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Understanding the Comparisons of Routine Activities and Contagious Distributions of Victimization: Forming a Mixed Model of Confluence and Transmission

Matthew Degarmo*

Abstract

Recently the borders between two theoretical traditions have become blurred. While “Routine Activities Theories” have come to dominate the theoretical landscape of criminology, “Contagion Theories” have either been subsumed under the former or entirely forgotten. In the following, the theoretical lines of Routine Activities and Contagion are reviewed and evaluated. Discovered is the issue that both theories are very similar yet also very different; essentially distinguished from one another by what each omits from the other. It is henceforth argued that the two disparate traditions might benefit from coalescence, whereby they are combined into a single theoretical construct and, further, explicate causal model. A new typology of contagion is provided, allowing for a larger model that incorporates both Routine Activities and Contagion while illustrating the coming-to-gather of individuals [confluence] and the spread of behavior beyond an original point of contact between actors [transmission].

Introduction

In 1947 Edwin Sutherland proposed that explanations of deviance and crime are either situational or dispositional, and that of these two, situations might be more important (see LaFree, 2007). Currently, for criminologists, the most direct connection between crime and situations is found in the various opportunity theories of crime, such as Cohen and Felson’s 1979 application of human ecology to the understanding of crime (see LaFree, 2007). To a lesser extent, the theories of Contagious Distributions have been affixed to the endogeneity of crime and victimization. Most often this coalescence has occurred through informal blending of Routine Activities with Contagion, however, this need not be done; each theory can accommodate the other through a more formal causal structure.

In this article, the theoretical lines of Routine Activities and Contagion are evaluated. Discovered is the fact that both theories are very similar yet also very different; essentially distinguished from one another by what each omits from the other. Here discovery will lend itself in the area of closing the lacuna. It is set forth that the two theoretical lines may be juxtaposed to one another, one providing the coming together of offenders and victims [confluence], and the other providing a spread [transmission] of violence where the initial act creates unstable social conditions by which an increasing number of persons

* Washington State University, mdegarmo@wsu.edu

are drawn into a widening cycle of retaliation of violence beyond the initial encounter (Topalli et al, 2002).

Routine Activities

Theoretical base

The routine activities approach is based on two rather simple ideas: (1) in order for crime to occur, motivated offenders must converge with suitable targets in the absence of a capable guardian; and (2) that the probability of this occurring is influenced by our “routine activities”— including our work, family, leisure, and consumption activities (Cohen and Felson, 2003). Rational choice essentially assumes that the frequency of crime will decrease if (1) the probability of success is decreased, (2) the perceived benefits are reduced, and (3) the perceived costs are increased (Cohen and Felson, 1979). In effect, when potential criminals perceive prior attempts as successful and feel they are likely to avoid punishment, they are more likely to offend (Dugan et al, 2005). Cohen and Felson rely on the concept of *routine activity* by which they mean any recurrent and prevalent activities which provide for basic population and individual needs (Gottfredson, 1981). The key variable in explaining crime and victimization is therefore the scope to which the basic arrangements of social life do or do not facilitate crime events by regularly placing individuals in criminogenic situations (Garland, 1999). In economics terms—crime is the supply side phenomenon – a consequence of the production and delivery of opportunities to commit offenses (1999).

Attempting to explain the situational aspects of crime, the theory of routine activities looks to coincide time and space as an imperative function of criminal understanding of places of crime. The emphasis on situational aspects, particularly of space, makes crime a built in feature of our social organization (Garland, 1999). Cohen and Felson (2003) state that “since illegal activities must feed upon other activities, the spatial and temporal structure of routine activities should play an important role in determining the location, type and quantity of illegal acts.” This is an ecological approach by which theorists attempt to show how people interact within a given environment. In Felson’s (1998) account, the *chemistry* of crime can be reduced to the interaction of three vital elements- a likely offender, a suitable target, and the absence of a capable guardian against the offense (see, Garland, 1999). The ways in which these elements are made to coincide in time and space are a function of our social arrangements and everyday routines (1999). This chemistry has been mainly measured in the area of “hot-spot policing,” which is the use of proactive policing tactics and general police saturation to reduce crime in the 3% of urban areas which contribute around 50% of a cities total crime rate (Sherman, 2004). Hot-spot policing research has received overwhelming support in recent years (Weisburd et al, 2006; Eck, 2002; Sherman and Weisburd, 1995; Braga, 1999; Taylor, 1997; Sherman et al, 1997; Brantingham, 1999; Crow and Bull, 1975; Pierce et al, 1986; Roncek, 2000; Weisburd et al, 1992).

Victimization

The hallmark of the theory is its de-emphasis upon the offender and shift of attention towards the target and guardian (Felson, 2001). This target can be any person or property that any offender would like to take or control, the term target is used rather than victim because it emphasizes the physical nature of each criminal act (2001). The measurement of victimization, as it relates to routine activities, has generally been in the area of *exposure*; which is the likelihood of victims coming in contact with likely offenders. Cohen and Felson argue that probabilistic exposure can be predicted on the basis of routine

activities which themselves are determined by the social structure and by role expectations (Gottfredson, 1981). This situational aspect is one mechanism by which static or changing social structural arrangements may lead to variation in victimization rates via changes in the amount and kind of exposure people or objects have (1981). In recent years the concept of exposure has received strong empirical support (Nofziger and Kurtz, 2005; Schreck and Fisher, 2004; Tewksbury and Mustaine, 2000; Mustaine and Tewksbury, 2002; Kennedy and Forde, 1990; Coston and Ross, 1998).

Repeat victimization contributes substantially to crime rates (Lauritsen and Laub, 2006; Lauritsen and Quinet, 1995). However, little attention has been devoted to the reasons why offenders repeatedly target the same victim (Farrell, 1995). The explanation has seen much attention from the routine activities approach which blames not victim or the offender, but instead looks at the situations which contribute to victimization. In circumstances where a suitable target is in constant contact with offenders, and where guardians are absent, the target's likelihood of being repeatedly victimized is increased. For example, if a person continually goes to biker bars they have an increased probability of being the recipient of assault. Another prime example would entail a women being in constant contact with her abusive spouse, fearing to contact the police (1995), thus remaining in a continuous cycle of aggression.

Quite recently, risk heterogeneity has been wrapped in a routine activities/rational choice shell and subsequently used to explain repeat victimization. Farrell (1995) identifies risk heterogeneity as the occurrence of victims having enduring characteristics which make them more likely to be victimized. Essentially, individuals vary in the degree to which they are prone to be victimized. He also identifies the process of state-dependence as a primary reason for the choice of the same perpetrators offending more than once against the same target in preference to other targets (1995). In particular, state-dependence for Farrell is when an offender repeatedly victimizes the same target out of rationality, based on the fact that subsequent attempts require less effort and have fewer risks attached (1995).

Theoretical and Methodological Problems

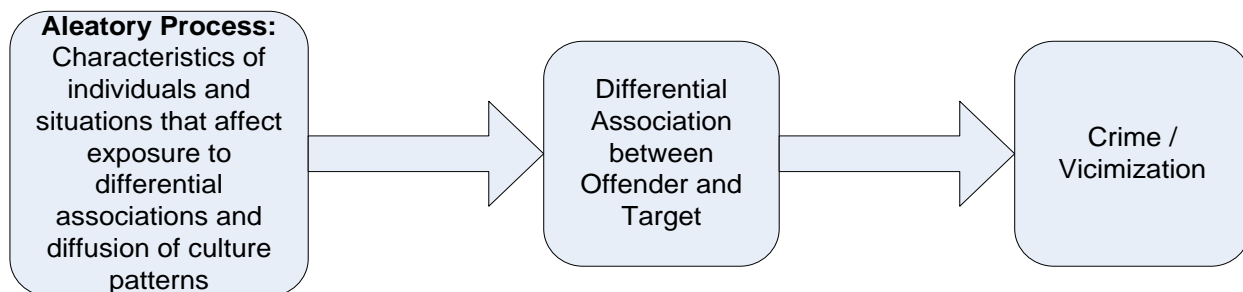
Extant research has been forced to rely on crude indicators for both of the important theoretical concepts: lifestyle and exposure (Gottfredson, 1981). At the individual level, the variable of situation has been assumed to be reflected in major demographic characteristics such as age, sex, race, income, and major activity (1981). Routine activity theory has so far relied mainly on simple assumptions about the situations in which crimes occur (at night, at the hands of strangers). Second, with few exceptions research on situations has dealt only with cross-sectional data; the situational data now available from victimization surveys are inadequate to assess exposure (Gottfredson, 1981). According to Gottfredson (1981), requisite for the study of rational choice as it relates to victimization, studies must emphasize detailed and systematic tracking of the intricate and undoubtedly complex series of moves and countermoves, both words and deeds, between the victim and the offender as situational events unfold.

Additionally, routine activities theory views crime as a built in feature of our social organization; essentially, offenders are no different from other individuals; crime is very human, and ordinary people do ordinary crimes. Thus motivation to offend is evenly distributed across the population. There is, of course, a body of theoretical literature about criminality that is also silent with respect to variations in the motivation to offend: control theories (Gottfredson, 1981). Control theories take deviant motivation for granted and as non-problematic; instead of attempting to explain the causes of crime, they instead attempt to explain the reasons why people do not commit crimes (Paternoster and Bachman, 2001). Routine activities theory is a control perspective in these regards. However, Felson also states that "all crime is local" and no two situations are ever altogether alike (Garland, 1999). This is a purely cultural perspective

which makes it very difficult to measure the situations which initiate crime in a quantitative manner. Cultural perspectives fail to view culture as a variable capable of being measured (Kornhauser, 1978); instead relying on unlimited cultural variation. The problem persists in the contradiction between cultural perspectives and control perspectives. With a mixed model (Kornhauser, 1978) is coupled inherent problems.

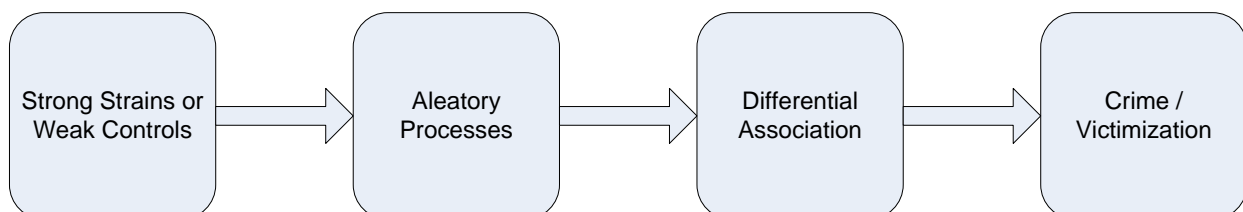
First, rational choice fails to provide a theoretical rationale for explaining which groups people are a part of, essentially what makes people victims, offenders, or capable guardians. This lack of articulation can best be described as aleatory processes, which include all those characteristics of individuals that affect their exposure to differential associations and all those characteristics of situations that affect the differential diffusion of culture patterns (1978). This is the right side of Sutherlands systemic model (1960, see Kornhauser, p. 196) by which situations depend on a host of contingencies that are not related to crime or criminality; conversely this means that the theory is very difficult to test (1978) correctly and parsimoniously. [Below is Model I: Routine Activities explicated model]

Model I: Routine Activities Theory Explicated



Second, through systemic reduction, the first variable in a causal chain subsumes the main effect of the entire model (Hirschi, 2002). Routine activities theory is thus limited to its original argument that crime is generated through aleatory processes. Explicate in routine activities is the assumption that there is always a constant supply of motivated offenders; implicate, is that some form of either strong strains or weak controls generate motivation at a constant level resulting in Kornhauser’s (1978) version of social disorganization. The following causal chain [model II] shows the complete theory and how the first variable is the most imperative in regards to causation. This variable, however, is left out of the model, meaning that the most important aspect of the model is left as a constant, incapable of being measured.

Model II: Implicated model of Routine Activities



Strain and control theories are very common in criminological research and have been very successful both theoretically (because they treat social structure, culture, and situation as all variable in effect) and empirically. The problem with routine activities revolves around the first, the theoretical aspect. Cohen and Felson (1979) purposely leave out motivation (the primary exogenous variable) and in doing so they leave out the variable of structure; essentially taking structural arrangements for granted (Garland, 1999). In leaving out this key variable, the theory cannot be an overarching theory of explanation of crime or victimization. As LaFree (2007) notes, the situation has no obvious relation to criminal behavior unless examined in terms of potential offenders' perceptions and motivations. Additionally, aleatory processes can sponge up every variable that could conceivably cause crime and victimization because when crime is everywhere, crime is nowhere (Kornhauser, 1978). So the theories foundation is precarious in relation to causation and empirical testability. This article will now illustrate the overall support which has been collected for the theory.

Support for the hypothesis

The routine activities approach has mainly seen empirical support in the area of exposure of victims to offenders (Nofziger and Kurtz, 2005; Schreck and Fisher, 2004; Tewksbury and Mustaine, 2000; Mustaine and Tewksbury, 2002; Kennedy and Forde, 1990; Coston and Ross, 1998) and the area of hot-spot policing (Weisburd et al, 2006; Eck, 2002; Sherman and Weisburd, 1995; Braga, 1999; Taylor, 1997; Sherman et al, 1997; Brantingham, 1999; Crow and Bull, 1975; Pierce et al, 1986; Roncek, 2000; Weisburd et al, 1992). However, as just shown, some of the most recent research attempts confound the pattern, one through an international perspective (Gabor and Mata, 2004) and one a rural perspective (Spano and Nagy, 2005). Also, there may be inherent problems with some research. Gottfredson (1981) warned about the misuse of indicators, however to this day, research still views demographic characteristics, such as age, sex, race, income, and major activities as accurate indicators of situational crime (particularly, Mustaine and Tewksbury, 2002); he also warned about the overuse of cross-sectional data, however, research still uses these methods (specifically, Conson and Ross, 1998; Weisburd et al, 2006). Most importantly the routine activities approach is plagued with theoretical discrepancies. This article will now try to mitigate these discrepancies by forming a theoretical model which is aware of the inherent problems; combining routine activities with a theory of contagion may allay some of these issues.

Contagion

Fractorious coined the term contagion in 1543 (Greenwood, 1946). He was the first writer to conceive of a living principle of contagion and to think of the spread of contagious disease as a biological phenomenon, due to the passing on of a living creature capable of growth, reproduction and death (1946). It took centuries for the concept to catch on in the medical field because like the atoms of Lucretius (poet and philosopher), the spread could not be shown on a plate, therefore antiquity felt that victims were not infected at all from other victims, but directly by the atmosphere (1946). Criminological concepts are also impossible to present on a plate, indicators must point the direction while coincidences must provide the proof. The situational aspect of contagion and crime first appeared in the late 1950's and has cropped up every decade without much attention. This is most likely due to the difficulty in measuring the spread of a variable, such as aggression, from person to person. The little criminological research completed has also failed to take account of the foundations of contagion; such failures persist today. This article will review the concept of contagion, breaking previous research down into a typology which can be used to further exploration of the difficult to understand theory. Overall, four mechanisms have been utilized by sociological/criminological research and theory in relation to contagion

I. True Contagion

The first is *true contagion* (Blumstein et al. 2000; Tolnay and Deane, 1996; Topalli et al. 2002; Edwards and Gurland, 1961; Gurland, 1958; Greenwood and Woods, 1919; Greenwood, 1946; Lee and Valentinyi, 2000; Pearson, 1912) also called the Eggenberger / Polya (see Taibleson, 1974) distribution, which states a causal relationship where the first occurrence of violence creates a second, non-related occurrence (Gurland, 1958). Specifically when one citizen is victimized, they then will victimize another person/victim [see causal chain below].

Causal Chain I: True Contagion

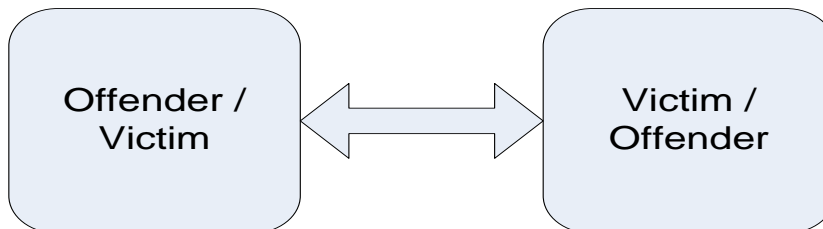


This theory generally would rely on some form of social-psychological deficit (or cognitive/affective imbalance, see Topalli et al. 2002) being formed in the victim along with a clear motivation to restore balance. This would be a crime displacement perspective where the initial occurrence sets in motion a succession of future offending and victimization.

II. Correlated Violence/ State Dependence

Second, *correlated violence* (or state dependence, Farrell, 1995; Lauritsen and Davis-Quinet, 1995; Heckman and Borjas, 1980; Kubrin and Weitzer, 2003) where the initial occurrence creates an environment where future occurrences are more likely to occur between the same two individuals or institutions involved in that occurrence. Essentially, the first experiences of either victimization or offending operate in such a way as to alter an individual's future risk of the event (Lauritsen, 2006, p. 9). Specifically when a person is victimized they will be victimized again in the future because they are said to be easy targets (Farrell, 1995) or conversely where the first person is victimized they gain motivation to victimize their aggressors (to get even) at a later time. [see causal chain below].

Causal Chain II: Correlated Violence/Contagion

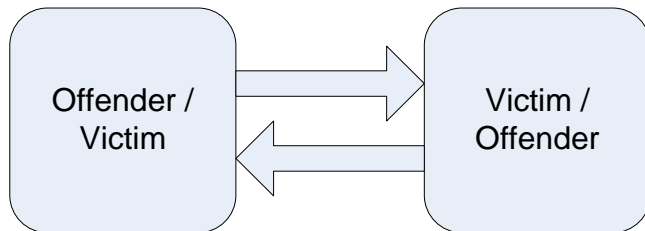


In effect a person's proneness for future victimization is changed. This proneness can be divided into subgroups with each individual having their own susceptibility (Edwards and Gurland 1961). Heckman and Borjas (1980) has provided a typology for this division: (1) Markovian state dependence looks at how the probability of change differs from no change; (2) occurrence dependence looks at how the number of past occurrences affects future occurrences; (3) duration dependence looks at the effect of current time on probability of exit from the dependence; and (4) lagged duration dependence looks at the effects of duration in previous states on probability of transition from the current state. These four mechanisms of proneness can work separately or concurrently (1980) and are important to the study of victimization.

III. Reciprocal Violence

Third, *reciprocal violence* (or direct retaliation, Black, 1983; Topalli, 2002) occurs at the time of the initial victimization. Specifically, when the offender and victim relationship is unclear, as in a direct confrontation or fight between the two parties. [see causal chain below].

Causal Chain III: Reciprocal Violence/Contagion



IV. Dispersive/Imitative Violence

Lastly, *dispersive/ imitative violence* (or imitative contagion) (Weisburd et al, 2006; Dugan, LaFree, and Piquero, 2005; Crane, 1991; Li and Thompson, 1975; Holden, 1986; Govea and West, 1981; Ludwig and Kling, 2006) assumes that when one person takes an action, the probability of a second person's taking an action is changed (Coleman, 1964; see Li and Thompson, 1975) and relies on a person being capable of being influenced by others (Polansky et al, 1950). This form of contagion has been most prominent in the social sciences which have traditionally seen modeling and/or imitation as a viable explanation to the spread of culture.

All four of the previous theoretic frameworks have been attributed to the concept of contagion as a crime generating mechanism: true contagion (see, Blumstein et al. 2000; Tolnay and Deane, 1996; Topalli et al. 2002), correlated violence (see, Farrell et al, 1995), reciprocal violence (see, Topalli et al, 2002) and dispersive/imitative violence (see, Dugan et al, 2005; Li and Thompson, 1975; Holden, 1986; Blumstein, 2000; Crane, 1991; Meier, 1968).

Theoretical Discrepancies

Culture

Imitative Contagion has been the most utilized theory in relation to the spread of violence stemming from the initial encounter; however, it is the incorrect method for examining situational variables, particularly those of victimization. Imitative contagion relies solely on a cultural theoretical base to explain crime and victimization, yet it has been shown that there are major problems with this utilization. Kornhauser (1978) makes the argument that there are three main problems with cultural theories: (1) *measurement*- they assume unlimited cultural variability and display an inability to conceive of culture and social structure as variables; (2) *methodology*- they revolve around circular reasoning that is non-falsifiable; and (3) *philosophy*- they argue that everyone is socialized perfectly resulting in conflict between group norms with the aggravating group viewing crime as normative / acceptable. Imitative contagion fails to view culture as a variable, instead viewing culture as a fixed predisposition like that of a DNA strand (see Garland's critique, 2005). Kornhauser states that if culture is treated as constant, differing only in content but not in strength, theory is neither possible nor required, for there is nothing to be explained (p. 247-248).

Additionally, arguments using cultural models are circular, which often occurs when using post-hoc analyses, or coincidental correlation, which has been widely utilized in contagion, as well as Routine Activities literature (Weisburd et al, 2006; Dugan, LaFree, and Piquero, 2005; Crane, 1991; Li and Thompson, 1975; Holden, 1986; Gobvea and West, 1981). Kornhauser (1978) warned against this tautological use of subculture when arguing Shaw and McKay blurred control theory by merging it with a cultural deviance model (p. 62).

Lastly, imitative contagion views perfect socialization occurring in areas leading to an overarching behavior of all persons who are basically imitative and responsive to the behavioral cues of others; essentially, everyone is unitarily (as opposed to variably) capable of being influenced by others (with exception to Li and Thompson, 1975). Kornhauser (1978) states that socialization is always variable because: (1) man is somewhat resistant to socialization, and (2) because no society can ever supply the conditions of perfect socialization (p. 250).

Distinguishing between Reciprocal, Correlate, & True Contagion

True contagion assumes (1) all individuals have an equal liability of selection (Greenwood and Yule, 1920; Edwards and Gurland, 1961; Taibleson, 1974), and (2) mutual exclusivity where the spread of infection occurs by spreading outward like bacteria or virus (Topalli, 2002, for Neyman, 1939; see Feller, 1943). The third theory, *reciprocal violence*, confounds these assumptions because it does not present a situation where all persons have an equal liability of being victimized, in addition to not providing a spread of violence beyond the initial victimization. The second theory, *correlated violence*, provides a spread of violence because the victim can take out their anger on other persons not involved in the original confrontation, for instance; however, not all individuals have an equal liability of being selected, but are instead limited to the original victim and offender. These two forms of violence should not be considered contagious on statistical or theoretical grounds but are very important in explaining crime, in general, and victimization in particular; they also must be controlled for to find true contagion where the end result is the spread of violence beyond the initial victim/offender relationship, and the creation of unstable social conditions in which an increasing number of persons are drawn into a widening cycle of retaliation (Topalli, 2002, p. 349).

Empirical Discrepancies

Time Correlations

In recent years, to the best of this researcher's knowledge, there has only been one accurate quantitative test of contagion (see Tita, Cohen, and Engberg, 2005); most other attempts have relied on correlations between time intervals (T1 and T2) to find contagion (Dugan et al, 2005; Li and Thompson, 1975; Holden, 1986; Blumstein, 2000; Crane, 1991; Meier, 1968; Topalli, 2002), however this method is incorrect (Taibleson, 1974, p. 877) and does not determine whether the effect is contagion or *spurious* contagion by which there is no genuine effect (p. 878). This spuriousness has been identified by contagion literature as heterogeneity or *apparent contagion*, due to in-homogeneity of the population (Gurland, 1958).

This was first identified by Greenwood and Yule (1920) and is called the Greenwood-Yule Heterogeneity Model which relies on stratification of the population to find correlations between situations. If we look at a single time interval we cannot distinguish between the Eggenberg-Polya Model (contagion) and the Greenwood-Yule Model (heterogeneity) because they differ in time scale (Taibleson, 1974). While heterogeneity is said to be linear and variable in effect, contagion relies on time as exponential (1974) growing and generating new victimizations where aggression feeds upon itself (McDowall and Loftin, 2005).

Population stratification is said to be stable and linear. However, research must keep in mind that as time passes, population heterogeneity increases and thus between interval correlations should become stronger later in the period under study (Eaton and Fortin, 1978). For instance, when looking at two time intervals (T1 and T2) one will see a strong change in the correlation between contagion and crime but this may only be due to change in the stratification of the population. The actual victimization rates in the area may have shown stability if an accurate representation of the population had been sampled (Feller, 1943). Taibleson (1974) states that it is believed that correlation between time intervals can be used to distinguish between contagion (after-effect) and heterogeneity (stratification); however, these beliefs are incorrect (p. 877).

Linearity

The process of contagion should not be likened to a series of ripples moving outward from the center of a pool into which a pebble has been dropped, because the process is less constant than intermittent (Li and Thompson, 1975, p. 82). As discovered by Greenwood (1946) epidemics react through curvature structure because (1) the number of persons infected during an epidemic is so small in relation to the total population that the supply of susceptible units never becomes appreciably less, and (2) infectivity starts high and decreases in a given way (p. 94). Pearson (1912) was the first to note epidemic size, when he argued that the severity should be less than the distribution. In his statistical analysis of deaths in a household occurring from disease, he stated that deaths in a household will always be smaller than the number of houses (1912) in an area under analysis. This is where probability of rare occurrences first appeared in the social sciences and has been ignored by explicit and implicit contagion theorists in recent research. The second point made by Greenwood (1946), that activity is very high when the epidemic begins and from the beginning declines in a particular way, is counter to current literature assuming that contagion acts in a tipping point fashion (Crane, 1991; Blumstein et al., 2000; Jones and Jones 2000) where when rates of criminal violence reach a tipping point, additional growth will be rapid and explosive (McDowall and Loftin, 2005). Therefore relying on assumptions made by Greenwood (1946) the rate of

victimization (true contagion) should be highest directly after the initial violence rather than after a constant increase of violence eventually crossing a tipping point. This is important in victimization research because Greenwood's argument would imply that soon after the first occurrence of violence, say between a husband and wife, the probability of a second occurrence would increase. Conversely, if the tipping point thesis were true, then violence between the husband and wife would be extended and difficult to measure. Research on tipping points have been very limited through criminological history (see, Crane, 1991; Cook and Laub, 2002; LaFree, 1999; and Loftin, 1986) and have provided mixed support. This article will now turn to a brief literature review of existing empirical tests before showing the overall support which has been collected for the theory.

Overall Support for the Hypothesis

Currently, data on contagion is limited as a result of the shortfalls of previous research. Blumstein et al (2000) provide an accurate representation of the spread of epidemics, however, their analysis is based on post-hoc analysis of existing data, and therefore, what they claim to be a process of contagion may actually be a process of spurious contagion. Topalli et al. (2002) also provides an accurate description of contagion, however, data usage is limited because they rely on qualitative measures. Each of these articles, even with their limitations, should be considered the primary contagion references to date. While the first provides an accurate description of true contagion, the second examines a key mechanism for causation, primarily the spread of socio-psychological variation such as aggression. Accurate longitudinal quantitative research is requisite for the continuance of contagion as a concept in criminology.

In addition, one quantitative method currently employed shows great promise to the study of situational space on the macro-logical level. Tita, Cohen, and Engberg (2005) analyze set space through a process of spatial autocorrelation. Spatial autocorrelation measures the extent, to which the occurrence of an event in an areal unit constrains, or makes more probable, the occurrence of an event in a neighboring areal unit (Lembo, 2007). This method relies on four basic tenets: (1) if there is any systematic pattern in the spatial distribution of a variable, it is said to be autocorrelated; (2) if nearby or neighboring areas are more alike, this is positive spatial correlation; (3) negative autocorrelation describes patterns in which neighboring areas are unlike; and (4) random patterns exhibit no spatial autocorrelation (2007). Some support for this method is available (see, Tita et al, 2005). This article will now move into comparing and contrasting key issues between Routine Activities Theory and the Theory of Contagion.

Routine Activities vs. Contagion

Confluence vs. Transmission

The routine activities and contagion perspectives of situational crime are very similar and also very different. They are essentially distinguished from one another by what each omits from the other. The routine activities approach places emphasis on the *confluence* of crime while the contagion perspective focuses on *transmission* of crime. Confluence refers to the coming together of offender and victim in a suitable crime location and specific time. Contagion, however, looks more at how an emotion, particularly aggression, spreads from person to person regardless of location or time. Thus, routine activities theory merely assesses one crime or crime density in a location instead of looking at a string of inter-correlated crimes. For instance, routine activity approaches look at the amount of crime occurring in a "hot-spot" area (see Weisburd et al, 2006), while contagion would look at how police aggression in hot-spot areas may increase crime through either reciprocal violence or true contagion, where either officers are directly victimized or other citizens are later victimized.

Heterogeneity vs. Spurious contagion

As discussed, risk heterogeneity has been wrapped in a routine activities/rational choice shell and subsequently used to explain repeat victimization. Farrell (1995) identifies risk heterogeneity as the occurrence of victims having enduring characteristics which make them more likely to be victimized. Essentially, individuals vary in the degree to which they are prone to be victimized. Schwartz et al. (1993) provide support for this theory through an experimental design looking at psycho-social behavioral tendencies among child play groups. Their results indicate that the children victimized had behaviors significantly less assertive than the mean (1993). While routine activities/rational choice theories assume the variation rests with the individual, contagion recognizes this possibility in relation to populations.

The issue of risk heterogeneity has been a key foundation of contagion. First discovered by Greenwood and Yule (1920), risk heterogeneity, also called apparent contagion or spurious contagion, is due to in-homogeneity of the population, which when failing to control for, makes it appear that relationships are highly correlated when they actually are not. This often times occurs when using post-hoc analysis on comparing two or more time intervals. Again, as time passes population heterogeneity increases, and thus between interval correlates should become stronger later in the period under study (Eaton and Fortin, 1978). This means that enormous samples are required to generate sufficient crime data; this is also true for routine activities approaches to understanding victimization (LaFree, 2007). It can be argued that both theories make the search for empirical regularities between crimes and situations especially challenging because the concept of situation is hard to operationalize and measure (LaFree, 2007).

Linearity and Time-irreversibility

It has been argued that contagion spreads at random and continuously decreases from the beginning to the end. The structure of routine activities theory, because it focuses on differential association, also spreads randomly making it very difficult to measure. The way each of these spread can be defined as non-linear, a process that treats time as constantly fluid, as opposed to ahistorical. *Ahistorical time* is conceptualized as undifferentiated and external to events and relationships and assumes that relationships between independent and dependent variables are consistent over given measures of time (LaFree, 1999). The routine activities approach is ahistorical because it views motivation as constant yet historically contingent because, going back to Cohen and Felson's (1979) original argument, the dispersion of activities away from households causes burglary to rise in the post WWII era. This is called a *structural break* in the crime generating process (McDowall and Loftin, 2005). The original argument is essentially claiming that the end of the war marked a new era in American History. The theory is contradictory if assuming constant motivation. Contagion treats time historically because it assumes that any one effect can cause a chain of other effects. The result being that time is non-linear, ever changing with every situation. The downside to this is obvious; again, measurement is complicated by the inherent complexity of situations and by the fact that enormous samples are required to generate sufficient crime data (LaFree, 2007).

Crime as a built in feature of society

The critique made earlier in regards to routine activities' view of crime as normative can also be made against contagion. If crime is everywhere, then crime is nowhere (Kornhauser, 1978). Essentially, this means that where culture and social structure are treated as constants, differing only in content but not in strength, theory is neither possible nor required, for there is nothing to be explained (1978, p. 248-49).

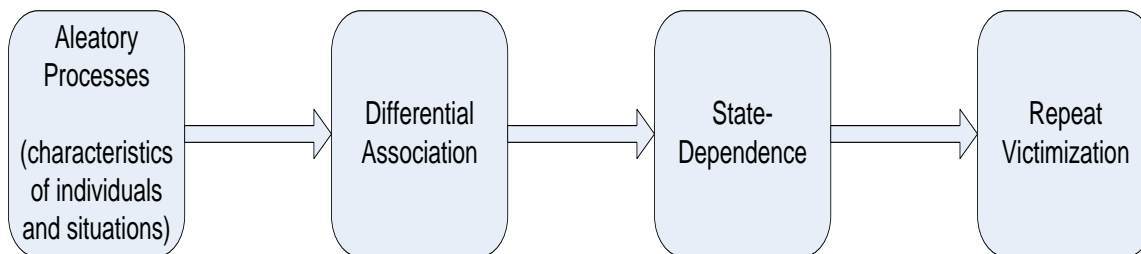
Where offenders are no different from other individuals (Garland, 1999) then everyone can be said to have been socialized equally (1978). However, perfect socialization is impossible because, first, man is somewhat resistant to socialization, and second, because no society can ever supply the conditions of perfect socialization, since all are subject to some degree of social disorganization (1978, p. 250). Contagion has yet been placed in a general theory encapsulating the variation for which societies are disorganized, and routine activities, at its core, fails to include the variable of motivation which would subsume the latter concept.

Modifications to combine the two theories

It has been argued by Dugan, LaFree, and Piquero (2005) that contagion is simply the denominator of rational choice, the benefits of crime, where crime is a cost/benefit analysis actuated by the offender. This is an incorrect interpretation of contagion relying on imitation where one person *wants* to take on the behavior of another for reasons of personal gain. Contagion can be a dynamic and empirically testable theory of crime and victimization.

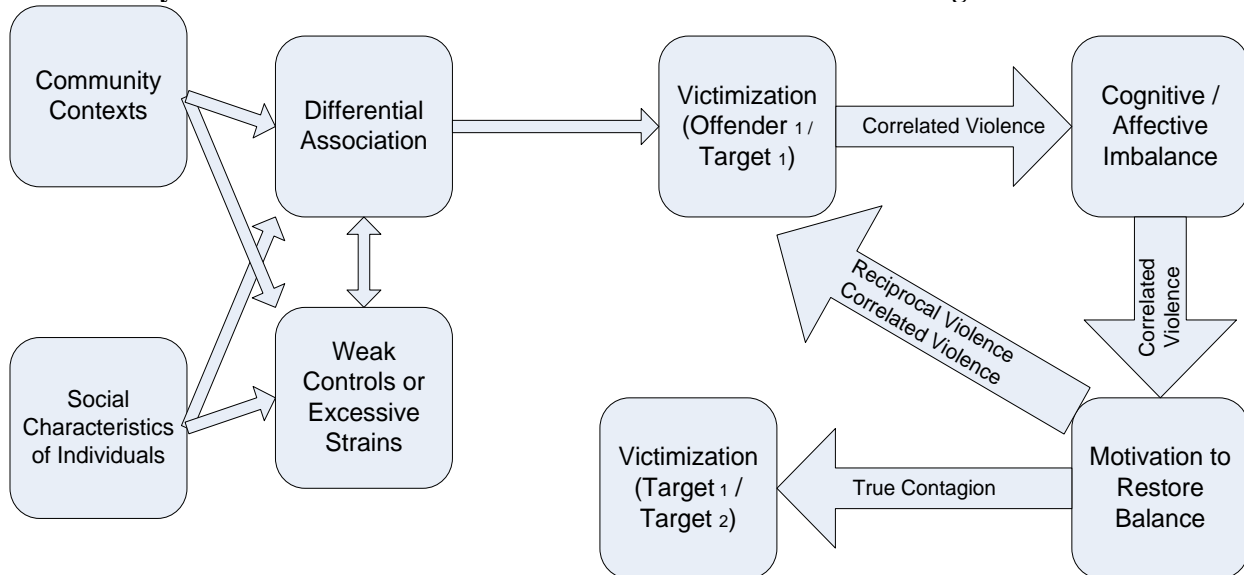
This article argues that by mixing Rational Choice with heterogeneity (individual difference) and state-dependence (correlated violence) it fails on theoretical grounds. The routine activities causal chain has already been displayed, now shown below [Model III] is the theory of routine activities mixed with the two variables (risk heterogeneity and state-dependence) used to explain the endogenous variable of repeat victimization.

Model III: Routine Activities + risk heterogeneity + state dependence



One can see that the theory already subsumes individual and situational differentiation (heterogeneity) under the concept of aleatory processes set forth by Kornhauser (1978), utilized originally by Sutherland and Cressey (1947), and then inferred later by Cohen and Felson (1979). State dependence however, would result from the differential association, or amount of time spent between likely offenders and suitable targets, resulting in repeat victimization. This revised theory explaining repeat victimization can be criticized on the same grounds as the original routine activities model used to explain crime and victimization in general. Primarily, the model fails to distinguish among culture, social structure, and situation; failing to treat any of the three as variables (1978). Additionally, when trying to test for risk heterogeneity and state dependence, one cannot, due to the fact that the variables overlap in the routine activities model. Aleatory processes already look at the characteristics of individuals. When one preemptively classifies people into categories (target or offender) they identify them through aleatory processes, thus making it impossible, under this framework to distinguish between heterogeneity and state-dependence. To combine the theories of contagion and routine activities would require significant theoretical tweaking if encapsulating both heterogeneity and state-dependence. A mixed model would have to consider the shortfalls of both as well as the strengths; but most importantly the lacuna which divides their theoretical base. The following systemic model attempts the combination [Model IV].

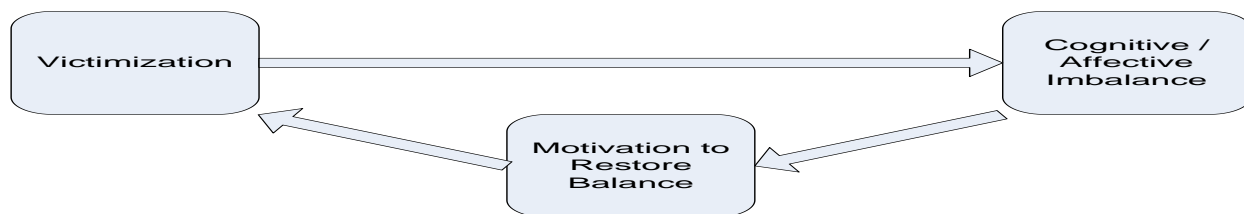
Model IV: Systemic Model of Motivation + Routine Activities + True Contagion



Accordingly, community contexts and social characteristics are the primary exogenous variables and lead directly to (1) differential association (probability of offender and victim coming in contact with one another) and (2) weak controls or excessive strains. Community contexts and individual characteristics leading into weak controls, or excessive strains, was first used by Shaw and McKay (1931) and explicated by Kornhauser (1978); it affixes motivation into the equation, where previously it was lacking for both routine activities and contagion perspectives. Motivation is directly correlated with the likelihood of offender and victim coming together, which is also influenced by individual and contextual variables. Motivation and coming together in space and time (weak controls or excessive strain + differential association) of offender and target lead directly to victimization, where offender 1 victimizes target 1. This leads to a cognitive/affective imbalance which results in a motivation to restore that balance (see Topalli, 2002). This motivation results in either reciprocal violence (where target 1 seeks vengeance then offends against the person that victimized them), or conversely, true contagion (where target 1 offends against a person not involved in the initial confrontation).

Repeat victimization occurs through the entire contagion process and can be referred to as correlated violence or state dependence [see Model V below].

Model V: Repeat Victimization as an Artifact of Contagion



This circularity of concepts creates a state-dependent process where the offender and victim are tied together. For example, when a husband assaults his wife, the wife will be motivated to restore her cognitive imbalance, resulting in the wife victimizing her husband. This is consistent with best available research from the Dunedin Longitudinal Study (Moffitt and Caspi, 1999) which finds that the differentiation between male and female domestic assault is not as divided as previously believed. Specifically, in relationships, women assault men with a near equal frequency that men assault women (Moffitt and Caspi, 1999).

These findings are crucial to the above model. Of course the relationship can also be one sided, where one spouse continuously assaults the other spouse. However, this point need not be the downfall of the systemic model described above. Since a motivational variable has been added (either excessive strains or lack of controls) to the model, the impetus to victimize can be recurrent. That is, motivation will always be variable in effect; where motivation is strong the likelihood of repeat victimizations is more likely. Additionally, the phase which involves motivation to restore cognitive/affective imbalances is not finite, it also varies in effect resulting in additional violence only when the imbalance is great enough to cause physical and emotional stress if balance is not restored; or in a situation where aggression is one sided (in the case of a husband recurrently assaulting his wife), stress may be greater if the victim attempts to escape the cycle of violence. This argument is consistent with extant research on women leaving abusive relationships. DeKeseredy, Rogness, and Schwartz (2004) find that “many battered women who try to leave, or have left, their marriages are sexually assaulted.” This article will now review the problems inherent in each of the two theories. It is important to see how the combined model presented in this article either mitigates or exacerbates these problems.

Problems Reviewed

Indicators

It was argued that the routine activities approach relies on crude indicators (Gottfredson, 1981); this is mainly in regards to the failure to operationalize the concept of situation. The mixed model proposed by this article is more dynamic in these regards. Situation is measured through the differential association between individuals as well as the variability in the contagion half of the model. This article argues that even though situations are measured along two fronts, the variability which each attempt to explain is different, making the concepts mutually exclusive and falsifiable.

Methods

The same issue raised, in regards to routine activities' failure to use longitudinal data, persists with this coalescing of theories. With this new model, longitudinal data should be the only accurate method of measurement. Large samples must also be utilized because the probability of rare occurrences (Pearson, 1912) makes the search for situational aspects of crime extremely difficult to pinpoint.

Mixing Models

Mixing models was the main critique of routine activities approach. Cohen and Felson (1978) mix control theory with cultural theory to make a combined model which relies more on culture than control. The current theory, by adding the first three variants (community contexts, social characteristics of individuals, and weak controls/excessive strains) provides an articulate and theoretically sound base structure (see Kornhauser, 1978, p. 69) capable of limiting systemic reduction.

Culture

Imitative contagion, which is the pure cultural version of contagion, is not used in the current model. More generally, the three main problems associated with cultural perspectives (measurement, methodology, and philosophy; look back at page 16 of this article) (Kornhauser, 1978) are figured into the model. (1) Social structure is viewed as variable in effect because the model treats community context and individual differences as being able to flux; culture is also viewed as variable in effect due to the variability allocated by the concept of differential association. (2) Circularity is placed into the model through the contagion process, it should be assumed, however, that any theory involving a state-dependent effect would have to rely on the circular notion of a variable being both the cause of victimization and the result of victimization. (3) The model does not argue that everyone is socialized perfectly because it is not a cultural perspective. Routine activities theory would (or rather should) use the term aleatory processes because what causes differential association are the characteristics of individuals and situations that affect exposure. The current model separates individual characteristics from situation, and second, exposure is subsumed under the variable of differential association. So these concepts are separated from each other reducing the likelihood of overlapping concepts; the result is the mutual exclusivity of concepts.

Distinguishing between Reciprocal, Correlate, and True contagion

This article has shown the differences in what has been incorrectly termed contagion. It has also explained that while true contagion should be viewed as the only true form of contagion, reciprocal and correlate violence are very important to understanding situations, in general, and situations which give rise to victimization, in particular. The current model takes account of all three concepts in a framework capable of isolating their independent effects.

Concluding Remarks

The theory of Routine Activities has been explicated, the theory of Contagion has been partitioned into its testable parts, and the coalescence of the two systemically modeled. Through this merging of concepts the problems inherent to their respective archetypes are allayed. Problems with measurement, however, will still be of central importance to this model; longitudinal data of very large samples are required for future research. This should be a theoretically driven future focusing more on situational variants of crime, because they are important, maybe more so than dispositional explanations of crime and victimization.

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