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# From Doldrums to Progressing Knowledge: Identifying Stifling Issues in Criminological Theory Building and Testing

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# From doldrums to progressing knowledge: Identifying stifling issues in criminological theory building and testing

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Christopher M. Campbell<sup>1</sup>  
Melanie-Angela Neuilly<sup>2</sup>

## Abstract

In the explanation of crime, although each social science has a primary focus of theoretical development, there are a number of areas where disciplines unwittingly parallel one another. Such parallel development promotes unnecessary competition among theories and prevents them from progressing knowledge. Additionally, theorists often discard related concepts presented by other disciplines, if they considered at all, which is indicative of an imbalance in the disciplinary frame of reference (e.g., psychology over sociology). Such imbalance and lack of cross-referencing impedes the ability of theories to adequately explain and understand criminality. This paper revisits how the theorizing of crime may benefit from such cross-referencing through what we refer to as a reciprocating perspective. Drawing on interdisciplinary literature, we present a conceptual approach that can aid in strengthening theoretical development. Aiming to create an interdisciplinary bridge, we address key pitfalls in criminological theory development through four main elements: (1) concept formalization, (2) multi-level conceptualization, (3) causality, and (4) application. We also outline problems caused by such imbalance, and the progress made possible by the approach.

## Introduction

Over the course of time, a number of social science disciplines have developed and thrived in isolating specific concepts in certain contexts, individuals, and/or groups. Although each discipline has a specialized, primary focus of theoretical development, there are a number of areas where the disciplines unwittingly parallel one another. It is relatively common to find concepts that are used in a number of disciplines but lack reference to one another. Indeed, this has long been a problem in social science, though it has gone without a formalized name. Drawing from past scholars who also recognized this problem in psychology (Block 1995; Thorndike 1904), Roeser and his colleagues (2012) characterized it as two fallacies: A jingle or jangle fallacy. They explain a *jingle fallacy* as when scholars use “the same word to describe two different things” or concepts (Roeser, Peck, and Nasir 2012, p.392). A *jangle fallacy* is essentially the opposite, when

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multiple different terms are used to describe one concept (p.393). Although Roeser and his colleagues were applying these fallacies to self and identity research, the fallacies embody a confusion and redundancy across social sciences that stifles our ability to progress knowledge in many areas. Certain behaviors have been left with incomplete conceptualization, operationalization, and are therefore weakened in theoretical progress. One area where this has become quite clear is in the interdisciplinary explanation of criminal behavior.

As one of the younger areas among the social sciences, criminology was birthed from the frameworks of multiple disciplines, though mainly rooted in sociology and psychology. However, as the discipline ages, the focus of research questions become increasingly isolated and parallel the progression of both sociology and psychology subdisciplines. Here the jingle-jangle fallacies have depicted a bifurcation between disciplines that ought to complement each other. As trends shift within criminology and causes of crime fall in and out of favor, theories are developed in a way that do not allow them to simultaneously coexist. With a few exceptions in integrated theory (e.g., interactional or control balance theory, and dual pathways theory), an often dichotomous approach to analyzing correlates of crime clouds our ability to identify where the individual and the society intersect to generate the behavior. To this effect, concepts presented by other disciplines related to criminality are commonly discarded if considered at all. An imbalance of disciplinary focus results. Criminologists arguing through a sociological lens are routinely pitted against those favoring more psychological positions, and vice versa. Ultimately, what is essentially a conceptual turf war spawns in a supposed interdisciplinary field. If not a blatant jingle-jangle conflict, then at the very least, the analytical imbalance rears a mutual ignorance between theorists of different focuses. While this is a problem largely in how theories are constructed (Dubin 1969), potential solutions tend to situate in how methodological approaches and operationalized concepts can be integrated and honed.

This is not to say that there is something wrong with increasing our specific knowledge of each level of analysis, this is a fundamental path of discovery. However, a problem does arise when such specialization ignores the pitfalls of a jingle-jangle fallacy. Today, social science disciplines tend to be as distant as ever, exacerbating the problem of overspecialization. It is our view that this need not be the case. In this paper, we argue that a solution can be found in reconnecting with a psycho-social perspective that spans disciplines. Specifically, by reexamining the way theories are developed and methodology is planned, the social sciences can capitalize on the complementary extensions of other disciplines. To do this, we draw from symbolic interactionism. Broadly, symbolic interactionism (SI) has long been used in multiple social disciplines (Coser 1977; Turner, Beeghly, and Powers 2007). Most notably, SI has contributed to extensions and challenges in social psychology (Schmidt 1937; Rosenberg 1982), sociology (Kuhn 1964; LaRossa and Reitzes 1993; Stryker 1987), and to a foundational extent criminology (Gaylord and Galliher 1988; Gongaware and Dotter 2005; Herman 1995; Sutherland 1947). From a methodological perspective, similar to that posited by some SI scholars, we suggest employing a “reciprocating perspective” when building theory. A reciprocating perspective *expects* there are inherent influences existing at multiple levels of social life, which are embodied in concepts whose measurement is spread across social science disciplines. Moreover, this perspective highlights key aspects of, what essentially is, an issue of imbalance in focus: A psychological angle to contemporary sociology (i.e., understanding the group through the individual), *and* the expansion of psychology through a qualitatively bound sociological approach (i.e., contextualizing the individual within social interactions). As such, using a similar approach to develop theory can provide a solution to the jingle-jangle issues plaguing the study of crime.

Our goal here is to argue in favor of creating a means to bridge discipline-specific terminologies to allow more productive interdisciplinary communication, collaboration, and theorizing. Throughout this paper we explain the utility of this reciprocating perspective, in explaining criminality, and revisit how it can be done through a more holistic and widely applicable criminology. To this end, we present a methodological “approach” that addresses key pitfalls in criminological theory development and testing. Encompassing four main elements of (1) concept formalization, (2) multi-level conceptualizing, (3) causality, and (4) application, the approach promotes ways in which criminological theorists can address jingle-jangle issues and progress theory formation through a reciprocating perspective.

## Concept Formalization

One of the reasons why criminology struggles with conflicting theories arises from the fact that current theoretical constructs are often too vague or subjective to be precisely measured (Gibbs 1972). Vague constructs may result from intersecting fundamental beliefs in criminology. For example, the dichotomous perspective that causes of crime are either micro or macro (though rarely both, see Short 1998; Messner 2012; Rosenfeld 2011). Similarly, vague constructs are also derived from the inability to thoroughly meet the requirements for “good theory” – logical consistency, wide scope, parsimony, testability, empirical reliability and validity, and causal mechanisms (for more see Akers and Sellers 2012; Gerring 2011; Gibbons 1994; Vold 1958). Among these requirements, scope and parsimony are perhaps the most problematic. Balancing the need for theories that explain as much of a phenomenon as possible, yet also maintaining parsimony has generally been unsuccessful in criminology. Considering parsimony is particularly elusive in theory development, what often happens is “new,” vague and redundant concepts are developed to safeguard parsimony. As this occurs a jingle-jangle fallacy ensues, and the newly created vague constructs bring little measurable progress in explaining crime.

Instead, criminologists ought to consolidate assumptions across parent disciplines, and identify the conceptual synonyms to foster progress. One way to do this is by removing the vague nature of concepts through theory formalization. Theory formalization is the process by which an abstract explanation is broken down into its basic scope, claims, assumptions, concepts, and exact operational properties that can be observed (for examples see Cohen [1989], and Turner [1991]). Redundant concepts (i.e., jingle-jangle fallacies) however, have long been noted as presenting confusion in theory formalization (Freese 1980), and may be a reason as to why more formalization has not occurred. It is our view that if theorists were to approach the formalization process with the intent to root out jingle-jangle fallacies, less confusion would follow.

While recognizing the lack of formalization in social theory is hardly new (Cohen, 1989; Gibbs, 1972), even within criminology (Freese 1980), it seems to have lacked traction among many theorists. In concert with this unpopular approach, Gibbons (1994, p.78) noted, there tends to be an “*Alice in Wonderland* practice common among sociologists – ‘A theory is whatever I say it is!’” Regardless of its unpopularity, Gibbons (1994) explains that there is a strong distinction that should be recognized between verbal constructions of theory (i.e., commonly used discursive theories, see Cao 2004; Gibbs 1972; Gibbs 1985; Pratt et al. 2010), and actual parameters of the theory which are formalized. Without properly formalized concepts (i.e., precisely defined and operationalized in detail), researchers are left to *guess* as to how best a concept can be measured.

Take for instance the most empirically supported constructs of social control theory as posited by Hirschi (1969): Attachment and belief. These constructs are reflective of how individuals perceive relationships and beliefs that are crime-constraining. At most, the concepts involve the importance of just a few others beyond the individual (e.g., parents) in their development and measurement. Following the guidelines of good theory, the concepts are wide in scope, vaguely defined (often through example only), and parsimonious in measurement, originally requiring very few items (Kubrin, Stucky, and Krohn 2009). Later studies attempted to expand on these constructs and measures in order to widen the theory’s scope (see Cullen, Wright, and Blevins 2011). Nonetheless, control theory continued to fall short of recognizing the influence of many other, poignant factors (both micro- and macro- in nature) that may underlie the assumptions posited by the attachment and belief constructs.

To get to the crux of these pitfalls in control concepts of attachment and belief, recent attempts to resurrect formalization techniques (Cohen 1989) have surfaced. In one such resurrection, an example of formalization for Hirschi’s (1969) control concepts is provided by Proctor (2010, p.77):

Assumptions:

- (1) Human nature is hedonistic
- (2) Hedonism is the source of human motivations
- (3) Hedonism is a human constant

Scope Conditions:

- (1) Values of society is culturally homogenous;
- (2) Incapable of explaining specific criminal behavior
  - (2a) Only explains general absence of delinquency

Knowledge Claims:

- (1) Absence of Delinquency is a positive additive function of one's level of
  - (a) attachment, and/or
  - (b) belief
- (2) One's level of belief is a positive function of one's level of attachment

Conceptual definitions:

- |                    |   |
|--------------------|---|
| (1) Social Control | Regulation of hedonistic tendencies which is the result one's bonds to conventional society (e.g., attachment and belief)   |
| (1a) Attachment    | Emotional bond between the individuals and conventional others in which the anticipated reactions of conventional others to the commission of a delinquent act serves to limit one's engagement in such acts                |
| (1b) Belief        | Degree to which an individual within a society perceives the rules of the society to be binding upon one's behavior and the degree to which rule enforcement agents of the conventional order are seen as being legitimate. |

This example provides an adequate picture of what these constructs and the theory does and does not include. By formally identifying assumptions, scope, claims, and definitions, the theory's compatibility with other theories (e.g., differential association, see Freese 1980) is now clear (Proctor, 2010:80).

Additionally, formalization of these concepts can display operational properties that need to be observed in their study. In the example of attachment and belief, the original methods of measurement seem to fall short of capturing the totality of each concept. Part of the reason for such shortcomings is due to the lack of expansion beyond one discipline to find the *best* methods across similar social sciences. There is no need to "reinvent the wheel," as each of these concepts has been extensively studied in social psychology. In fact, multiple meta-analyses can be found identifying the best measures for each attachment (see Bakermans-Kranenburg, van IJzendoorn, and Juffer 2003; Rothbaum and Weisz 1994) and belief<sup>2</sup> (see

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<sup>2</sup> It is important to note that in social psychology there is a rather clear distinction between beliefs and attitudes, one that is not made by Hirschi (1969) and therefore, one meta-analysis for each is included in this citation.

Kraus 1995; Webb and Sheeran 2006). With such disconnect between researchers of different disciplines, using a framework similar to that of symbolic interactionism can play a considerable role.

On a basic level, SI relies on three major premises: (1) people act toward symbols based on the meanings assigned to those symbols, (2) symbolic meaning arises from social interaction, and (3) meanings are understood through an internal interpretive process (Blumer 1969). These three premises articulate behavior as the intersection of the individual (psychological), the primary groups (social-psychological), and larger social processes (sociological) – or, a reciprocating process. Expecting behavior (i.e., criminality) to be positioned in such a process provides a balanced perspective to use as the basis for potential multi-level formalization. That is to say, formalizing the theoretical concepts for each level of the process of a behavior.

### **Multi-Level Conceptualizing**

The increasing necessity for a approach on theory development in this way is made apparent by meta-analyses (e.g., Cullen, Wright, and Blevins 2011). Often due to the lack of formalization and the prevalence of jingle-jangle fallacies, it is quite difficult to obtain a consensus on the status of a theory's empirical support or falsification. Attempts to code and compare studies for measurable similarities highlights how a lack of methodological and conceptual agreement becomes stifling for the field's progression. Agreement problems in the social sciences (and particularly criminology) can be linked to what Dubin (1969) identifies as the "precision paradox". The precision paradox recognizes that social research is able to predict outcomes of social processes with a rather high degree of precision while rarely understanding the process itself. Though this paradox lends itself to the easier development of theoretical models, which might speculate and reflect on the process in light of confirming hypotheses, the fact remains that the process is generally going unexplained. In contrast, a "power paradox" (Dubin, 1969, p.18) notes that though social sciences may have a powerful understanding of a social process, such understanding is not always sufficient to precisely predict an outcome of that process.

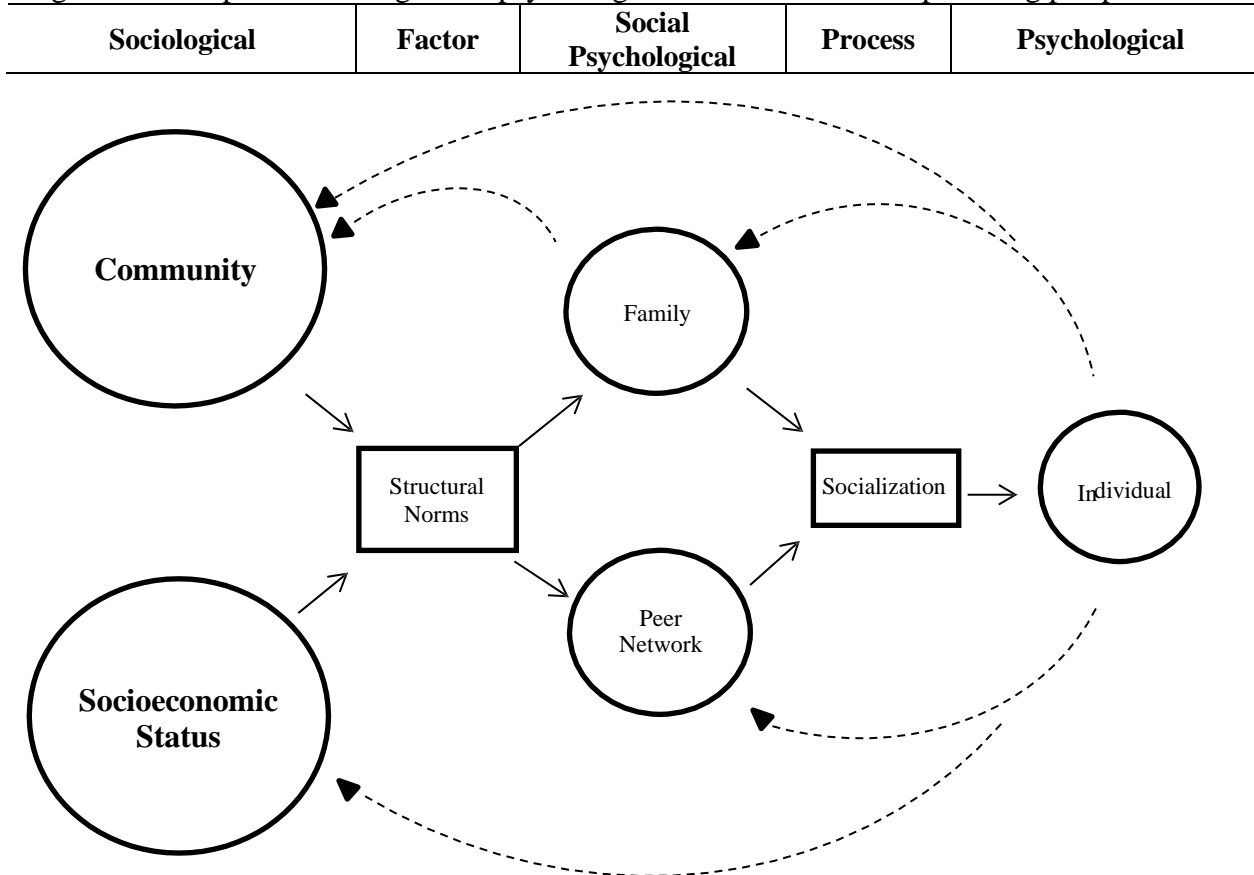
We see these two paradoxes as byproducts of the previously mentioned disciplinary imbalance. Regardless of the unit of analysis, processes and outcomes will inevitably include interaction between the individual and the social. Building theory by isolating an explanation of behavior to one level over another is to remain stuck within the paradoxes, and thus never actually understanding what we are predicting. To find a solution to these issues, theory development must be approached in a way that considers *expects* a reciprocating process while remaining aware of jingle-jangle fallacies.

Such an approach can be realized by expanding on the basic tenets of a reciprocating perspective. As an example we highlight the social structure and social learning theory (SSSL) of crime and deviance as posited by Akers (2009). Put briefly, in his latest rendition of social learning theory, Akers (2009) explains that crime is a product of socialization (differential exposure to deviant associations, modeling, definitions, and reinforcement), which is influenced by socio-structural factors (e.g., race, gender, socioeconomic status, and social disorganization). This explanation positions a psychological process (adoption of definitions favorable to crime), through a social-psychological perspective (i.e., generated largely by primary groups), and occurring in the context of an influential sociological reality (i.e., macro-level social forces). Essentially, the SSSL model provides a good backdrop to discuss what may be offered by a reciprocating perspective. Specifically, it emphasizes that a theory of criminality that aims to understand the individual must also understand the social, and vice versa.

Figure 1 depicts a basic and non-exhaustive flow of the processes described by Akers (2009) in a way that shows where the theory falls in terms of disciplinary focus. The arrows between the forces, factors, and processes indicate a connection and the direction of influence. Interpretations are made through individual interactions at the social-psychological level (e.g., primary and secondary groups such as family, peers, and school), which are situated within the social norms shaped by the individual's social location (e.g., socioeconomic status). Family and peers engage in defining roles and expectations based on their own

interpretations of the norms imposed by their social location. Subsequently, family and peer definitions influence the definitions and reinforcement of the individual’s socialization process. Thus, an individual’s interpretation and engagement in behavior is largely influenced by their social groups, which are manifestations of larger social forces. For more on this and a breakdown of each dynamic relationship between groups, individuals, and larger factors across each level see Turner’s (2011) discussion of culture and status-taking/making, and categorical units for a further description of this process.

Figure 1. Example of sociological to psychological connections in reciprocating perspective



To build theory of human behavior from a reciprocating perspective puts the fact that there are multiple levels of influence that must be thought through, on the forefront. This is not to say that Akers (2009) did not pull from other disciplines; he most certainly did. However, although he provides a good and quite thorough example of the reciprocating perspective to an extent, Akers (2009) also falls short of explaining certain nuances about the factors and processes that would have been at the forefront of discussion in a reciprocating perspective. For example Akers does not thoroughly explain *how* definitions are internalized, and *why* one person may internalize a definition while another in the same circumstance does not. These are both psychological (and even neurological) processes that require a connection to measures and concepts related to that associated literature (e.g., Sakamoto, Jones, and Love 2008; Somerville and Casey 2010). Similarly, *how* and *why* an individual’s socialization, roles and expectations are linked to social norms are best measured and explained by the social-psychological literature such as in dual-process models (e.g., Lizardo et al. 2016). Links to the knowledge provided by each of these disciplines would not only strengthen this theory in its logical connective tissue, it would also provide additional empirically validated measures and logic from which the theory could be formalized.

It is important to note two things when it comes to the SSSL theory and the benefit of a reciprocating perspective. First, Akers (2009) SSSL theory is somewhat of an anomaly when it comes to one theory recognizing the influence of multiple-level-relationships on crime. Many, if not most criminological theories remain housed in one discipline over another and perpetuate the doldrums associated with jingle-jangle fallacies and overspecialization. Second, with regard to fallacies, approaching theory building in this way (i.e., emphasizing a reciprocating perspective) helps to safeguard against the jingle-jangle fallacies as well as the power-precision paradoxes. That said, we do not claim that using a multi-level logic when considering the strength of theoretical constructs will *solve* the ecological fallacy or the fallacy of nonequivalence (reductionism). Such fallacies of estimation are inevitable when researchers attempt to draw causal conclusions between levels of analysis *that have no basis in the behavior of one another* (e.g., violence among individuals suggest a neighborhood or city as a whole is violent). Instead, this method offers a way to circumvent the fallacies in study by allowing researchers to appropriately make inferences between levels by way of empirically driven, validated measures. The primary caveat to this method though, is that the conceptual and interdisciplinary measurement similarities and differences must be established prior to such inferences being made.

### Causation

Translating the complexities of multi-level conceptualizing into causal arguments in the social sciences is generally a difficult to say the least. In criminology specifically, the multi-dimensional interplay of antecedent forces are made more complex by social definitions of law and crime. Overall, the difficulties in constructing theoretical arguments of criminal behavior can be split into two camps. Gibbons (1994) suggested there are “the rates questions” (i.e., crime at the aggregate level) and the “Why do they do it?” queries. Similarly, Cohen (Cohen 1966, p.41-45) identified a bifurcation between theories that emphasize “kinds of situations” and those that explain “kinds of people.” A dichotomous concentration of such a complex context, coupled with vague constructs and jingle-jangle issues that stifle ample measurement, inevitably leads to weak and untestable causal arguments. Given that criminology is already considered interdisciplinary, the solution to the problem of theorizing should be rather simple – identify and vet concepts, arguments, and causal mechanisms from other disciplines. When the search is exhausted, *then* new ones are constructed. After all, as recognized by Vold (1958),

The explanation of criminal behavior is not independent of or different from the explanation of non-criminal behavior. Attempts to formulate more satisfactory theories of human behavior in general constitute the principal content of the whole group of ‘human behavior’ sciences, namely, biology, physiology, medicine, psychiatry, psychology, social psychology, and sociology. (3)

However, Vold (1958:3) goes on to say, theories must maintain specific frames of reference. It is the point of this paper, and particularly this section, to demonstrate how a reciprocating perspective can supply multiple frames of reference. Specifically, it can be used to adequately connect concepts, arguments, and casual mechanisms of behavior – deviant and otherwise.

As with much of the logic found in SI, a reciprocating perspective allows for complex, yet clear theoretical reasoning. Socialized meaning is used to define a situation in reflection of oneself, and an action is made accordingly (see Figure 2 below). As a perspective, it is as we have alluded to up to this point: a roadmap for causal arguments to link levels of analysis and disciplinary concepts. By emphasizing the fact that key causal connections exist between interdisciplinary measures, a theorist can then cross-reference the concepts and theoretical logic with evidence known in related disciplines. In doing so, causal arguments and mechanisms, that were otherwise omitted and missed from the theorist’s original framework, are made clear. There are few better ways to demonstrate this than using vetted concepts from social psychology and the example of social control.



Social psychology is premised on the idea that an individual's attitudes, beliefs, and situational perceptions surrounding acceptable norms create the individual's intention, and subsequent fulfillment, to perform a certain act (Ajzen 1991; Swidler 1986). This is the process of social decision-making; our perceptions and attitudes drive how we act. Furthermore, many psychologists and social psychologists alike<sup>3</sup> contend that components of social decision-making are developed through social learning and operant conditioning, the baseline concepts to socialization (Grusec and Hastings 2007). Such a contention suggests that our perceptions and attitudes become a conditioned response to various stimuli.

Eventually the response's repetition gets to the point where recalling the same attitudes and perceptions occurs within a mere fraction of a second, depending on certain conditions (Forgas, Cooper, and Crano 2010; Maio and Haddock 2009). The stability of social decision-making components are dependent on their perceived social desirability, and how necessary they are deemed to be by the individual actor. In some ways these components will remain constant as the individual solicits a self-fulfilling agenda to maintain a social position in his or her sense of reality (Berger and Luckmann 1966). In other ways the components are susceptible to slow and incremental modification over one's life-course. From a social decision-making framework, it follows then that our actions are manifestations of attitudes, beliefs, and perceptions held during the situation within which we acted.

The theory of planned behavior (TPB) as posited by Ajzen (1991)<sup>4</sup> serves as a good example to discuss the components of social decision-making and causal mechanisms. This theory was chosen for two reasons. First, it has been widely studied and validated (Armitage and Conner 2001; Vallerand et al. 1992; Webb and Sheeran 2006), and the emphasis on intentions by the theory is supported by other theories in the field such as goal setting theories, models of interpersonal behavior, and social cognitive theories (Webb and Sheeran 2006).

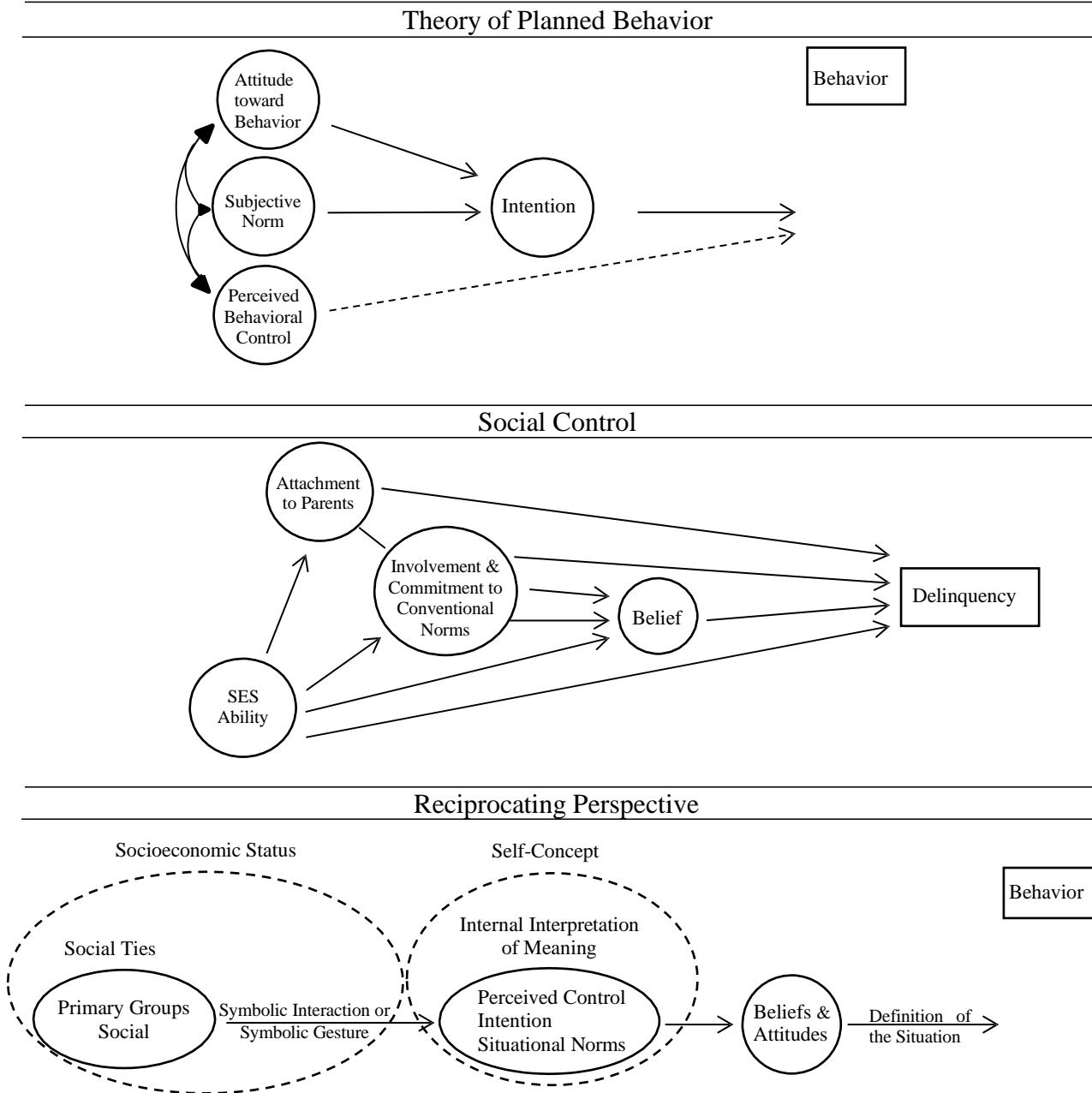
An essential argument made in the TPB is that behavior is a product of three interacting psychological elements. First is the attitude of the individual toward the behavior, and its associated outcomes or consequences. Second is the individual's perception of subjective norms held by group members, or the social desirability of the action. Combined, these first two elements create behavioral intention (Ajzen and Fishbein 1980; Ajzen and Fishbein 2000), the primary predictor of reasoned behavior. Third, the individual's perceived behavioral control he or she has over the action also influences the behavior. The degree to which behavior is influenced by behavioral intention is inversely related to the level of perceived behavioral control (Ajzen 1991).

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<sup>3</sup> There are many scholars who would understandably contend that social psychology is completely different from psychology and as such should not be discussed interchangeably. Accordingly, we respectfully acknowledge such differences, however, we present this piece with the two disciplines as highly related in the overall scheme of social science disciplines. Therefore, they will be discussed simultaneously as social psychology being a subsection of psychology, with the differences pointed out where they are most relevant to their interaction with the other disciplines.

<sup>4</sup> Readers versed in social psychology will likely disapprove of discussing only one theory regarding behavioral attitudes, intention, and behavior literature as there are others that offer significant supplementation to the objective of this paper. However, while certainly important, the nuances between them are not the focus of the present work and would take away from the overall interdisciplinary discussion.

Figure 2. Similarities between TPB, Social Control, and SI



Hirschi's (1969) social control theory, as discussed previously, has four main dimensions that are said to keep youth from becoming delinquent: attachment, involvement, commitment, and belief in conventional norms. Figure 2 shows how Wiatrowki, Griswold, and Roberts (1981) suggest a complex model of social control's components could be ordered.<sup>5</sup> This model seems to follow how Hirschi originally laid out the control order in his discursive theory. An individual's attachment to his or her parents, which is largely bounded by the family's socioeconomic status, dictates the child's levels of both commitment to

<sup>5</sup> For further discussion on the many different ways in which social control theory has been developed and studied see (Cullen, Wright, and Blevins 2011; Kubrin, Stucky, and Krohn 2009; Lilly, Cullen, and Ball 2010).

and involvement in other conventional institutions (Kubrin, Stucky, and Krohn 2009). The child's belief is constructed from these collective attachments, involvements, and commitments. However, the precise cause of delinquency is not suggested in this model in terms of which pathway should have more weight in predicting the delinquent behavior. This is rather common in many discursive and even semi-formal criminological theories (see Gibbons, 1994).

Discussion regarding the social psychological perspective of social decision-making and components of social control are reflected in a causal mechanism of symbolic interaction. Through interacting with his or her social ties in the context of macro-level forces (e.g., socioeconomic status), an individual is exposed to certain definitions. These symbolic interactions and definitions are interpreted in an internal process of understanding situational norms (for examples see Goffman 1959, 1963, 1982) in comparison to an internal locus of control (perceived control). This internal process occurs in the context of another whereby the individual compares and reflects perceived meanings with his or her sense of self.<sup>6</sup> From these internal processes, the person constructs beliefs and attitudes which allow the individual to define the situation at hand, and act upon it accordingly.

The inherent benefit to using an interactionist perspective in the cross-referencing process, and subsequent creation of causal mechanisms, is the ability to incorporate dimensions that were not reached by other theories on their own. For instance, two distinct differences absent in the TPB model but highlighted in a reciprocating perspective include social context and influence of self. The social contexts may be those co-constitutional,<sup>7</sup> structural forces (e.g., gender and socioeconomic status) as they influence a person's thought process. These are elements largely left as assumptions in many social psychological models as their research focus is narrowed to individual decision-making in small groups. Similarly, the influence of a person's self on attitudes, decisions, and behavior are almost completely neglected by social psychology, leaving it to other areas of psychological inquiry. Much of the same can be said for those aspects missing in social control; namely the internal mechanism of *how* the attachments and belief systems actually *mean* something to the individual, and thereby connect to the behavior.

If we were to follow the TPB model in explaining behavior like crime, we could conclude: a person's criminality is determined by a rational sense of social norms coupled with an attitude that holds the criminal behavior as valued, favorable, and under control. Though it is a seemingly plausible theory, the assumptions tend to fly in the face of many understandings of crime. People can commit crime with and without a rational sense of norms. They may or may not have thought about a favorable outcome, particularly in passionate bouts of violence. In contrast, from a reciprocating perspective the same pitfalls in assumptions can be avoided suggesting an embrace of macro- and micro- correlates, and allowing the construction of a theory that positions the person viewing social situations incrementally and acts accordingly.

Viewing the TPB and social control theory in a path diagram alongside what could be suggested through a reciprocating perspective as shown in Figure 2, it is clear that both theories are comparable and compatible to one another. However, when we consider the sociological parameters, thanks to a reciprocating perspective, we minimize problems in explaining behavior by more psychological and sociological theories. By applying this to well-developed and somewhat formalized theories, we uncover more complete causal arguments and mechanisms to explain crime. Where one discipline lacked formalized theoretical components (social control), and another lacked explanatory breadth in scope (social psychology), a reciprocating perspective can assist in integrating and thus creating a more balanced and stronger theory of crime.

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<sup>6</sup> For the sake of space and maintaining focus on our primary discussion, we do not elaborate on our discussion of the self. Suffice it to say, that our reference to the self is that of the self-concept (Rosenberg 1982). The manner in which the self and identity can be better understood in the context of our discussion and Figure 2, we recommend reader's reference Turner's (2011, p.335) work, which explains the levels of identity needs. His depiction of the "core-identity" is comparable to our self-concept reference.

<sup>7</sup> From Archer's (Archer 2003) discussion of the influence of social structure and culture on individual autonomy.

## Application

To reiterate, the goal of this approach of a reciprocating perspective is to help theory development in a way that can avoid jingle-jangle issues while creating a means to bridge discipline-specific terminologies and knowledge progression. Indeed, using this approach to guide measurement choices can help bring seemingly disparate theories closer, and aid in the formalization process and overall argument. To demonstrate how the reciprocating perspective can be applied more broadly, we use the specific crime of assault as an example presented in Table 1. In this example, we showcase an analysis from sociology (structuralism), social psychology (TPB), and two theories from criminology (social learning and social control or bond theory).

Applying the approach to synthesize theories and disciplines, we can simultaneously address the power-precision paradoxes and the jingle-jangle fallacies. Displayed in the top section of Table 1 are the three main theoretical perspectives that we have emphasized in this paper. Beneath each disciplinary header is the basic list of concepts that each perspective may offer to examine and explain the observed behavior (or rate) of assault. While methodologies may differ, measures used across disciplines nevertheless aim to categorize factors pertaining to an observed behavior. Upon examining variables used in sociology, social psychology, and criminology, we can see that each list maintains the specific focus of the respective field with relatively minimal overlap. The reciprocating perspective, on the other hand, not only emphasizes key aspects of the macro- and micro-level measures, but also incorporates a more qualitative and internal component that is missing in the other perspectives by including the self. By categorizing the measures in these terms, the complexity of an aggressive behavior like assault becomes more organized in terms of temporal sequence (as suggested in Figure 2) and in terms of formal concepts.

In order to provide a more balanced application of the approach, let us walk through Table 1 in the same order as the steps described up to this point. For ease in understanding and application, we list each step and sub-step of the approach below. In our hypothetical concern, we are trying to explain the observed behavior of assault. Step 1, theory formalization requires, at the very least, a baseline description of the explanation in the format of a discursive theory. Keeping with our example of social control for the sake of this walk-through and brevity, we use Hirschi's (1969) original concepts and suggested causal order (Kubrin, Stucky, and Krohn 2009) applied to non-drug induced, assault: an individual who lacks prosocial attachments to primary group members are more likely to lack beliefs that keep the individual from resolving conflict through violent outbursts.

Table 1: Reciprocating perspective as a conceptual bridge

Observed Behavior	Measures According to Discipline			
	Sociology	Social Psychology	Criminology	
Crime  e.g. Assault	<ul style="list-style-type: none"> <li>-Structuralism</li> <li>-Gender (e.g Masculinity)                             <ul style="list-style-type: none"> <li>o Winning</li> <li>o Sexual Prowess</li> <li>o Risk Taking</li> <li>o Violent</li> <li>o Social Dominance</li> <li>o Independence</li> <li>o Pursuit of Status</li> <li>o Heterosexual</li> </ul> </li> <li>-SES</li> <li>-Education</li> <li>-Region                             <ul style="list-style-type: none"> <li>o Rural vs. Urban vs. Suburban</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>-Theory of Planned Behavior                             <ul style="list-style-type: none"> <li>o Attitudes                                     <ul style="list-style-type: none"> <li>▪ Beliefs of Outcomes</li> </ul> </li> <li>o Subjective Norms                                     <ul style="list-style-type: none"> <li>▪ Injunctive   <ul style="list-style-type: none"> <li>• Masculine Traits</li> <li>• Social Expectations</li> </ul> </li> <li>▪ Descriptive   <ul style="list-style-type: none"> <li>• Observed Hostility</li> </ul> </li> </ul> </li> <li>o Perceived Behavioral Control                                     <ul style="list-style-type: none"> <li>▪ Minimal – “Self-defense”</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>-Social Learning                             <ul style="list-style-type: none"> <li>o Definition                                     <ul style="list-style-type: none"> <li>▪ Masculinity, Aggression, and Self-Defense = OK</li> </ul> </li> <li>o Reinforcement                                     <ul style="list-style-type: none"> <li>▪ Peer Approval</li> </ul> </li> <li>o Imitation                                     <ul style="list-style-type: none"> <li>▪ Returning Hostility</li> </ul> </li> <li>o Association                                     <ul style="list-style-type: none"> <li>▪ Aggressive/Masculine Peers</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>-Social Control (Lacking)                             <ul style="list-style-type: none"> <li>o Belief                                     <ul style="list-style-type: none"> <li>▪ Peaceful deliberation</li> </ul> </li> <li>o Involvement                                     <ul style="list-style-type: none"> <li>▪ Conventional activities</li> </ul> </li> <li>o Commitment                                     <ul style="list-style-type: none"> <li>▪ Conventional social institutions</li> </ul> </li> <li>o Attachment                                     <ul style="list-style-type: none"> <li>▪ Weak ties to conforming family and friends</li> </ul> </li> </ul> </li> </ul>
	<b>Reciprocating Perspective</b>			
	<ul style="list-style-type: none"> <li>- Social Ties and Institutions                             <ul style="list-style-type: none"> <li>o Positive/Negative Familial Ties                                     <ul style="list-style-type: none"> <li>▪ Attachment &amp; Association</li> </ul> </li> <li>o SES – Middle class social capital</li> <li>o Education</li> <li>o Anomie                                     <ul style="list-style-type: none"> <li>▪ Commitment &amp; Involvement</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Symbolic Meaning                             <ul style="list-style-type: none"> <li>o Injunctive Norms                                     <ul style="list-style-type: none"> <li>▪ Masculine Traits</li> <li>▪ Social Expectations</li> </ul> </li> <li>o Descriptive Norms                                     <ul style="list-style-type: none"> <li>▪ Observed Hostility</li> </ul> </li> <li>o Imitation                                     <ul style="list-style-type: none"> <li>▪ Aggressive/Masculine Behavior</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Interpretation                             <ul style="list-style-type: none"> <li>o Attitudes toward Outcomes</li> <li>o Belief in Peaceful Deliberation</li> <li>o Perceived Behavioral Control</li> <li>o Definitions</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>-Self                             <ul style="list-style-type: none"> <li>o Self-Evaluation                                     <ul style="list-style-type: none"> <li>▪ Enhancement</li> <li>▪ Verification</li> <li>▪ Assessment</li> <li>▪ Improvement</li> </ul> </li> <li>o Identity Theory</li> <li>o Situated Self/Social Position</li> </ul> </li> </ul>

The concepts should then be formalized using Cohen’s (1989) method. For this we will simply refer the reader back to Proctor’s (2010) formalization of both attachment and belief presented previously. We then identify symbols potentially associated with each of those points of formalization. For example, most assaults are committed by youth (15 to 24 years old) and considering that Hirschi (1969) noted parental attachments to be some of the most influential, we would decide to investigate important interaction among parents and their children. Through our cross-referencing process we may note that for “attachment,” a key interaction between our assaultive population and their parents may be the frequency and quality of reciprocity in perceived respect or help that was experienced when the offenders were adolescents (see Rossi 1990).

Step 2 is the process of considering multiple levels that may be involved in a theory of assault. Beginning with the macro-level, we must identify relevant concepts among important dynamic relationships at each level. As Table 1 and Figure 1 suggest, a more sociological approach may indicate that we should look to gender and SES influences, for instance. Previous research suggests that assaultive behavior is rather common among lower-class boys (e.g., Heimer 1997). Subsequently, we include the potentially symbolic appeal of social and physical dominance among young men perhaps in the way of their attire or common threatening accessories (e.g., certain tattoos, Haenfler 2012). At the meso-level, we can continue to look at lower-class boys, but now how they interact with their peers and family. Perhaps proxies of attachment at this level may be the recognition of acts of loyalty depending on their status in a group (see Anderson 2000).

For the micro-assessment, we would want to ultimately identify how the individual processes these interactions and therefore, we should know how the individual views himself – indications of the person's strength of self-concept (e.g., confidence in self efficacy).

#### STEPS OF A RECIPROCATING PERSPECTIVE

##### **Step 1: Formalization**

- (a). Detail explanation of the behavior of interest in discursive theory
- (b). Formalize initial thoughts of explanation for behavior of interest – scope, assumption, claim, concepts, measurement
- (c). Identify concepts potentially associated with each scope, assumption, claim, and measurement in the theory

##### **Step 2: Consider the Multiple Levels Involved**

- (a). Identify relevant concepts at each level, from the macro- to the micro-level, in both behavior of interest and the formalized theory
  - i. Breakdown each dynamic relationship between the groups, individual, and societal by concepts across each relationship
- (b). Identify the social forces believed to hold the most influence on the behavior of interest should be considered in devising the parameters of relationships
- (c). Identify how primary, secondary, and reference group dynamics are defined with and without the interaction of the previous level's concepts
- (d). Identify how the individual should then be analyzed in the context of the concepts from each preceding level

##### **Step 3: Synthesizing Causal arguments and mechanisms**

- (a). Cross-reference every major part of the theory of interest with a similar thread from similar disciplines
- (b). Identify similarities and differences in concepts, arguments, and mechanisms
- (c). Explain how multi-level concepts and relationships can be connected to incorporate any missing attributes

##### **Step 4: Repeat the Process**

- (a). Identify any new concepts and mechanisms uncovered in Steps 2 and 3
- (b). If new concepts and mechanisms are uncovered, repeat all steps and sub-steps to ensure each assumption, concept, scope, and argument is properly and fully defined and incorporate proximal relationships in both argument and measurement

Step 3 requires the process of causal synthesis, which involves cross-referencing causal arguments and mechanisms similar to our own from other disciplines. As we demonstrated with Figure 2, the TPB suggests that certain individual level elements are missing from social control theory. Using a reciprocating perspective, we can synthesize the missing components as shown in Figure 2 and Table 1, all as required in sub-steps (b) and (c) in the list above. Lastly, Step 4 requires the theorist to first identify what new elements have been added to the theory that were not present at the initial formalization process. For our purposes, the connections to TPB and measures of the self-concept are all new and would need to be part of the re-formalization of the theory.

Perhaps the closest and most recent example of a reciprocating perspective and bridging different levels of analysis, is that posited by Turner (2011). We alluded to some of Turner's conceptual outline in the section on multi-level research (e.g., culture and status-taking/making and categorical units in the connection of individuals to symbolic meaning of the meso- and macro- levels). Turner's conceptual outline provides a point of context in which the steps presented here can be better understood. His presentation is admittedly brief, but beneficial in many regards, such as in the processes by which an individual understands and defines the many symbols between the micro- and macro-levels. Turner emphasizes that the individual

operates within the context of a middle or meso-level while still interpreting conceptual meaning at the micro-level. Despite being necessary and helpful, Turner's extension of a strictly Meadian symbolic tradition lacks specificity, interdisciplinary reach, and thusly lacks an application beyond that of meso-sociology. Similar approaches to the reciprocating perspective is posited by Agnew (2011) in his book *Toward a Unified Criminology*. While his perspective is beneficial in integrating current theories, Agnew's discussion strongly emphasizes the need to deal with ontological assumptions related to explanations of crime. A reciprocating perspective focuses on the synthesis of empirically driven concepts rather than ontological assumptions.

## Conclusion

Although using a reciprocating perspective in theory building as presented in this paper is specifically designed to be used as a point of reference to synthesize disciplinary concepts and arguments, we do not urge the idea that this is an "end-all, be-all" approach. Rather, we provide this approach as the beginning of a discussion that ought to take place in each discipline to curb the stifling redundancy of concepts in jingle-jangle fallacies and power-precision paradoxes that burden social science. Moreover, this approach highlights how such a discussion can specifically aid in our explanations of criminology. All methodological and theory-building approaches should use some aspects of these steps and perspectives to capture levels, processes, and behavioral outcomes of social science. In this sense, the application of the approach for broader social sciences embodies how disciplines can embrace both the "big" questions with large-scale outcomes *and* more comparative historical research methods of the disciplines (see Mahoney and Rueschemeyer 2003). Using a reciprocating perspective is simply one path to unifying theoretical concepts, expanding explanatory scope, and breaking down the micro/macro imbalance through transdisciplinary triangulation.

## References

- Agnew, Robert. 2011. *Toward a Unified Criminology: Integrating Assumptions about Crime, People and Society*. NYU Press.
- Ajzen, Icek. 1991. "The Theory of Planned Behavior." *Organizational Behavior and Human Decision Processes* 50 (2): 179–211. doi:10.1016/0749-5978(91)90020-T.
- Ajzen, Icek, and Martin Fishbein. 1980. *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, N.J.: Prentice-Hall.
- . 2000. "Attitudes and the Attitude-Behavior Relation: Reasoned and Automatic Processes." *European Review of Social Psychology* 11 (1): 1–33. doi:10.1080/14792779943000116.
- Akers, Ronald L. 2009. *Social Learning and Social Structure: A General Theory of Crime and Deviance*. Vol. 2. New Brunswick, New Jersey: Transaction Publishers.
- Akers, Ronald L., and Christine S. Sellers. 2012. *Criminological Theories: Introduction, Evaluation, and Application*. 6 edition. New York: Oxford University Press.
- Anderson, Elijah. 2000. *Code of the Street: Decency, Violence, and the Moral Life of the Inner City*. Reprint edition. New York: W. W. Norton & Company.
- Archer, Margaret Scotford. 2003. *Structure, Agency and the Internal Conversation*. Cambridge University Press.
- Armitage, Christopher J., and Mark Conner. 2001. "Efficacy of the Theory of Planned Behaviour: A Meta-Analytic Review." *British Journal of Social Psychology* 40 (4): 471–99. doi:10.1348/014466601164939.
- Bakermans-Kranenburg, Marian J., Marinus H. van IJzendoorn, and Femmie Juffer. 2003. "Less Is More: Meta-Analyses of Sensitivity and Attachment Interventions in Early Childhood." *Psychological Bulletin* 129 (2): 195–215. doi:10.1037/0033-2909.129.2.195.

- Berger, Peter L., and Thomas Luckmann. 1966. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. New York: Anchor Books, A Division of Random House, Inc.
- Block, Jack. 1995. "A Contrarian View of the Five-Factor Approach to Personality Description." *Psychological Bulletin* 117 (2): 187–215. doi:10.1037/0033-2909.117.2.187.
- Blumer, Herbert. 1969. *Symbolic Interactionism: Perspective and Method*. Englewood Cliffs, New Jersey: Prentice Hall.
- Cao, Liqun. 2004. *Major Criminological Theories: Concepts and Measurements*. Belmont, CA: Wadsworth/Thomson Learning.
- Cohen, Albert K. 1966. *Deviance and Control*. Englewood Cliffs, NJ: Prentice Hall.
- Cohen, Bernard P. 1989. *Developing Sociological Knowledge: Theory and Method*. Chicago: Nelson-Hall.
- Coser, Lewis A. 1977. *Masters of Sociological Thought : Ideas in Historical and Social Context*. New York: Harcourt Brace Jovanovich.
- Cullen, Francis, John Wright, and Kristie Blevins. 2011. *Taking Stock: The Status of Criminological Theory*. Transaction Publishers.
- Dubin, Robert. 1969. *Theory Building*. New York: Free Press.
- Forgas, Joseph P., Joel Cooper, and William D. Crano. 2010. *The Psychology of Attitudes and Attitude Change*. Vol. 12. New York: Psychology Press.
- Freese, Lee. 1980. "Formal Theorizing." *Annual Review of Sociology* 6: 187–212.
- Gaylord, Mark S, and John F Galliher. 1988. *The Criminology of Edwin Sutherland*. New Brunswick, N.J.: Transaction.
- Gerring, John. 2011. *Social Science Methodology : A Unified Framework*. 2nd ed. Cambridge: Cambridge University Press.
- Gibbons, Don C. 1994. *Talking about Crime and Criminals: Problems and Issues in Theory Development in Criminology*. Prentice Hall.
- Gibbs, Jack Porter. 1972. *Sociological Theory Construction*. Hinsdale, Ill.: The Dryden Press.
- . 1985. "The Methodology of Theory Construction in Criminology." In *Theoretical Methods in Criminology*, edited by Robert F. Meier, 23–50. Beverly Hills, CA: Sage.
- Goffman, Erving. 1959. *The Presentation of Self in Everyday Life*. New York, USA: Anchor Books: A Division of Random House, Inc.
- . 1963. *Stigma: Notes on the Management of Spoiled Identity*. Simon and Schuster.
- . 1982. *Interaction Ritual - Essays on Face-to-Face Behavior*. 1st Pantheon Books ed edition. New York: Pantheon.
- Gongaware, Timothy B., and Daniel Dotter. 2005. "Developing the Criminal Self: Mead's Social Psychology and Sutherland's Differential Association." *Sociological Spectrum* 25 (4): 379–402. doi:10.1080/027321790947270.
- Grusec, Joan E., and Paul D. Hastings. 2007. *Handbook of Socialization Theory and Research*. New York : Guilford Press,.
- Haenfler, Ross. 2012. *Goths, Gamers, & Grrrls: Deviance and Youth Subcultures*. 2 edition. New York: Oxford University Press.
- Heimer, Karen. 1997. "Socioeconomic Status, Subcultural Definitions, and Violent Delinquency." *Social Forces* 75 (3): 799–833. doi:10.1093/sf/75.3.799.
- Herman, Nancy J. 1995. *Deviance: A Symbolic Interactionist Approach*. Dix Hills, N.Y.: General Hall.
- Kraus, Stephen J. 1995. "Attitudes and the Prediction of Behavior: A Meta-Analysis of the Empirical Literature." *Personality and Social Psychology Bulletin* 21 (1): 58–75. doi:10.1177/0146167295211007.
- Kubrin, Charis E., Thomas D. Stucky, and Marvin D. Krohn. 2009. *Researching Theories of Crime and Deviance*. New York, New York: Oxford University Press.
- Kuhn, Manfred H. 1964. "Major Trends in Symbolic Interaction Theory in the Past Twenty-Five Years." *Sociological Quarterly* 5 (1): 61–68. doi:10.1111/j.1533-8525.1964.tb02256.x.



- LaRossa, Ralph, and Donald C. Reitzes. 1993. "Symbolic Interactionism and Family Studies." In *Sourcebook of Family Theories and Methods*, edited by Pauline Boss, William J. Doherty, Ralph LaRossa, Walter R. Schumm, and Suzanne K. Steinmetz, 135–66. Springer US. <http://www.springerlink.com/content/x6101004756673k8/abstract/>.
- Lilly, J. Robert, Francis T. Cullen, and Richard A. Ball. 2010. *Criminological Theory: Context and Consequences*. SAGE.
- Lizardo, Omar, Robert Mowry, Brandon Sepulvado, Dustin S. Stoltz, Marshall A. Taylor, Justin Van Ness, and Michael Wood. 2016. "What Are Dual Process Models? Implications for Cultural Analysis in Sociology." *Sociological Theory* 34 (4): 287–310.
- Mahoney, James, and Dietrich Rueschemeyer. 2003. *Comparative Historical Analysis in the Social Sciences*. Cambridge University Press.
- Maio, Gregory R., and Geoffery Haddock. 2009. *The Psychology of Attitudes and Attitude Change*. Los Angeles: SAGE.
- Messner, Steven F. 2012. "Morality, Markets, and the Asc: 2011 Presidential Address to the American Society of Criminology." *Criminology* 50 (1): 5–25. doi:10.1111/j.1745-9125.2011.00264.x.
- Pratt, Travis C, Francis T Cullen, Christine S Sellers, Winfree, L. Thomas, Tamara D Madensen, Leah E Daigle, Noelle E Fearn, and Jacinta M Gau. 2010. "Empirical Status of Social Learning Theory: A Meta-Analysis." *Justice Quarterly* 27 (6): 765–802.
- Proctor, Kristopher Ryan. 2010. "Social Learning, Social Control, and Strain Theories: A Formalization of Micro-Level Criminological Theories." Ann Arbor, MI.: UMI Dissertation Services.
- Roeser, Robert W., Stephen C. Peck, and Nailah S. Nasir. 2012. "Self and Identity Processes in School Motivation, Learning, and Achievement." In *Handbook of Educational Psychology*, edited by Patricia A. Alexander and Philip H. Winne, 391–424. New York, NY: Psychology Press.
- Rosenberg, Morris. 1982. *Social Psychology of the Self-Concept*. H. Davidson.
- Rosenfeld, Richard. 2011. "The Big Picture: 2010 Presidential Address to the American Society of Criminology." *Criminology* 49 (1): 1–26. doi:10.1111/j.1745-9125.2010.00216.x.
- Rossi, Peter Peter Henry. 1990. *Of Human Bonding: Parent-Child Relations Across the Life Course*. Transaction Publishers.
- Rothbaum, Fred, and John R. Weisz. 1994. "Parental Caregiving and Child Externalizing Behavior in Nonclinical Samples: A Meta-Analysis." *Psychological Bulletin* 116 (1): 55–74. doi:10.1037/0033-2909.116.1.55.
- Sakamoto, Yasuaki, Matt Jones, and Bradley C. Love. 2008. "Putting the Psychology Back into Psychological Models: Mechanistic versus Rational Approaches." *Memory & Cognition* 36 (6): 1057–65. doi:10.3758/MC.36.6.1057.
- Schmidt, Emerson Peter. 1937. *Man and Society; a Substantive Introduction to the Social Sciences*. New York: Prentice-Hall.
- Short, James F. 1998. "The Level of Explanation Problem Revisited—the American Society of Criminology 1997 Presidential Address." *Criminology* 36 (1): 3–36. doi:10.1111/j.1745-9125.1998.tb01238.x.
- Somerville, Leah H, and BJ Casey. 2010. "Developmental Neurobiology of Cognitive Control and Motivational Systems." *Current Opinion in Neurobiology, Cognitive neuroscience*, 20 (2): 236–41. doi:10.1016/j.conb.2010.01.006.
- Stryker, Sheldon. 1987. "The Vitalization of Symbolic Interactionism." *Social Psychology Quarterly* 50 (1): 83–94. doi:10.2307/2786893.
- Sutherland, Edwin H. 1947. *Principles of Criminology*. Vol. 4. Philadelphia: J. B. Lippincott.
- Swidler, Ann. 1986. "Culture in Action: Symbols and Strategies." *American Sociological Review* 51 (2): 273. doi:10.2307/2095521.
- Thorndike, Edward Lee. 1904. *An Introduction to the Theory of Mental and Social Measurements*. New York: Teacher's College, Columbia University.
- Turner, Jonathan H. 1991. *The Structure of Sociological Theory*. Belmont, Calif.: Wadsworth Pub. Co.

- Turner, Jonathan H. 2011. "Extending the Symbolic Interactionist Theory of Interaction Processes: A Conceptual Outline." *Symbolic Interaction* 34 (3): 330–39. doi:10.1525/si.2011.34.3.330.
- Turner, Jonathan H, Leonard Beeghley, and Charles H Powers. 2007. *The Emergence of Sociological Theory*. Belmont, CA: Thomson Higher Education.
- Vallerand, Robert J., Paul Deshaies, Jean-Pierre Cuerrier, Luc G. Pelletier, and Claude Mongeau. 1992. "Ajzen and Fishbein's Theory of Reasoned Action as Applied to Moral Behavior: A Confirmatory Analysis." *Journal of Personality and Social Psychology* 62 (1): 98–109. doi:10.1037/0022-3514.62.1.98.
- Vold, George B. 1958. *Theoretical Criminology*. New York: Oxford University Press.
- Webb, Thomas L., and Paschal Sheeran. 2006. "Does Changing Behavioral Intentions Engender Behavior Change? A Meta-Analysis of the Experimental Evidence." *Psychological Bulletin* 132 (2): 249–68. doi:http://dx.doi.org/10.1037/0033-2909.132.2.249.