risky activities less frequently than did males ($\gamma = -.162, p < .001$).

Aside from the few unexpected findings, the results presented in figure 4 provide much support for the SST model. Moreover, it should be noted that the model explains a significant portion of variance in all of our endogenous variables. The proportion of variance explained ranged from 19 percent for our outcome measure (although this statistic is based on the continuous model rather than on the more appropriate negative binomial one) to 45 percent for criminogenic definitions of the situation. Furthermore, tables 2 and 3 reveal that most total and specific indirect effects in the model were statistically significant. For instance, as shown in table 2, all of the effect of CKS on crime was indirect. In looking at the specific indirect effects from table 3, one can see that criminogenic definitions (CDS) mediated approximately 25 percent of this effect (indirect effect through CDS = .052/total effect of .205 = .254), whereas risky routine activities mediated nearly 60 percent (indirect effect through activities = .121/total effect of .205 = .590). Thus, these findings support SST contentions about both the important factors and the mechanisms through which these individual and contextual factors influence the development of criminal propensity and actual offending.

DISCUSSION

Criminological theories tend to focus on either the role of factors related to the development of criminal propensity or the situational factors conductive to criminal events, but they rarely incorporate both (Wikström and Sampson, 2003; but see Wikström et al., 2012). Furthermore, criminological theories tend to emphasize either identifying salient criminogenic factors or the processes that link such factors to criminal behavior. As a result, despite having a rich body of theories, indeed what some would consider a

Table 3. Specific Indirect Effects ($N = 623$)

		Outcome	
Predictor	**Mediating Path**	**Crime**	**CDS**
CKS	–> Activities –>	.121***	.117***
	–> Activities –> CDS –>	.019*	–
	–> CDS –>	.052*	–
	–> Fields –>	–	.077***
	–> Fields –> CDS –>	.012†	–
Community context	–> CKS –>	–	.077**
	–> CKS –> Activities –>	.029*	.028*
	–> CKS –> Activities –> CDS –>	.004†	–
	–> CKS –> CDS –>	.012†	–
	–> CKS –> Fields –>	–	.018*
	–> CKS –> Fields –> CDS –>	.003†	–
	–> Fields –>	–	.054**
	–> Fields –> CDS –>	.009†	–
Discrimination	–> CDS –>	.020†	–
	–> CKS –>		.034†
	–> CKS –> Activities –>	.013†	.012†
	–> CKS –> Activities –> CDS –>	.002	–
	–> CKS –> CDS –>	.005	–
	–> CKS –> Fields –>	–	.008
	–> CKS –> Fields –> CDS –>	.001	–
Female	–> Activities –>	−.032*	−.031*
	–> Activities –> CDS –>	−.005†	–
	–> CKS –>		−.073***
	–> CKS –> Activities –>	−.027**	−.026**
	–> CKS –> Activities –> CDS –>	−.004†	–
	–> CKS –> CDS –>	−.012*	–
	–> CKS –> Fields –>	–	−.017**
	–> CKS –> Fields –> CDS –>	−.003†	–
Supportive parenting	–> CKS –>	–	−.089***
	–> CKS –> Activities –>	−.033**	−.032**
	–> CKS –> Activities –> CDS –>	−.005†	–
	–> CKS –> CDS –>	−.014*	–
	–> CKS –> Fields –>	–	−.021**
	–> CKS –> Fields –> CDS –>	−.003†	–

NOTES: Standardized indirect effects reported. Indirect effects calculated using the continuous, noninteractive SEM with a non-normality robust MLM estimator. Indirect effects calculated with unconstrained model.
ABBREVIATIONS: CDS = criminogenic definitions; CKS = criminogenic knowledge structure.
†$p \leq .10$, *$p \leq .05$, **$p \leq .01$, ***$p \leq .001$ (two-tailed tests).

surfeit of theories, criminology finds itself in a theoretical morass. We argue that in moving forward, criminology needs more general unifying theories that identify key criminogenic factors and link these to criminal propensity and events in a relatively parsimonious manner. We embrace a holistic approach that gives priority to the mechanisms underlying social influences on both criminal propensity *and* offending. SST, as presented by Simons and Burt (2011), is intended to be such a theory. It is grounded in the learning paradigm but improves on existing learning theories in many ways, especially by being more precise regarding the key sites of learning and the messages learned and by linking learning to criminal propensity and events in a life-course model.

This study represented a theoretical elaboration of SST and a test of the model and its extensions. In particular, two extensions were examined. First, with the addition of theoretical measures of criminogenic definitions of the situation to the FACHS, we tested the key idea that criminogenic situational definitions mediate the link between individual propensities (the CKS) and offending. Furthermore, the SST model was broadened to include the role of contexts for action in addition to the previous incorporation of contexts for development. These extensions, tested with waves III through VI of the FACHS data, will be discussed in the following section. This discussion will be followed by a consideration of the limitations of the current study, the implications of these findings, and directions for future research.

Consistent with prior tests of SST, the results provide strong support for the theoretical model. The social-environmental factors we examined, which are theorized to vary in the key dimensions of supportiveness and predictability versus hostility and dangerousness, were all strongly associated with the development of the CKS. Specifically, persistent exposure to supportive parenting was negatively linked to the CKS, whereas racial discrimination and criminogenic community contexts produced an increase in the CKS. Additionally, and consistent with SST, being female and prior delinquency were associated with a lower and higher CKS, respectively.

The findings also provide preliminary support for our extensions of the SST model. First, consistent with a core proposition of the SST model that crime results when individuals come to define situations as requiring, compelling, or excusing offending, the findings indicated that much of the effect of both the CKS (and, hence, contexts for development) and contexts for action on offending is through criminogenic situational definitions. For example, criminogenic definitions mediated 25.4 percent, 13.5 percent, and 100 percent of the effect of CKS, risky activities, and activity spaces, respectively, on crime.

The results also are consonant with SST's context for action arguments, as they show that both criminal propensities and settings influence involvement in crime; moreover, propensity and settings interact such that individuals with a high CKS are more likely to attend to and respond to potentially criminogenic situational cues with offending. Contrary to the SST model, however, risky activities continued to have a direct effect on offending after controlling for criminogenic situational definitions. Although this finding was not expected, it is understandable. The SST model proposes that situational definitions mediate all of the effects of social and individual factors on offending. We argue that even at a rapid or reflexive level or when acting out of habit, individuals encode and respond to situational cues when acting and reacting. However, capturing all of the potential situational definitions that might result in criminal behavior is an impracticable task in rather large surveys. Thus, we would argue that this finding is a result of the inherent limitations in measuring situational definitions. Even so, the measure of situational definitions had a robust effect in the model, with 25.4 percent of the CKS and 100.0 percent of criminogenic activity spaces on offending being mediated through such definitions.

Three other significant pathways were not consonant with the SST model presented in figure 1. First, not all of the effects of the criminogenic contexts for development were through the CKS. Consistent with Simons and Burt (2011), the effect of racial discrimination was not fully mediated by the CKS, as it had a direct effect on criminogenic situational definitions. Such a finding is consistent with recent theorizing that has suggested that racial discrimination increases offending through factors that are unique to the worldview of African Americans, such as through schemas about the injustices of the criminal

justice system (e.g., Unnever and Gabbidon, 2011). This theory implies that racially specific factors are operative that are not captured in the SST model.

In addition to its effects through the CKS, criminogenic community context had a direct positive effect on respondents' involvement in criminogenic activity spaces. Although not hypothesized, we believe this effect is likely a result of structural constraints, which manifest in two different ways. First, individuals who reside in highly disadvantaged, dangerous, and often isolated communities likely have less mobility. Moreover, such communities are themselves generally surrounded by similarly situated neighborhoods given patterns of concentrated disadvantages and spatial interdependence (e.g., Sampson, 2012). This finding is thus consistent with Sampson's (2012) argument that ecologically concentrated neighborhood disadvantage affects individual offending "through the interplay of structure and purposeful choice" (2012: 64) and that "social choices are governed by spatial proximity" (2012: 239).

Furthermore, being female was not fully mediated by the CKS as it had a direct effect on participation in risky contexts. Although speculative, we believe that this effect is likely at least partly caused by the higher degree of monitoring of females (e.g., Hagan, Simpson, and Gillis, 1979) as well as their greater risk aversion (e.g., Byrnes, Miller, and Schafer, 1999). Finally, only part of the effect of prior offending was mediated through the CKS. This finding deserves further research attention and may be a result of structural effects of offending that are not captured in the current model or related to peer affiliations, which was not included for the reasons we will discuss next. Overall, however, the findings generally replicated prior studies of SST.

The study is, of course, not without limitations, and several, in particular, deserve mention. First, with regard to our measures, all of our constructs, with one exception, relied on respondents' self-reports. The exception was the parenting scales, which employed both primary caregiver and child reports. Individuals' experiences and perceptions are central to our model, thus necessitating the use of self-reports for several of our constructs. However, to the extent possible, future research should incorporate more objective reports of community and situational conditions. Furthermore, our assessments of situational definitions, routine activities, activity spaces, and crime were all taken in the same wave of data collection because of the multiyear intervals between waves. Thus, causal priorities cannot be established in the current study. Ideally, we would have had multiple waves of data separated by shorter lengths of time so that causal priorities could have been more clearly established.

Another limitation that needs to be mentioned is the homogeneity of our sample. All of the respondents were African American and resided in Iowa and Georgia at the first wave. Although this raises issues regarding the generalizability of findings, research is needed on the causes of offending among African Americans given that past research has established that they suffer from higher rates of crime than other ethnic groups. Use of an African American sample also had the benefit of allowing us to incorporate racial discrimination into the model: a factor that recent research has indicated is an important predictor of crime among African Americans (e.g., Burt, Simons, and Gibbons, 2012; Simons et al., 2006; Unnever et al., 2009). Although we cannot think of any reason why our results would be specific to African Americans, our findings clearly need to be replicated with more diverse samples.

Finally, the SST model we tested did not include deviant or criminal peers. Despite our belief that peers do influence both propensity and context, we decided not to include peers given their potential reciprocal relationship with all of the factors in the model, as well as the fact that our measure of peers is a perceptual measure, which has been shown to be biased (e.g., Young et al., 2011). Future research needs to examine the interplay of peers with all of the facets of the SST model in a way that recognizes both peer effects and individual selection into peer groups.

Despite these limitations, in addition to providing support for the SST model, this study contributes to criminological knowledge more broadly by supporting an integrative, holistic approach that combines explanations of propensity and action into a unified developmental model. We believe that criminology needs an updated learning theory that better integrates extant findings into a life-course model and that SST can fill this gap in theoretical knowledge. Much more work remains to be done. In addition to testing the theory in different and especially more diverse samples, the model can be extended in various ways. For example, the model might incorporate biosocial findings about differential susceptibility to environmental factors, thus, elucidating individual differences in the effects of social contexts. In particular, this line of work suggests that some individuals will be more responsive to environmental conditions, whether supportive or hostile, and thus, we will find evidence of more change in response to such social factors (Belsky and Pluess, 2009; Simons, Beach, and Barr, 2012). The SST model also might be refined to incorporate the relevance of "sensitive periods for change" in response to social conditions, as well as a consideration of factors that might be more salient at one developmental stage than another (e.g., Burt, Sweeten, and Simons, 2014; Ellis et al., 2012).

The SST model might be elaborated to include the role of highly traumatic or memorable events that may have a much greater influence on the individual than routine daily situations have. To be sure, such potential experiences are already incorporated into the model in the form of community criminal victimization, but other traumatic or memorable positive events may affect the individual and his or her knowledge structures in powerful ways. Future theorizing and research might consider the effects of such events. Finally, the model might be expanded to include consideration of transitions and potential turning points and their effects on offending. As we have noted, one study has already shown that a key adult role transition, involvement in a satisfying romantic relationship, reduces offending by decreasing the CKS (Simons and Barr, 2014). Future work might incorporate and test the effects of other salient life transitions such as work, incarceration, or having a child.

In sum, we believe that SST provides a needed step in the direction of moving criminological explanations in the direction of more comprehensive, integrated, and developmental theories that recognize both cumulative continuity as well as the capacity for change. Clearly, more theoretical work needs to be done in explaining and understanding crime, and we present SST in this spirit: "It is better to forge ahead and fail than to ignore the hard questions" (Sampson, 2012: 23). We hope this work stimulates more scholars to work toward this end whether by challenging or improving on our efforts.

REFERENCES

Agnew, Robert A. 2006. *Pressured into Crime: An Overview of Strain Theory*. Los Angeles, CA: Roxbury.

Akers, Ronald L. 1985. *Deviant Behavior: A Social Learning Approach*. Belmont, CA: Wadsworth.

Alexander, Richard D. 1987. *The Biology of Moral Systems*. New Brunswick, NJ: Aldine.

American Psychiatric Association. 1994. *Diagnostic Interview Schedule for Children, Version 4 (DISC-IV)*. Washington, DC: American Psychiatric Association.

Anderson, Elijah. 1999. *Code of the Street: Decency, Violence, and the Moral Life of the Inner City*. Chicago, IL: University of Chicago Press.

Baldwin, Mark W. 1992. Relational schemas and the processing of social information. *Psychological Bulletin* 112:461–84.

Bernasco, Wim, Stijn Ruiter, Gerben J. N. Bruinsma, Lieven J. R. Pauwels, and Frank Weerman. 2013. Situational causes of offending: A fixed-effects analysis of space-time budget data. *Criminology* 51:895–926.

Belsky, Jay, and M. Pluess. 2009. Beyond diathesis-stress: Differential susceptibility to environmental influences. *Psychological Bulletin* 135:885–908.

Belsky, Jay, Gabriel L. Scholomer, and Bruce J. Ellis. 2012. Beyond cumulative risk: Distinguishing harshness and unpredictability as determinants of parenting and early life history strategy. *Developmental Psychology* 48:662–73.

Black, Donald. 1998. *The Social Structure of Right and Wrong*. New York: Academic.

Bourdieu, Pierre. 1990. *The Logic of Practice*. Stanford, CA: Stanford University Press.

Brantingham, Paul, and Patricia Brantingham. 1984. *Patterns in Crime*. New York: Macmillan.

Brantingham, Paul, and Patricia Brantingham. 2008. Crime pattern theory. In *Environmental Criminology and Crime Analysis*, eds. Richard Wortley and Lorraine Green Mazerolle. New York: Routledge.

Burt, Callie H., and Ronald L. Simons. 2013. Interpersonal racial discrimination, ethnic-racial socialization, and offending: Risk and resilience among African American females. *Justice Quarterly*. E-pub ahead of print.

Burt, Callie H., Ronald L. Simons, and Frederick X. Gibbons. 2012. Racial discrimination, ethnic-racial socialization, and crime: A micro-sociological model of risk and resilience. *American Sociological Review* 77:648–77.

Burt, Callie H., Gary Sweeten, and Ronald L. Simons. 2014. Self-control through emerging adulthood: Instability, multidimensionality, and criminological significance. *Criminology*. 52:450–87.

Byrnes, James P., David C. Miller, and William D. Schafer. 1999. Gender differences in risk taking: A meta-analysis. *Psychological Bulletin* 125:367–83.

Collins, Randall. 2008. *Violence: A Micro-Sociological Theory*. Princeton, NJ: Princeton University Press.

Cohen, Lawrence E., and Marcus Felson. 1979. Social change and crime rate trends: A routine activity approach. *American Sociological Review* 44:588–608.

Conger, Rand D., and Glen H. Elder. 1994. *Families in Troubled Times: Adaptation to Change in Rural America*. New York: Aldine.

Crick, Nicki R., and Kenneth A. Dodge. 1994. A review and reformulation of social-information processing mechanisms in children's social adjustment. *Psychological Bulletin* 115:74–101.

De Waal, Frans. 2006. *Primates and Philosophers: How Morality Evolved*. Princeton, NJ: Princeton University Press.

Dodge, Kenneth A. 2006. Translational science in action: Hostile attributional style and the development of aggressive behavior problems. *Development and Psychopathology* 18:791–814.

Dodge, Kenneth A., and Gregory S. Pettit. 2003. A biopsychosocial model of the development of chronic conduct problems in adolescence. *Developmental Psychology* 39:349–71.

Ellis, Bruce J., Marco Del Giudice, Thomas J. Dishion, Aurelio José Figueredo, Peter Gray, Vladas Griskevicius, Patricia H. Hawley, W. Jake Jacobs, Jenée James, Anthony A. Volk, and David Sloan Wilson. 2012. The evolutionary basis of risky adolescent behavior: Implications for science, policy, and practice. *Developmental Psychology* 48:598–623.

Eysenck, Sybil B. G., and Hans Jürgen Eysenck. 1977. The place of impulsiveness and venturesomeness in a dimensional system of personality description. *British Journal of Social and Clinical Psychology* 16:57–68.

Felson, Marcus, and Lawrence E. Cohen. 1980. Human ecology and crime: A routine activities approach. *Human Ecology* 8:389–406.

Gibbons, Frederick X., Meg Gerrard, Michael J. Cleveland, Thomas A. Wills, and Gene Brody. 2004. Perceived discrimination and substance use in African American parents and their children: A panel study. *Journal of Personality and Social Psychology* 86:517–29.

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

Hagan, John, John H. Simpson, and A. R. Gillis. 1979. The sexual stratification of social control: A gender-based perspective on crime and delinquency. *The British Journal of Sociology* 30:25–38.

Hauser, Marc D. 2006. *Moral Minds: The Nature of Right and Wrong*. New York: Harper.

Hirschi, Travis. 1969. *Causes of Delinquency*. Berkeley: University of California Press.

Hu, Li-tze, and Peter M. Bentler. 1999. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling-A Multidisciplinary Journal* 6:1–55.

Katz, Jack. 1988. *Seductions of Crime: Moral and Sensual Attractions in Doing Evil*. New York: Basic Books.

Kendall, Philip C., and Carrie L. Williams. 1982. Assessing the cognitive and behavioral components of children's self-management. In *Self-Management and Behavior Change*, eds. Paul Karoly and Frederick H. Kanfer. New York: Pergamon Press.

Lamont, Michele, and Mario Lois Small. 2008. How culture matters: Enriching our understanding of poverty. In *The Colors of Poverty*, eds. Ann Chih Lin and David R. Harris. New York: Russell Sage Foundation.

Landrine, Hope, and Elizabeth A. Klonoff. 1996. The schedule of racist events: A measure of racial discrimination and a study of its negative physical and mental health consequences. *Journal of Black Psychology* 22:144–68.

Loeber, Rolf, and David P. Farrington. 2000. Young children who commit crime: Epidemiology, developmental origins, risk factors, early interventions, and policy implications. *Development and Psychopathology* 12:737–62.

Mickelson, Kristen D., Ronald C. Kessler, and Phillip R. Shaver. 1997. Adult attachment in a nationally representative sample. *Journal of Personality and Social Psychology* 73:1092–1106.

Muthén, Linda K., and Bengt O. Muthén. 2012. *Mplus User's Guide, Seventh Edition*. Los Angeles, CA: Muthén & Muthén.

Nunnally, Jum C. 1978. *Psychometric Theory*. New York: McGraw-Hill.

Osgood, D. Wayne, Amy L. Anderson, and Jennifer N. Shaffer. 2005. Unstructured leisure in the after-school hours. In *Organized Activities as Contexts of Development*, eds. Joseph L. Mahoney, Reed W. Larson, and Jacquelynne S. Eccles. Mahwah, NJ: Lawrence Erlbaum.

Osgood, D. Wayne, Janet K. Wilson, Patrick M. O'Malley, Jerald G. Bachman, and Lloyd D. Johnston. 1996. Routine activities and individual deviant behavior. *American Sociological Review* 61:635–55.

Sallaz, Jeffrey J., and Jane Zavisca. 2007. Bourdieu in American sociology, 1980–2004. *Annual Review of Sociology* 33:21–41.

Sampson, Robert J. 2012. *Great American City: Chicago and the Enduring Neighborhood Effect*. Chicago, IL: University of Chicago Press.

Sampson, Robert J., and John H. Laub. 1993. *Crime in the Making: Pathways and Turning Points throughout Life*. Cambridge, MA: Harvard University Press.

Sampson, Robert J., Stephen W. Raudenbush, and Felton Earls. 1997. Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science* 277:918–24.

Sampson, Robert J., and William Julius Wilson. 1995. Toward a theory of race, crime, and urban inequality. In *Crime and Inequality*, eds. John Hagan and Ruth Peterson. Stanford, CA: Stanford University Press.

Shaw, Clifford R., and Henry McKay. 1969 [1942]. *Juvenile Delinquency and Urban Areas*. Chicago, IL: University of Chicago Press.

Shermer, Michael. 2004. *The Science of Good and Evil*. New York: Henry Holt and Company.

Simons, Ronald L., and Ashley B. Barr. 2014. Shifting perspectives: Cognitive changes mediate the impact of romantic relationships on desistance from crime. *Justice Quarterly* 31:793–821.

Simons, Ronald L., Steven R. H. Beach, and Ashley B. Barr. 2012. Differential susceptibility to context: A promising model of the interplay of genes and the social environment. *Advances in Group Processes* 29:139–63.

Simons, Ronald L., and Callie H. Burt. 2011. Learning to be bad: Adverse social conditions, social schemas, and crime. *Criminology* 49:553–98.

Simons, Ronald L., Man-Kit Lei, Steven R. H. Beach, Gene H. Brody, Robert A. Philibert, and Frederick X. Gibbons. 2011. Social environment, genes, and aggression: Evidence supporting the differential susceptibility perspective. *American Sociological Review* 76:883–912.

Simons, Ronald L., Velma Murry, Vonnie McLoyd, Kuei-Hsiu Lin, Carolyn Cutrona, and Rand D. Conger. 2002. Discrimination, crime, ethnic identity, and parenting as correlates of depressive symptoms among African American children: A multilevel analysis. *Development and Psychopathology* 14:371–93.

Simons, Ronald L., Leslie Gordon Simons, Callie H. Burt, Holli Drummund, Eric Stewart, Gene H. Brody, Frederick X. Gibbons, and Carolyn Cutrona. 2006. Supportive parenting moderates the effect of discrimination upon anger, hostile view of relationships, and violence among African American boys. *Journal of Health and Social Behavior* 47:373–89.

Simons, Ronald L., Leslie Gordon Simons, and Lora Ebert Wallace. 2004. *Families, Delinquency, and Crime*. New York: Oxford.
Smith, David Livingstone. 2007. *The Most Dangerous Animal: Human Nature and the Origins of War*. New York: St. Martin's Press.
Snow, David, and Robert D. Benford. 1992. Master frames and cycles of protest. In *Frontiers in Social Movement Theory*, eds. Aldon D. Monis and Carol McChung Mueller. New Haven, CT: Yale University Press.
Tittle, Charles R. 1995. *Control Balance: Toward a General Theory of Deviance*. Boulder, CO: Westview Press.
Unnever, James D., Francis T. Cullen, Scott A. Mathers, Timothy E. McClure, and Marisa C. Allison. 2009. Racial discrimination and Hirschi's criminological classic: A chapter in the sociology of knowledge. *Justice Quarterly* 26:377–409.
Unnever, James D., and Shaun L. Gabbidon. 2011. *A Theory of African American Offending: Race, Racism, and Crime*. New York: Routledge.
Weerman, Frank M., Wim Bernasco, Gerben J. N. Bruinsma, and Lieven J. R. Pauwels. 2013. When is spending time with peers related to delinquency? The importance of where, what, and with whom. *Crime & Delinquency*. E-pub ahead of print.
Wikström, Per-Olof H. 2006. Individuals, settings, and acts of crime: Towards a developmental ecological action theory of crime involvement and its changes. In *The Explanation of Crime: Context, Mechanisms and Development*, eds. Per-Olaf H. Wikström and Robert J. Sampson. Cambridge: Cambridge University Press.
Wikström, Per-Olof H., Vania Ceccato, Beth Hardie, and Kyle Treiber. 2010. Activity fields and the dynamics of crime: Advancing knowledge about the role of the environment in crime causation. *Journal of Quantitative Criminology* 26:55–87.
Wikström, Per-Olof H., Dietrich Oberwittler, Kyle Treiber, and Beth Hardie. 2012. *Breaking Rules: The Social and Situational Dynamics of Young People's Urban Crime*. Oxford, U.K.: Oxford University Press.
Wikström, Per-Olof H., and Robert J. Sampson. 2003. Social mechanisms of community influences on crime and pathways in criminality. In *Causes of Conduct Disorder and Serious Juvenile Delinquency*, eds. Benjamin B. Lahey, Terrie E. Moffitt, and Avshalom Caspi. New York: Guilford Press.
Wikström, Per-Olof H., and Kyle Treiber. 2007. The role of self-control in crime causation: Beyond Gottfredson and Hirschi's general theory of crime. *European Journal of Criminology* 4:237–64.
Wilson, James Q., and Richard J. Herrnstein. 1985. *Crime and Human Nature*. New York: Simon & Schuster.
Young, Jacob T. N., J. C. Barnes, Ryan C. Meldrum, and Frank M. Weerman. 2011. Assessing and explaining misperceptions of peer delinquency. *Criminology* 49:599–630.

Ronald L. Simons is a distinguished research professor in the Department of Sociology and the Center for Contextual Genetics at the University of Georgia. His current research investigates the manner in which social factors become biologically embedded and influence development and health across the life course.

Callie H. Burt is an assistant professor in the School of Criminology and Criminal Justice at Arizona State University. Her research takes a biopsychosocial approach to understand the pathways through which social factors influence criminal offending and development over the life course.

Ashley B. Barr is an assistant professor in the Sociology Department at The University at Buffalo, SUNY. Her research focuses on the development of romantic relationships and their influence on education, health, and deviance across the life course.

Man-Kit Lei is a research scientist at the Center for Family Research and the Institute for Behavioral Research at the University of Georgia. His current research focuses on the ways in which neighborhood factors and genotypes combine to influence well-being across the life course.

Eric Stewart is a professor of criminology at Florida State University. His research focuses on contextual and individual dimensions of offending, victimization, and criminal justice outcomes.

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article at the publisher's web site:

Appendix A. Measures
Appendix B. Reduced Negative Binomial Model Predicting All Crime While Controlling for Wave V Crime ($N = 574$)