MACRO-MICRO THEORETICAL INTEGRATION:

AN UNEXPLORED THEORETICAL FRONTIER*

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ABSTRACT

Theoretical integration offers the possibility of piecing together theories in an attempt to clarify relationships between variables and ultimately increase variance explained by the integrated model. While prior attempts at theoretical integration have taken various forms, the majority of these attempts have relied on a single-level of explanation. Single level theories, however, have generally fallen short in their ability to explain crime and criminality. In response, some Criminologists have begun to advocate for the integration of theoretical arguments, including macro-micro theoretical integration. This article will illuminate the value of macro-micro theoretical integration, as well as examples of several positivist theories that might benefit from multi-level theoretical integration.

INTRODUCTION

Traditionally, the field of criminology has been dominated by single-level theoretical explanations of crime and criminality. These theories have been either strictly macro-level (focusing on phenomenon outside of the individual such as neighborhood characteristics) or strictly micro-level (examining characteristics of the individual such as attitudes and behaviors). This type of dichotomy, however, ignores the inherent complexity of human (and criminal) behavior. Not surprisingly, single-level theories have fallen short in their endeavor to explain crime and criminality; the theories are only capable of explaining, at best, a 20% variance in criminal behavior (Elliott, 1985).

Disenchanted by the failure of criminology to adequately explain crime and criminality, some criminologists, such as Elliott (1985), have argued that advancements in theoretical development are best made possible through the integration of existing theoretical arguments. According to Wellford (1989), due to the intricacy of human behavior and the multi-causal factors identified in existing research, the best way to advance the field of criminology is through multi-level, multi-disciplinary integration. Multi-level integration involves the combination of macro- and micro-level theoretical explanations. "This type of integration places causal significance on both large-scale social forces and individual-level adaptations that result in criminal events" (Rountree, Land, & Miethe, 1994, p. 388).

The theoretical level of analysis has traditionally "depend[ed] upon whether the theory is an attempt to explain variations in the level of offending across persons (the micro- or individual-level of analysis) or variations in the rates of offending across groups or geographical units, such as neighborhoods or nations (Paternoster & Bachman, 2001, pp. 305-306). Few attempts, however, have been made to integrate micro-level theories with macro-level theories, in what is often called macro-micro theoretical integration (Paternoster & Bachman, 2001). While there is a growing recognition that the integration of macro- and micro-level explanations of crime may be one manner in which to advance our

current understanding of crime and criminality (Akers, 1998; Barak, 1998; Bernard & Snipes, 1996; Kurbin & Weitzer, 2003; Wikstrom, 2005), there is a scarcity in the number of scholars who have undertaken this theoretical (and methodological) task.

THEORETICAL INTEGRATION: AN OVERVIEW

While causes of crime appear to be varied and diverse, (Braithwaite, 1989; Wilson & Herrnstein, 1985) theories of crime traditionally involve only single factor explanatory models (Liska, Krohn & Messner, 1989). Elliott (1985) argues that theoretical reliance on a single explanatory variable to explain criminal behavior has resulted in theories that are capable of explaining only a small percentage of the variance in crime or criminal behavior. Some theorists argue that the only way in which to adequately account for the complexity of such behavior and to increase explained variance is through theoretical integration (Elliott, 1985; Wellford, 1989). Theoretical integration is generally defined as "the act of combining two or more sets of logically interrelated propositions into one larger set of interrelated propositions, in order to provide a more comprehensive explanation of a particular phenomenon" (Thornberry, 1989, p. 75).

Goals of Integration

There are generally three goals of theoretical integration. The first goal of integration is theory reduction. Some criminologists argue that scientific progress has been retarded because there are too many theories competing against one another in an effort to essentially explain the same type of behavior (Barak, 1998). Consequently, an abundance of theories impedes their development by diffusing research attention (Bernard & Snipes, 1996). Theory reduction is proposed as one way to decrease the number of criminological theories, allowing researchers to focus on a smaller number of theories. The second goal is to increase explained variance. As previously stated, current theories are capable of explaining, at best, about 20% of variance in criminal behavior (Elliott, 1985). While this might be just enough variance explained to keep the theory alive, it is not enough to support the usefulness of the theory related to prediction, crime prevention, and treatment.

One way that explained variance may be increased (allowing for its expanded use) is through theoretical integration. The third goal of theoretical integration is theory development through the clarification and expansion of existing propositions and theoretical concepts.

Alternatives to Integration

Alternatives to theoretical integration include theory competition and theoretical elaboration. Theoretical competition involves the pitting of two theories against each other in an empirical test that determines which theory's variables have the most explanatory power (Hirschi, 1979; Paternoster & Bachman, 2001). The two theories that are compared most often in this manner are social bonding and differential association. Overall, differential association variables usually find more support when compared against social bonding variables (Agnew, 1991; Allaird, Burton & Cullen, 2001; Costello & Vowell, 1998: Matsueda & Heimer, 1987). The results of theory competition, however, are seldom definitive. In addition, because each theory accounts for just enough variance to survive outright rejection, rarely is one theory disregarded in favor of another (Liska et al., 1989).

Theoretical elaboration involves the expansion of a current theory with the end goal of building a more comprehensive, and more well-developed theoretical model than was proposed by the original theorist (Thornberry, 1989). This is typically done through the clarification of original propositions, as well as the addition of new concepts that may or may not be borrowed from existing theories or disciplines. Sampson and Laub's (1993; Laub and Sampson, 2003) Age-graded Social Control Theory is an example of such an approach. Resurrecting the importance of social bonds, Sampson and Laub maintain Hirschi's original contention that delinquency occurs as a result of weakened or broken social bonds (Laub, Sampson & Allen, 2001). Sampson and Laub (1993), however, expand on Hirschi's (1969) original Social Bonding Theory through the inclusion of an examination of the impact of adult social bonds on offending, particularly related to persistence and desistance. Therefore, they broaden the scope of the theory (which was originally proposed

to explain only continuity in juvenile offending) through the exploration of the manner in

which social bonds develop and change over the life course impacting criminal trajectories

(Sampson & Laub, 1993; Laub and Sampson, 2003). In doing so, Sampson and Laub

(1993) incorporate concepts from Social Disorganization, labeling and subcultural theories.

While there are few studies that have tested Sampson and Laub's (1993) Age-graded

Theory of Social Control, research generally does find support for their arguments

(Bouffard, 2003; Giordano, Cernkovich & Holland, 2003; Horney, Osgood & Marshall, 1995;

Wright & Cullen, 2004).

Advantages and Disadvantages of Theoretical Integration

Opponents of theoretical integration argue that, because of differences in underlying

philosophical assumptions, integration is not possible (Bernard, 1989; Hirschi, 1979, 1989).

For instance, strain, control, and learning theories are based on different (and arguably

incompatible) assumptions about human nature (Kornhauser, 1978). Strain theory

proposes that human nature is essentially good. Control theory, in contrast, is based on the

assumption that humanity is inherently antisocial, while learning theories center around the

notion that human nature is a blank slate and that individuals must learn to be either good

or bad. Because criminological theories were historically developed in direct opposition to

each other, opponents of integration, such as Hirschi (1979), argue that conflicting theories

cannot be integrated. Consequently, the only way to advance the field is through

theoretical competition or elaboration (Hirschi, 1979; Thornberry, 1989).

While research may provide support for integrated theories, some criminologists

remain unconvinced of the potential merits of theoretical integration. In addition, the

complexity of integrated theoretical models, which call for the use of advanced statistical

methods as well as an understanding of different disciplines (i.e., biology, psychology, and

sociology), may be off-putting for some. Proponents of theoretical integration, however,

argue that criminologists' staunch reliance on theoretical competition as the primary manner

in which to advance the field has only inhibited theoretical development (Bernard & Snipes, 1996; Elliott, 1985; Pearson & Weiner, 1985).

Frustrated by the inability of theoretical competition to rid the discipline of a large number of theories that are largely incapable of adequately explaining crime and delinquency, theorists contend that the integration of existing theories provides several advantages over other methods of theory development (Bernard, 1990; Elliott, 1985; Wellford, 1989). For instance, integrated theories provide a manner in which theorists can piece together portions of existing theories that have been found to be related to crime and delinquency, while at the same time disregarding portions of those theories that are unrelated. Such exercises will ideally result in an integrated theoretical model capable of explaining a greater portion of the variance that is left unexplained by separate theories (Wellford, 1989).

Furthermore, advocates assert that theoretical integration will advance the discipline by directing research interest and activity back to one of the original principles of theory development, explanation of the dependent variable (Gibbons, 1994). Only through integration of existing theories (including across levels of explanation) will criminologists improve our understanding of the phenomenon we study, as well as improving the predictive power of our theories (Elliott, 1985).

TYPES OF THEORETICAL INTEGRATION

As previously defined, theoretical integration involves the combination of two or more theoretical propositions (Liska et al., 1989). Integration can take many different forms. Generally, contemporary theoretical integration is either conceptual (i.e., integration of theories with similar concepts) or propositional (i.e., integration of theories with differing propositions). However, there has been a recent push towards the integration of cross-level explanations of crime and delinquency (Short, 1989; Barak, 1998). The following section will provide a more thorough discussion of the various types of theoretical integration, as well as present examples of each[1].

Propositional Integration

Propositional integration involves the formal process of integrating different theoretical propositions (Liska et al., 1989). Through this process, a new separate theory is created. Generally, there are three types of propositional integration: side-by-side, end-to-end, and up-and-down (Hirschi, 1979).

Side-by-Side Integration. Side-by-side integration generally involves the integration of partial theories to explain varied phenomena (Hirschi, 1979). For instance, different theoretical propositions or concepts are selected to explain different types of criminal behavior, such as different offense types (i.e., violence and property offending), or different types of offenders within a general theoretical framework. According to Hirschi (1979), this type of integration skirts the issue of differing theoretical assumptions while allowing the theorist to increase the amount of variance explained. Typically, such an approach results in a typological model, such as Moffitt's (1993) typology of adolescent limited and life course persistent offenders.

Moffitt (1993) proposes a developmental taxonomy that explains two primary offending types, adolescent limited (AL) and life course persistent (LCP) offenders. Adolescent limited offenders are described as adolescents who exhibit exaggerated antisocial behavior which manifests only during adolescence and declines in early adulthood (Moffitt, 1993). In contrast, LCP offenders are those whose antisocial behavior manifests early and remains markedly stable over the individual's life course (Moffitt, 1993). According to Moffitt (1993), different causal explanations are necessary to account for etiological differences in offending types. Consequently, each theoretical explanation incorporates different causal variables in its efforts to account for the described offending types (Moffitt, 1993; Moffitt, Caspi, Rutter & Silva, 2001). Tests that have reviewed Moffitt's taxonomy have generally been supportive of her propositions (Moffitt, Caspi, Dickson, Silva & Stanton, 1996; Piquero & Brezina, 2002; Tibbetts & Piquero, 1999).

End-to-End Integration. End-to-end integration entails the integration or reshuffling of variables from differing theories so that the dependent variables of some theories become the independent variables of the integrated theory (Hirschi, 1979). A prime example of this type of integration is Thornberry's (1987) Interactional Theory[2]. Thornberry integrates control and learning theories in an end-to-end fashion. Thornberry (1987) speculates that individuals with weak social bonds have a higher likelihood of associating with delinquent peers, which increases their probability of engaging in delinquent behavior. Delinquent behavior, in turn, further weakens attachments to social bonds and increases associations with delinquent peers in a reciprocal manner. There are few tests of Thornberry's theory; however these studies have found tentative support for the theory's propositions (Thornberry, 1996; Thornberry, Gallant, Lizotte, Krohn, & Smith, 2003).

Up-and-Down Integration. Of the three types of propositional integration, up-and-down is the rarest (Hirschi, 1979). Up-and-down integration involves the creation of an abstract or general theory that encompasses multiple propositions from specific theories (Liska et al., 1989). An example of such an approach is Cullen's (1994) Social Support and Coercion Theory. Rather than identifying concepts that can be absorbed by his theory, Cullen (1994) creates a new theory based around a general concept, social support. Social support, which can be either instrumental or expressive, refers to the ability of social groups to meet the needs of its members (Colvin, Cullen & Vander Ven, 2002). According to Cullen (1994), social support is a common theme running through multiple theoretical perspectives. Hence, social support can act as a structuring concept which allows for the development of a general theory of crime that explains crime and delinquency (Cullen, 1994; Cullen, Wright & Chamlin, 1999; Colvin et al., 2002). To date, there are few tests of Cullen's theory; however initial findings support it (Wright & Cullen, 2001; Wright, 1996).

Conceptual Integration

Conceptual integration is similar to up-and-down propositional integration in that it identifies concepts that are similar between two or more theories (Akers & Sellers, 2004).

However, unlike propositional integration which maintains the original premises of each theory, conceptual integration points out the similarity in theoretical concepts and then absorbs the concepts of one theory into the concepts of the integrated theory (Bernard & Snipes, 1996). For example, Akers (1998) argues that the concept of "belief" from Social Bonding Theory can be absorbed by the concept of "definitions" in Social Learning Theory. Akers (1998) goes on to contend that not only can Social Learning Theory take in Social Bonding Theory, he boldly claims that the propositions and concepts situated by social learning are capable of absorbing other theories including labeling, strain, conflict, and deterrence.

MACRO-MICRO THEORETICAL INTEGRATION

Multi-level integration includes the combination of macro- and micro-level theoretical explanations. Macro-level, or aggregate level, theories "link social structural characteristics to variations in the rates and distributions of crime" (Bernard & Snipes, 1996, p. 333). To do this, macro-level theories have typically relied on variables drawn from geographic units (i.e., nations, states, cities, or neighborhoods) to explain crime rates (Cattarello, 2000). According to Bernard and Snipes (1996), these types of theories are founded on three assumptions:

> (1) Crime is said to be a response of individuals who are freely choosing and whose choices are constrained and inspired by the immediate environment (implying a causal relationship between immediate environment and the actions of individuals within it).

> (2) The immediate environment is said to be 'structured' in the sense that its most important characteristics, in terms of their effect on the individual's responses, are causally related to the broader structural features of social organization.

> (3) Criminals are said to be 'normal' in that they are essentially similar to noncriminals in the processes by which they interact with the immediate environment and in the motives that direct their responses to that environment. (p. 333)

Examples of macro-level theories include Classical Strain, Deterrence, Social Disorganization, and Subcultural/Deviance theories.

Micro-level, or individual-level theories "link individual characteristics to the probability that an individual will engage in criminal behaviors" (Bernard & Snipes, 1996, p. 335). Micro-level theories rely on individual characteristics to explain individual variation in crime and delinquency (Cattarello, 2000). Micro-level theories, like macro-level theories, are based on three primary assumptions:

(1) Differences in the probability of engaging in crime are explained by differences that are uniquely attributed to the individual.

(2) The individual characteristics may be explained by interactions with other people within the environment.

(3) Since crime is explained by individual characteristics, criminals themselves are assumed to be different from noncriminals in some measurable ways. (Bernard & Snipes, 1996, pp. 335-336)

Examples of individual theories include Social Control, General Theory of Crime, and Social Learning theories.

Traditionally it has been argued that such theories contradict one another. As a result, macro-micro theoretical integration will violate theoretical assumptions (Bernard & Snipes, 1996; Hirschi, 1969). Bernard and Snipes (1996), however, argue that these are not substantiated claims against macro-micro theoretical integration. Specifically, they argue that macro- and micro-level theories do not present competing claims because they do not ignore the possibility of variance at the other level (Bernard and Snipes, 1996). For instance, macro-level theories operate on the assumption that there is a "normal distribution of individual characteristics within a given structural situation" (Bernard & Snipes, 1996, p. 339). They do not, however, "necessarily deny the existence of [individual] differences or their possible relation to criminality" (Bernard & Snipes, 1996, p. 339). The same can be said of micro-level theories. Thus, macro- and micro-level theories are not incompatible, and thus, are conducive to theoretical integration.

In addition, each of these theories alone has weaknesses which may be overcome by the integration of macro- and micro-level propositions. The principal weakness of macro-level theories is their inattention to "personal motivation or the agency (volition) of the

individual offender" (Barak, 1998, p. 197). In contrast, the primary weakness of micro-level theories is their inattention to "the context within which individuals are embedded and, more specifically, the vulnerability of micro-level processes to local economic and social conditions" (Bellair, Roscigno & McNulty, 2003, p. 25). Integrated macro-micro theories, in contrast, "focus on both the individual and the structure plus on some kind of interaction between the two" (Barak, 1998, p. 198). Integrated macro-micro theories are situated to explain crime by examining the effect social structure has on individual characteristics and subsequent individual action (Paternoster & Bachman, 2001). Macro-micro theoretical integration differentiates the causal properties of structural and individual factors, identifying mediating and moderating linkages between cross-level variables and their relationship with crime and delinquency. Thus, according to Bernard and Snipes (1996),

> It would seem possible to create a single theory of crime that incorporates the structural conditions that are associated with higher crime rates, the processes that explain why normal individuals who experience these structural conditions are more likely to engage in crime, and the individual characteristics that make it more or less likely that an individual will engage in crime regardless of structural conditions. (p. 342)

Theoretical Examples

Over the last twenty years, a growing number of criminologists have advocated for the integration of individual and structural approaches to theory construction and elaboration (see for instance Sampson, 1991; Reiss, 1986; Tonry et al., 1991; Jensen & Akers, 2003; Wikstrom, 2005). Macro-micro theoretical integration, according to Wikstrom (2005) allows the field to advance by "break[ing] away from the common but unfruitful division into individually or ecologically oriented explanations of crime involvement" (p. 211). Bernard and Snipes (1996) contend that such approaches:

> seem both desirable and feasible. The effect of specific individual differences on behavior may be magnified or attenuated depending on the individual's structural position. Incorporating structure as a contextual variable may add additional variation to the individual-level explanation of individual criminal behavior. (p. 343)

A logical starting place for the incorporation of individual and structural explanations of crime would be with existing theories. As such, an overview of criminological theories that have made, or provide the possibility for, cross-level arguments is presented below.

Differential Association/Social Learning Theory

One of the first cross-level efforts at theoretical integration was Sutherland's (1947) Differential Association Theory, which combined Social Disorganization and Conflict theory with Differential Association concepts (Akers, 1989). Sutherland, in his fifth edition of Differential Association Theory, proposed that a "person's associations are determined in the general context of social organization" (Sutherland & Cressey, 1955, p. 79). However, tests of Sutherland's theory have generally remained at the micro-level, ignoring Sutherland's suggestion that peer associations may vary as a result of contextual effects (Matsueda, 1988; Matsueda & Anderson, 1998; Warr, 1996). Differential Association Theory has also been heavily criticized for failing to explain why individuals have differential associations (Kornhauser, 1978). In other words, "why persons have the associations they have" (Reinarman & Fagan, 1988, p. 308). One exception is a study conducted by Reinarman and Fagan (1988).

Utilizing a multi-level dataset, Reinarman and Fagan (1988) test Sutherland's proposition that differential associations vary largely due to social class. Data for their study were collected in two manners. Individual-level data were collected from one wave of a three-year longitudinal study of serious juvenile offenders in northern California. Drawing upon Differential Association Theory, individual-level variables included measures of associations with delinquent and non-delinquent peers; attitudes toward law and normative order; and perceptions of norms and values of peers, parents, school environment, and neighborhood (Reinarman & Fagan, 1998). In addition, Reinarman and Fagan (1998) included variables drawn from Social Control Theory, including bonds to peers, family, school, and conventionality of beliefs. Macro-level data were collected from the 1980 U.S. Census for the residence of each juvenile offender surveyed. Structural-level variables

included percentage Black, unemployed, female-headed households below poverty, and high

density homes. Reinarman and Fagan (1988) did not find support for Sutherland's (1947)

contention that the socio-economic status of the community in which an individual lives

impacts associations with delinquent peers among violent juvenile offenders. However,

despite having cross-level data, the researchers conducted their research using standard

linear regression. The use of multi-level statistical modeling, which would account for the

hierarchical nature of the dataset employed in Reinarman and Fagan's (1998) study, may

have produced a different result.

Like Sutherland, Akers has also proposed a cross-level version of Social Learning

Theory. In his 1998 revision to Social Learning Theory, Akers offered a general theory of

crime (aptly named "Social Learning and Social Structure") where social learning mediates

the relationship between social structure and individual behavior. To date, only Akers has

tested his Social Learning and Social Structure theory, finding initial support for the theory's

hypotheses (Akers, 1998; Lee, Akers, & Borg, 2004). For instance, Lee, Akers and Borg

(2004) use structural equation modeling to test propositions drawn from Aker's SSSL

theory. While the study finds support for Akers' general statements, it is important to point

out that the study did not employ a multi-level dataset. Rather, all variables were

measured at the individual-level (including structural variables that were included as proxy

measures of an individual's "differential location in the social structure"; Lee et al., 2004, p.

17).

Social Bonding and Age-Graded Theory of Informal Social Control

According to Hirschi (1969), the motivation to commit crime is constant across

individuals. As such, theorists need to ask why people refrain from committing crime

(rather than why they commit crime). Hirschi's (1969) theory of Social Control is directly

poised to answer this question. In *Causes of Delinquency*, Hirschi (1969) states that what

prevents individuals from acting upon internal motivations to commit crime is informal social

control. Informal social control, according to Hirschi (1969) results from the development

of social bonds (defined as the tie between individual and society) through the process of socialization. Hirschi hypothesizes that people with strong social bonds (which are comprised of attachment, commitment, involvement, and belief) will conform and people with weak social bonds will commit crime. Consistent with the theory's premise, micro-level tests of the theory have generally found support for Hirschi's contentions (Agnew, 1985; Johnson, Jang, De Li & Larson, 2000; Kempf, 1993; Krohn & Massey, 1980).

While Hirschi (1969) did not address the role structure or community-level effects may have on social bonds, other researchers have brought attention to this possibility (Cattarello, 2000; Matsueda & Heimer, 1987; Muftić, 2007; Stewart, 2003). For instance, Matsueda and Heimer (1987) proposed that "broken homes, lower socioeconomic classes, and high-crime neighborhoods should influence delinquency by impeding the formation of strong attachments, commitments, involvements, and beliefs" (p. 828). Utilizing a single-level statistical model where all variables were measured at the micro-level, Matsueda and Heimer (1987) found support for their arguments that social bonds are impacted by contextual effects, including neighborhoods.

Similarly, Cattarello (2000) examined the impact of neighborhood characteristics on social bonds and peer associations. Cattarello (2000), however, constructed a multi-level model where social disorganization variables were measured at the community-level and social bonding and social learning variables were measured at the individual-level. A series of HLM regressions found that social disorganization significantly influences associations with delinquent peers increasing the likelihood of delinquency among adolescents. However, Cattarello (2000) did not find social disorganization to significantly impact social bonds.

Building upon Hirschi's (1969) original writings on Social Control, Sampson and Laub (1993; Laub & Sampson, 2003) have extended Social Control Theory to examine the impact of social bonds on criminal motivation in adulthood. Specifically, they state that while adults who were delinquent as juveniles have an increased likelihood of committing criminal

acts as adults (continuity), the formation of adult social bonds may decrease such likelihood (change). Micro-level tests of the theory have generally supported Sampson and Laub's theoretical arguments (Bouffard, 2003; Horney, Osgood & Marshall, 1995; Laub & Sampson, 2003; Uggen, 2000; Wright, Cullen & Williams, 2002).

In addition to expanding Social Control theory to include an analysis of adulthood, Sampson and Laub (1993) propose a cross-level theoretical argument in their 1993 book, *Crime in the Making*. Specifically, they hypothesize that adolescent delinquency can be explained by examining the impact of structural characteristics, such as residential mobility, socio-economic status, and family disruption, on informal social controls including the family and the school. In their reanalysis of the Gluecks' dataset, they find support for their hypothesis that family process variables mediate the relationship between structural characteristics and adolescent delinquency. Specifically, they found that "family process mediated approximately 75% of the effect of structural background on delinquency" (Sampson & Laub, 1993, p. 96). To date, there have been no other studies that have examined Sampson and Laub's cross-level arguments.

Power Control Theory

Hagan's (1989) Power Control Theory is another example of a recent theory that considers the necessity of cross-level theoretical explanation. In his effort to explain gender differences in offending patterns, Hagan proposes that the relationship between gender and delinquency is largely mediated by the interaction between class and social control (Bernard & Snipes, 1996). Mainly, Hagan (1989) argues that the degree of control exercised within a family varies based on the position of the family within the social-class structure of the community in which it resides. Support for the theory, however, has been mixed (Hagan, Simpson & Gillis, 1987; Jensen & Thompson, 1990; Morash & Chesney-Lind, 1991; Singer & Levine, 1988). In addition, each of these tests was conducted using single-level datasets (e.g., micro-level data). Interestingly, none of the aforementioned studies considered their

reliance on a single-level dataset as problematic in testing the cross-level propositions of the theory.

Social Disorganization Theory

One theory that has benefited from macro-micro theoretical integration is Social Disorganization Theory. Shaw & McKay (1942; 1969) originally proposed that crime resulted from the intersection of macro-social factors (poverty, racial heterogeneity, and social mobility) and micro-social factors (informal social control). Previous studies that have examined the impact of Social Disorganization variables on crime have found mixed support for the theory; however, these tests were conducted only at the macro-level (Bursik & Webb, 1982; Heitgerd & Bursik, 1987). While Social Disorganization Theory held a prominent spot in Criminology for nearly four decades, the theory fell out of favor in the 1960s largely as the result of the shift in theoretical (and research) attention to micro-level (individual) explanations of crime (Bohm, 2001). The work of Robert Sampson (Sampson & Groves, 1989; Sampson, 1991; Sampson et al., 1997) and Robert Bursik (1988, 2000) has revitalized the theory through the inclusion of micro-level concepts. In what could be considered a macro-micro theoretical integration of Social Disorganization, Sampson (1991; Sampson et al., 1997) introduces the concept of collective efficacy as a micro-level variable that mediates the relationship between the structural context of a community and crime. Subsequent tests of macro-micro Social Disorganization Theory have found support for Sampson and colleagues' arguments that social disorganization erodes levels of collective efficacy, which in turn increases the probability of crime and delinquency among residents within the neighborhood (Browning, 2002; Rountree, Land & Miethe, 1994; Sampson et al., 1997; Sun, Triplett & Gainey, 2004).

For example, Sampson et al. (1997) set out to examine whether collective efficacy (measured at the micro-level) mediates the relationship between social disorganization (measured at the macro-level) and violence utilizing a hierarchical dataset (where 8,782 residents were nested within 343 Chicago neighborhoods). Using HLM, Sampson et al.

included macro-level neighborhood characteristics (concentrated disadvantage, immigrant concentration and residential stability) and micro-level measures of collective efficacy (informal social control, social cohesion and trust) in their multi-level model in order to examine the effects these variables have on self-reported violence. Sampson and colleagues (1997) found support for Sampson's (1991) original arguments that collective efficacy mediates the relationship between social disorganization and violence. Subsequent studies that have utilized hierarchical datasets and hierarchical statistical procedures (i.e., HLM) have also found support for macro-micro Social Disorganization (Browning, 2002; Sun et al., 2004; Wooldredge & Thistlethwaite, 2002).

General Strain Theory

In 1992, Agnew expanded on the work of Merton (1938), introducing the possibility that individuals experience additional sources of strain (beyond economic strain). This work not only presented the addition of strains beyond those resulting from economics, but created a micro-level strain theory. General Strain Theory speculates that crime or delinquency is largely the result of feeling angry, which comes from experiencing strain. The likelihood that an angry individual will turn to crime to alleviate the strain they are experiencing depends largely upon the coping mechanisms available to the individual. Micro-level tests have provided general support for the theory (Agnew & White, 1992; Baron, 2004; Brezina, 1996; Broidy, 2000; Mazerolle, Burton, Cullen, Evans & Payne, 2000; Paternoster & Mazerolle, 1994).

In 1999, Agnew proposed a macro-level version of General Strain Theory. Macro General Strain Theory (MGST) is positioned to explain community differences in crime rates (Agnew, 2006, 1999). Drawing from other structural theories of crime (specifically Social Disorganization and Social Learning and Social Structure), Agnew (2006) argues that MGST can explain differences in crime rates across communities because individuals residing in deprived communities "are more likely to experience strains conducive to crime and cope with strains through crime" (p. 155). Thus, strain is thought to mediate the relationship

between community disorder and crime. In addition, Agnew (2006) contends that "deprived

communities are more likely to attract and retain strained individuals" (p. 155). Warner

and Fowler (2003) tested this theory, finding some support for Agnew's macro-level

propositions.

Most recently, work by Wareham, Cochran, Dembo and Sellers (1999) has proposed

a macro-micro version of General Strain Theory. Distinctively, Wareham and associates

(1999) argue that:

> While the structural/macro version of GST was not explicitly advanced
> as a multi-level explanation of effect of strain on crime, this statement
> raises the tantalizing possibility that GST may also be conceptualized
> and empirically tested as a multi-level integrated theory. (p. 118)

Setting out to test the value of a macro-micro version of Agnew's General Strain Theory,

Wareham et al. (1999) utilized a hierarchical dataset that consisted of 430 students nested

within 108 community blocks. Micro-level data were collected through the administration of

self-report surveys. Individual-level variables included in the analyses represented

individual strain, negative affects (i.e., anger), and self-reported delinquency. Macro-level

data were collected from the Census Bureau. Structural-level variables included poverty,

residential mobility, racial heterogeneity, and female-headed households. Using HLM,

Wareham et al. (1999) did not find initial support for a multi-level version of GST. The

researchers, however, correctly point out that their study is plagued by a relatively small

sample size (on average each community block contained only four students). Because of

the small sample size, the authors caution that potentially significant effects may have been

overlooked. As such, a more accurate test of macro-micro GST should be conducted

utilizing a larger sample.

Subsequent research has examined the robustness of multi-level GST (Boardman,

Finch, Ellison, William & Jackson, 2001; Hoffman, 2002; Hoffman & Ireland, 2004). For

instance, Boardman and colleagues (2001) examined the impact of neighborhood

disadvantage on individual levels of stress and subsequent drug use. Data were collected

from the Census Bureau for 139 census tracts while micro-level data were collected from a

self-report study conducted among 1,101 adults residing in Detroit, Michigan. While

acknowledging the problems associated with utilizing a standard logistic regression model

when data is hierarchical in nature (see Chapter 4 for an overview of these issues),

Boardman et al. (2001) nonetheless use OLS regression to conduct their analyses. Overall,

they found support for the argument that the relationship between neighborhood

disadvantage and drug use is mediated by variables representative of General Strain

Theory.

In another study, Hoffman (2002) examined the relationship between community

characteristics, delinquent peer associations, informal social control, general strain and

juvenile delinquency. A multi-level model was constructed using self-reported data

collected from the initial wave of the National Educational Longitudinal Study (10,868 10th

graders) and macro-level data from the Census Bureau (1,617 communities identified by

Zip Code). Because of the hierarchical nature of the data, Hoffman (2002) used HLM to

nest the students within their respective communities (averaging about 6.7 students per

community). Hoffman (2002) found that communities plagued by high rates of

unemployment were significantly more likely to have strained and poorly supervised

juvenile delinquents than communities with low rates of unemployment.

Finally, Hoffman and Ireland (2004) utilized longitudinal data to examine the impact

of strain (measured at the macro- and micro-level) on delinquency among 12,420 students

from 883 schools. Specially, they were interested in examining whether "reported strain or

stress in 1990 result[s] in subsequent increased involvement in delinquency reported in

1992" controlling for structural and individual effects (p. 273). In their multi-level study,

Hoffman and Ireland (2004) operationalize strain in two manners. First, relying on

traditional measures of strain, they include a variable representing the "disjunction among

economic goals and educational expectations" (p. 274). Second, a composite measure of

stressful life experiences from the past year is included. Hoffman and Ireland (2004) found

independent effects for contextual variables representing opportunity structures (macro strain) and general strain (micro strain) on delinquency. However, they did not find that individual-levels of strain vary across opportunity structures.

Institutional Anomie Theory

Institutional Anomie Theory (IAT) is a structural- (macro) level theory that has been proposed to explain differences in criminal offending across nation states. Specifically, IAT attempts to explain disparity in offending rates by examining differences in adherence to cultural values and involvement in macro-social institutional domains (Messner & Rosenfeld, 2004). Institutions are an important component of the theory because they are viewed as social structures that "regulate human conduct to meet the basic needs of a society" (Messner & Rosenfeld, 2001, p. 65). The four institutions IAT focuses on are the economy, polity, family, and education.

A second important component of the theory is culture. In societies where the economy is dominant, IAT proposes that cultural values (i.e., the "American dream") encourage the achievement of success "by any means possible," and as a result, crime flourishes. Messner and Rosenfeld (2001) define the "American dream" as consisting of four cultural values: achievement, individualism, universalism, and the fetishism of money.

Thus, the crux of Institutional Anomie Theory is that crime thrives in societies where the institutional balance is skewed towards the economy, which is supported and reinforced by the ideals of the "American dream." In contrast, when there is equality among institutions, non-economic institutions (i.e., family, education, and the polity) are capable of offsetting the criminogenic effects of both a dominating, capitalist economy and the cultural ethos of the "American dream." While a relatively new theory, a growing body of research has evaluated the explanatory power of IAT (Batton & Jensen, 2002; Chamlin & Cochran, 1995; Maume & Lee, 2003; Messner & Rosenfeld, 1997; Kim & Pridemore, 2005; Piquero & Piquero, 1998; Savolainen, 2000). Consistent with the theory's macro social perspective, the majority of these tests have examined IAT variables at the aggregate level only. In

addition, each of these studies has failed to include an important component of IAT: culture

(for an exception see J. B. Cullen, Parboteeah, & Hoegl, 2004; Muftić, 2006).

Single-level theories, such as Institutional Anomie Theory, may benefit from multi-

level theoretical integration. As previously defined, multi-level theoretical integration, or

macro-micro integration, differentiates the causal properties of structural and individual

factors, identifying mediating and moderating linkages between cross-level variables and

their relationship with crime and delinquency. In subsequent writings on IAT, Messner and

Rosenfeld (2004) hint at the necessity of multi-level analyses of crime and criminality. They

state that "given that institutions constitute a salient feature of the situation or social

environment in all societies, explaining individual behavior requires an understanding of the

institutional context" (Messner & Rosenfeld, 2004, p. 97). They also go on to say that:

> Studies of individual criminal behavior from an institutional perspective,
> therefore, will nearly always require multi-level methods. Such methods,
> in principle, allow for the portioning of individual behavior into a component
> associated with differences in social context and a component associated
> with variation across individuals within a given context. (Messner &
> Rosenfeld, 2004, p. 99)

These statements provide support for a multi-level interpretation (and test) of their theory.

CONCLUSION

Theoretical integration is not new[3]. In fact, work as early as Lombroso's suggested

the need for integration of theoretical ideas[4] (Bohm, 2001). We can also see integrative

practices in many of the leading criminological theories. For instance, in their development

of Social Disorganization Theory, Shaw and McKay (1942, 1969) integrated concepts from

ecology, subcultural and control theories. Sutherland's (1947) Differential Association

Theory has its roots in the Chicago school as well as conflict sociological approaches.

Merton (1938) draws from Durkheim's theory of anomie, as well as cultural deviance

theories, in his development of classical Strain Theory. It may be argued that virtually all

criminological theories are in some form or another integrated theories, having borrowed

concepts, propositions, and ideas from within and without the discipline (Osgood, 1998).

Criminology has been dominated by theories that have relied on either strictly

macro- or micro-level theoretical propositions. These theories, however, have generally

fallen short in their ability to explain crime and criminality. In response, some

criminologists have begun to advocate for the integration of theoretical arguments. Recent

work by Agnew (2006, 2005, 1999), Akers (1998), and Sampson and Laub (1993) have all

included propositions in their theories that implicate the need for cross-level theoretical

models. For instance, in the creation of his general theory of offending and delinquency,

Agnew (2005) proposes that criminal motivation (why people do or do not commit crime) is

best explained by an integrated analysis that includes variables from the community in

which the individual resides along with variables representing individual characteristics.

Similarly, Akers (1998) proposes a cross-level version of Social Learning Theory where

social learning variables mediate the relationship between social structure and individual

behaviors. Finally, Sampson and Laub (1993) have expanded upon Social Bonding Theory

to include an analysis of structural characteristics (i.e., residential mobility, socio-economic

status, and family disruption) and their impact on informal social control.

Despite research calling for the integration of macro- and micro-level theoretical

explanations, there remains a paucity of research (and theoretical) attention given to

macro-micro theoretical explanations. One possible explanation as to why there have been

so few attempts at macro-micro theoretical integration may be that until recently, it was

methodologically impossible to statistically test the propositions of a cross-level integrated

theory (Garner & Raudenbush, 1991). The ability to test the propositions of integrated

multi-level theoretical explanations has largely been made possible through advancement in

statistical techniques over the past two decades. Techniques like hierarchical linear

modeling (HLM) allow researchers to nest individual-level variables into community

structural variables. Multi-level analysis is possible because such techniques permit the

researcher to control for the effect of both proximal (micro) and distal (macro) level

variables on crime and delinquency. In addition, HLM provides the researcher a way in

which to model the implicit hierarchy involved between characteristics of individuals and the

communities in which they live (Rountree, Land, & Miethe, 1994).

The use of HLM and other similar statistical techniques has not only created renewed

interest, but has also produced more empirical support for traditionally macro-level theories

such as Social Disorganization Theory. For example, recent studies that have included both

micro-level (social capital and collective efficacy) and macro-level (poverty, family

disruption, racial heterogeneity, and social mobility) variables in their multi-level analyses

find more support for Social Disorganization Theory compared to previous research that

included only structural variables (Browning, 2002; Rountree, Land & Miethe, 1994;

Sampson, Raudenbush & Earls, 1997; Sun, Triplett & Gainey, 2004; Wooldredge &

Thistlethwaite, 2002).

In addition, the use of multi-level regression techniques allows for the exploration of

causal heterogeneity (Steenbergen & Jones, 2002). In other words, hierarchical statistical

procedures allow for the examination of any direct effects of individual and contextual

variables on the dependent variable of interest. Additionally, such procedures permit the

assessment of whether macro-level variables are conditioned by micro-level variables (Guo

& Zhao, 2000). This is all done while taking into account the unique hierarchy of multi-level

data, including the proper causal order of multi-level variables (i.e., that a macro-level

variable may affect another macro-level variable or a micro-level variable, but that a micro-

level variable may only affect another micro-level variable, but not a macro-level variable;

Krull & MacKinnon, 2001).

Opponents of integration have long argued that the complexity of integrated theories

impedes their testability. However, with the increase in methodological sophistification in

the last decade, theorists should no longer shy away from "complex" theories. Rather,

future theoretical development (and subsequent theory testing) needs to consider such

complexity, while at the same time concentrating on the relationship between macro- and micro-level variables and crime and deviance. The relevance of the current article is the presentation of evidence that accentuates the importance of theoretical models including both individual and structural variables, supporting the notion that multi-level theoretical models provide a richer, more complete picture of the phenomenon of interest.

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Footnotes

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[1] While this paper focuses largely on positive theories of crime, this is not to ignore other

theoretical traditions that have also argued for the need for multi-level theoretical integration,

including but not limited to Developmental (Thornberry & Krohn, 2005; Moffitt, 1993, 2001;

Patterson & Yoerger, 1997), Conflict (Mullins & Rothe, 2008; Walsh, 1999), and Post-

Modernist (Barak 2008; Friedrichs, 2000; Schneider, 2003) schools of thought.

[2] More recent theoretical writing by Thornberry and Krohn (2005) argues for the integration of

Interactional Theory with Developmental and Life Course theories to explain continuity and

change in antisocial behavior.

[3] While theoretical integration is not a new idea, integration as a distinct way of theorizing did

not gain a foothold among criminologists until the 1970s when the first "integrated" theory was

presented.

[4] Taking heed of the damning criticisms of his theory, Lombroso (1876, 1911) suggested that his

theory should be expanded to include structural as well as individual explanations of criminal

behavior.