The Contextual Variation of Routine Activities: A Comparative Analysis of Assault Victimization

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Abstract

Routine activities/lifestyles theory provides a multilevel framework of opportunities to understand victimization experiences. The consideration of individual activities, structural elements, and cross-level interactions is ideal for cross-national research. Limited comparative research on non-lethal victimization examines two levels of analysis. The contextual variation of individual measures has yet to be explored on an international scope. This study presents a multilevel analysis of assault victimization across forty-five western industrialized and non-industrialized countries. Information on the daily activities and lifestyles of individuals is gathered from the International Crime Victimization Survey and the European Survey on Crime and Safety. Measures of structural opportunity are collected from the World Bank data source. Hierarchical Linear Models are employed to appropriately deal with the nested structure of the data. The results indicate significant direct effects of individual level and structural level measures of opportunity on assault victimization. In addition, specific measures of structural opportunity moderate the relationship between individual activities and assault victimization.

Keywords: Routine activities, multilevel analysis, cross-national, victimization, HLM

Introduction

Assault is one of the most frequently occurring types of violent crime, the victims of which suffer from a host of physical and psychological outcomes (Bouten, Goudriaan, & Nieuwbeerta, 2002). A substantial number of individuals in countries across the world have experienced both short term and long term effects of assault victimization. Understanding the opportunities surrounding victimization highlights preventative measures that can lower the risk of violent victimization. Opportunity is a key element to understand victimization, and it is deemed a necessary element for all episodes of crime and victimization (Wilcox, Land, & Hunt, 2003). Routine activities/lifestyles theory provides a framework of opportunity that emphasizes situational elements leading to victimization experiences (Cohen & Felson, 1979; Hindelang, Gottfredson, & Garofalo, 1978). This theoretical perspective recognizes the role of individual activities and structural opportunity as important contributing factors to victimization risk. The theoretical consideration of opportunity across multiple levels of analysis is ideal for comparative research on victimization. Even so, the majority of cross-national empirical studies are limited to one level of analysis, either the individual level (Lee, 2000; Tseloni et al., 2004) or the structural level (Anderson & Bennett, 1996; Bennett, 1991; van Wilsem, 2004).

Multilevel research on non-lethal victimization is likely to include individual level opportunity, but uses other criminological theories to guide country level variable selection (Uludag et al., 2009; van Wilsem, de Graaf, & Wittebrood, 2002; van Wilsem, de Graaf, & Wittebrood, 2003). Few comparative studies actually incorporate individual and structural measures of opportunity (Stein, 2010; Tseloni & Farrell, 2002), and the analysis of cross-level interaction terms is non-existent. The current study uses a routine activities/lifestyles theoretical framework to identify opportunity at the individual and structural levels of analysis. The situations leading to assault victimization are explored across forty-five developed and developing countries. Cohen and Felson (1979) suggest the daily activities of individuals offer an explanatory bridge between multiple levels of analysis. Cross-level interactions are explored in efforts to further the scope of the theory in comparative research on non-lethal victimization. Measures of individual level routines and lifestyles are gathered from the International Crime Victimization Survey and the European Survey on Crime and Safety. The structural level variables are collected from the World Bank data source. Hierarchical linear models are used to address the nested nature of the data, designated by the residence of individuals within countries.

Routine Activities/Lifestyles Theoretical Perspective

Routine activities theory specifies individuals' everyday activities can lead to victimization experiences. Cohen and Felson (1979) indicate daily routines direct some individuals into situations favorable for the convergence of motivated offenders, suitable targets, and a lack of capable guardianship.

Individuals whose activities direct them to spend more time in the public domain have escalated opportunities for victimization (Cohen & Felson, 1979). Measures of daily routines in multilevel cross-national research have been captured by how often respondents go out in the evening for leisure activities and whether individuals work or go to school (Stein, 2010; van Wilsem et al., 2002, 2003). These studies examine a range of countries, numerous types of victimization, and varied measures of opportunity. Comparative research provides empirical support for the theoretical link between evening leisure activities and victimization. In a study of nineteen European countries, van Wilsem et al. (2002) report individuals who go out often for leisure activities are at disproportionate risk of violent victimization. The importance of recreational activities in the evening hours has also been replicated in a large scale study of assault across forty-seven developed and developing nations (Stein, 2010). The role of leisure activities remains a predictor of victimization, even when considering country level elements. Van Wilsem et al. (2003) highlight individual level activities that take place in daytime, and report the risk of violent victimization is intensified for individuals who work or go to school. In their study of eighteen industrialized countries, the work/school relationship to victimization is maintained with the inclusion of structural measures.

Hindelang et al. (1978) also assert the importance of demographic characteristics. Individuals' characteristics are linked to role expectations, which enable and constrain their involvement in certain types of activities. Because each person possesses specific demographic markers, activities vary in terms of type and degree of involvement across all individuals. As a result of these differences, all persons have a unique lifestyle, diverse exposure to risk, and wide-ranging experiences of victimization (Hindelang et al., 1978). Multilevel comparative research provides empirical support for the relationship between demographic lifestyle indicators and victimization. Studies show individuals who live alone are more likely to experience victimization than those who are married or cohabiting. Furthermore, younger individuals and males are expected to be involved in activities in the public sphere and are particularly at risk of becoming a victim of violence (Stein, 2010; Uludag et al., 2009; van Wilsem et al., 2002, 2003). The direct effects of role expectations on victimization hold with the incorporation of structural opportunity.

Routine Activities Theory: Structural Opportunity

The integration of structural measures in cross-national research captures an important element of routine activities theory. The basis of structural opportunity in this theoretical perspective is derived from concepts of human ecology theory (Felson & Cohen, 1980; Hawley, 1950). Structural constraints are conceived as elements that limit or encourage the activities of individuals in a particular society or community. Economic conditions and changes in a society that move people from home based activities to activities outside of the home raise the risk of victimization. A large number of people in the public domain provide situations ideal for the convergence of motivated offenders and suitable targets in the same time and space (Felson & Cohen, 1980). Multilevel and structural level cross-national empirical research on non-lethal victimization has used a range of measures to capture structural opportunity. Cohen and Felson (1979) propose measures of country level employment are indicative of structural opportunity. Empirical studies support for this contention, although the application of specific theoretical elements to explain the variables is debatable. One measure of employment often used as a proxy for structural level opportunity is the percentage of females in the labor force.

Researchers contend a high percentage of females employed in the workforce present heightened exposure to motivated offenders (Anderson & Bennett, 1996; Tseloni & Ferrell, 2002), or decreased levels of guardianship (Bennett, 1991). Regardless, more female involvement in the workforce promotes the convergence of potential offenders and victims in public spaces (Anderson & Bennett 1996). Stein (2010) notes individuals who reside in countries with a substantial number of females employed face an acute risk of assault victimization. A country's level of unemployment has also been used to assess structural opportunity. Some research suggests those who are unemployed have less structure in their daily routines, and may be adding to the pool of motivated offenders. Tseloni & Ferrell (2002) find a positive relationship between unemployment and burglary victimization. In contrast, Cohen, Felson, and Land (1980) report an inverse relationship between unemployment and robbery for respondents in the U.S. Unemployed individuals are involved in home centered activities, which essentially reduces the structural opportunities available for offender and target convergence (Cohen & Land, 1987; Land, McCall, & Cohen, 1990; Miethe, Hughes, & McDowall, 1991).

Elements of the population structure also affect the opportunities available for victimization. The demographic characteristics of the overall population represent the movement of people in and out of public spaces. Lifestyles theory suggests males are more likely than females to encounter situations prone to victimization (Hindelang et al., 1978).

This concept can be aggregated to the structural level as the sex ratio of the population. In a study of fifty-one countries, Altheimer (2008) finds more males in the population is indeed related to homicide risk (see also Altheimer, 2007; Messner & Sampson, 1991). The age structure of the population is also indicative of role expectations and opportunities available for victimization (Hindelang et al., 1978); juveniles represent the age group most likely to be victims and offenders (Felson, 1998). Countries with a sizable proportion of adolescents in the population have an added number of potential offenders and victims (Hansmann & Quigley, 1982; Krahn, Hartnagel, & Gartrell, 1986). It is also probable for targets and offenders to converge in urbanized societies, as a large number of people are present in the same time/space (Anderson & Bennett, 1996; Bennett, 1991; Cao & Maume, 1993; Cohen, Klugel, & Land, 1981; DeFronzo et al., 2007; Tseloni et al., 2004). In a study of western industrialized countries, Tseloni et al. (2004) report a positive relationship between victimization and urbanization.

Strain and Social Control Theoretical Perspectives

Multilevel comparative studies on non-lethal victimization that utilize a theoretical framework of opportunity are sparse. While opportunity is necessary for all episodes of victimization (Wilcox et al., 2003), cross-national homicide research identifies other structural factors that affect victimization risk. Studies examining lethal victimization consistently employ macro-level strain theory or social control theory to guide country level variable selection. Importantly, international research on victimization is dominated by the study of homicide. Due to the serious nature of the crime, homicide data is relatively constant across countries. Data on lethal victimization is also widely available to researchers. The consideration of structural variables routinely employed in homicide research creates a means of standardization across multilevel victimization research.

The level of formal government control in a society varies according to development level of the country (Levi, 1982; Ortega et al., 1992). Cross-national studies on homicide indicate a country's level of development, measured by the Human Development Index (HDI), is related to victimization risk (Pratt & Godsey, 2002, 2003; Pridemore, 2008). Homicide rates are lower in developed countries, while less developed countries have higher rates of homicide (Unnithan & Whitt, 1992). The significance of structural development has not been found in comparative research on non-lethal victimization; however, this research conceptualizes development as the country's Gross Domestic Product (van Wilsem, 2004; van Wilsem et al., 2002). In contrast to most studies of non-lethal victimization, Stein (2010) uses the HDI as a proxy for the country level of development. Even though this study does not provide empirical support for the HDI and assault victimization relationship, the continued use of the HDI measure will build uniformity across comparative studies on all types of victimization.

Cross-national homicide research also highlights the role of economic inequality in victimization experiences. Country level inequality is assessed through measures of relative and absolute deprivation. Empirical studies routinely use economic inequality to assess relative deprivation. Strain theory exemplifies individuals who face blocked opportunities within the context of inequality will express frustrations through violence (Agnew, 1999; Blau & Blau, 1982). Comparative research has traditionally used the Gini coefficient to assess income inequality (Avison & Loring, 1986; Hansmann & Quiqley, 1982; Krahn et al., 1986; Stamatel, 2009); however this measure tends to be unreliable in cross-national research (Hsieh & Pugh, 1993; Vieraitis, 2000). Homicide researchers have identified the ratio of median incomes of the richest twenty percent to the poorest twenty percent of citizens in a country to be a more accurate measure of inequality as proposed by strain theory (Lee, 2001). While studies using the ratio measure of inequality consistently find a positive correlation between inequality and homicide (Kim & Pridemore, 2005; Lee & Bankston, 1999; Pratt & Godsey, 2002, 2003; Pridemore & Kim, 2007), the effect of inequality on assault victimization has not been substantiated (Stein, 2010).

In contrast to relative deprivation, measures of absolute deprivation capture the prolonged effect of strain that results from inequality (Messner & Rosenfeld, 1997; Pridemore, 2005). The positive effect of poverty on violence has been reported in empirical literature (Sampson & Lauritsen, 1994). The role of prolonged poverty has proven an important element increasing victimization risk in studies using different measures, varied model specifications, and multiple levels of analysis (Pridemore, 2002). Additionally, individuals in countries characterized by economic discrimination are faced with frustrations and conflict that result from competing value systems (Cole & Gramajo, 2009; Stamatel, 2009). Messner and Rosenfeld (1997) indicate persons experience more violence if they reside in countries with high levels of inequality based on ascribed group characteristics. Comparative homicide research denotes ethnic heterogeneity is a strong predictor of violence, even when economic inequality is considered (Altheimer, 2007; Avison & Loring, 1986; Messner & Rosenfeld, 1997).

In contrast to ethnic diversity, empirical research suggests an inverse relationship between linguistic heterogeneity and homicide. Groups who speak different languages experience decreased interaction, while intergroup interaction is not necessarily hindered by different ethnicities (Hansmann & Quigley, 1982).

Explanatory Bridge: Cross-Level Interactions

Cohen and Felson (1979) propose a multilevel analysis of opportunities that lead to victimization risk. These authors propose interaction terms between individual level and structural level measures offer further explanation of opportunities for victimization. Specifically, individuals' daily routines serve as an explanatory bridge between the two levels of measurement (Cohen & Felson, 1979). Statistical interactions between the individual and structural levels of analysis designate individual level activities vary across structural contexts (Cohen & Felson, 1979; Meier & Miethe, 1993). Multilevel studies that integrate the individual and community level of analysis offer an initial exploration of this theoretical proposition.

Empirical research demonstrates individual level measures of target attractiveness and guardianship do indeed vary across structural elements related to public space (Miethe & Meier, 1990; Miethe, Stafford, & Long, 1987). Even so, the contextual variation of routines is not supported across all studies. Miethe and McDowall (1993) analyze residents in Seattle neighborhoods, and conclude individual level risks of violent crime do not vary significantly across neighborhood contexts. In an analysis of the same Seattle neighborhoods, Rountree et al. (1994) apply advanced statistical techniques to account for the nested nature of the multilevel data. The authors report the relationship between individuals' race and assault victimization varies across neighborhood context, represented by ethnic heterogeneity. The results emphasize appropriate methods must be used to analyze multilevel data (Rountree et al., 1994).

Multilevel Equations

The structure of the data in the current study is nested, which indicates individual respondents are located in countries. Multilevel modeling techniques situate individuals in their country of residence, and incorporate the country as a level of analysis. The Hierarchical Linear Models (HLM) statistical program offers an appropriate method to assess the effect of individual routines, structural opportunity, and cross-level interaction terms on assault victimization (Raudenbush & Bryk, 1992). The Bernoulli distribution in the HLM program is used to examine the dichotomous dependent variable of assault. The log odds of assault victimization for individual I in country J are defined as $\log[\varphi_{ij}/(1-\varphi_{ij})] = \eta_{ij}$, where φ_{ij} is the probability of victimization occurring on each trial, and η_{ij} is the log odds of victimization. The individual level equation is specified as:

$$\eta_{ij} = \beta_{0j} + \beta_{1j}X_{1ij}, \tag{1.1}$$

where β_{0j} is the intercept and β_{1j} is the regression coefficient (slope) associated with the predictor X_{ij}. The intercept is a parameter that varies across countries as a function of a grand mean (γ_{00}) and a random term (μ_{0j}). The intercept equation is:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}W_j + \mu_{0j} \tag{1.2}$$

The coefficient γ_{01} represents the influence of country level variables (W_j) on the intercept. It is assumed that β_{1j} does not vary in fixed effect models. In the random-intercept model, the γ_{10} coefficient predicts the non-varying parameter, β_{1j}:

$$\beta_{1j} = \gamma_{10} \tag{1.3}$$

Random effect models are more suitable to comparative research, as they allow for variation across countries in the analysis. The effect of the individual level variable (X_{ij}) varies at the structural level. The random effects equation is represented as:

$$\beta_{1j} = \gamma_{10} + \mu_{1j}X_{ij.} \tag{1.4}$$

Methods

The current study examines individual lifestyles in a context of structural opportunity at the country level. A goal of this research is to explore the proposed theoretical explanatory bridge between the two levels of analysis, in efforts to further the understanding of assault victimization on a cross-national scope. The multilevel nature of the data designates advanced statistical techniques are needed to appropriately manage the structure of the data (Rountree et al., 1994). The use of Hierarchical Linear Modeling techniques allows for the effect of country structure on individual level measures, and provides the appropriate tools needed to analyze cross-level interaction terms (Raudenbush & Bryk, 1992).Empirical research on non-lethal victimization is limited due to the lack of comparable data sources on an international scope. Comparative research based on sources of official data is problematic due to the different legal definitions and methods of recording crime across countries (Bjerregaard & Cochran, 2008). The problems of official data are avoided through the use of self-report survey data, but surveys are limited because countries do not distribute analogous surveys on victimization (see Tseloni et al., 2004 for an example).

Individual Level Data

The International Crime Victimization Survey (ICVS) and the European Survey on Crime and Safety (EU ICS) were designed specifically to overcome the existing methodological and definitional problems of comparative self-report surveys (van Kesteren, 2007; van Wilsem, 2004). The ICVS/EU ICS contain information on eleven types of victimization, daily activities, and background information of the respondents. The ICVS data was administered in five waves, starting in 1989, and is comprised of information for individuals in over sixty countries and regions. The last wave of ICVS data collection, conducted in 2005, was supplemented by the EU ICS. The sample size for each country in the ICVS/EU ICS ranges from 1,000 to 2,000 respondents per wave. Although conducted in several sweeps, the survey data is cross-sectional.

Methodological differences in field work are evident across developed and developing countries in the ICVS (van Wilsem, 2004). Specifically, the sample of respondents in developing nations is drawn from the population of the capital/main city, and the sample in developed nations is nationally representative. The EU ICS incorporates booster samples of respondents from the capital/main cities in developed nations in efforts to minimize the impact of the discrepancy. The ICVS/EU ICS data is the largest and most consistent cross-national source of comparable information available on non-lethal victimization. The current study limits the ICVS/EU ICS data to residents of capital/main cities in developed and developing countries, to improve comparability across all respondents. In efforts to provide the most recent results available, this study uses data from the 2000 and 2005 waves of the ICVS/EU ICS. The evaluation of information collected through two waves assures an adequate number of countries and respondents are integrated in the analyses. The sample includes a total of 53,792 respondents in forty-five developed and developing nations[1].

Dependent variable. The dependent variable is a dichotomous measure of assault victimization experienced by respondents in the past year (1=any victimization, 0=no victimization). The operationalization of the endogenous variable parallels existing empirical research on non-lethal forms of victimization (van Wilsem, 2004; van Wilsem et al., 2002, 2003). Assault is defined in the ICVS/EU ICS as "being threatened or personally attacked by someone in a way that really frightened you either at home or elsewhere, such as in a pub, in the street, at school, on public transport, on the beach, or at your workplace" (van Kesteren, Mayhew, & Nieuwbeerta, 2000, p. 140).

Independent variables. Empirical studies based on the ICVS/EU ICS data, and couched in a routine activities/lifestyles framework provide the guidelines for variable selection in the current research (Miethe et al., 1987; Tseloni & Farrell, 2002; Tseloni et al., 2004; van Wilsem et al., 2002, 2003). The measure of evening leisure activities features behaviors such as, going "to a pub, restaurant, cinema, or to see friends" (van Kesteren et al., 2000, p. 174). Respondents are asked to rank how often they go out for recreation on a five point scale; (1) never, (2) less, (3) once a month, (4) once a week, and (5) almost every day. The measure of whether respondents work or go to school is dummy coded; the reference category is composed of respondents who are retired, disabled, looking for work, keep home, and other. The dichotomous variable classifies respondents' activities as structured versus home centered or otherwise relatively unstructured.The living arrangement, age, and sex of the respondent are identified as lifestyle proxies (Hindelang et al., 1978). The respondents' living arrangement is a dichotomous variable, coded as 1=live alone and 0=married or living with someone as a couple. The live alone category consists of individuals who are single, divorced/separated, or a widow/widower. The sex variable is dummy coded, with females serving as the reference category. The age variable is continuous, and ranges from age 15 to age 102. A control variable for the year of the survey accounts for potential differences in the two waves of data (1=2000, 0=2005).

Structural Level Data: Independent Variables

The data for measures of structural opportunities are gathered from the 2005 wave of the World Bank data source. Country level measures of employment specify whether residents' activities are centered in the public or the private sphere. Countries with more females in the labor force have greater opportunity for individuals to converge in the same time and space, raising the risk of victimization (Anderson & Bennett, 1996; Tseloni & Farrell, 2002). The risk of victimization is lower in countries with a large percentage of the population unemployed, as the activities of these individuals are within, or proximate, to the household (Cohen & Land, 1987; Cohen et al., 1980; Land et al., 1990; Miethe et al., 1991).

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[1] Austria, Belgium, Denmark, England/Wales, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, Switzerland, Australia, United States, Albania, Croatia, Czech Republic, Georgia, Latvia, Romania, Russia, Turkey, Ukraine, Azerbaijan, Cambodia, Mongolia, Philippines, Republic of Korea, Argentina, Brazil, Colombia, Panama, Botswana, Mozambique, South Africa, Swaziland, Uganda, Zambia.

The current study defines female employment as the percentage of females (aged 15 and above) in the labor force; unemployment is operationalized as the percentage of individuals in the total labor force who are not currently working, but are able to work and who are seeking employment. Lifestyles theory highlights young males engage in activities that provide opportune situations for victimization to occur (Altheimer, 2008; Hansmann & Quigley, 1982; Hindelang et al., 1978; Krahn et al., 1986; Lee & Bankston, 1999). At the structural level of analysis, lifestyles theory indicates countries with a large proportion of young males in the population provide ideal opportunities for the convergence of offenders and targets. Population demographic characteristics are captured through structural measures of sex ratio and age structure. The sex ratio of the population is defined as the number of women per 100 men in the population; the age structure of a country's population is the percentage of the population aged 15 to 24. The last measure of structural opportunity is the percent of the total population in a country that is urban. Routine activities theory proposes victimization is likely to occur in urban areas, simply because there are more potential victims and offenders in this space (Felson, 1998; Lauritsen, 2001).

Control variables. The structural level control variables provide measures of strain and social control theories routinely identified as important in cross-national homicide research. As evidenced in research on lethal victimization, the Human Development Index (HDI) offers a more robust measure of the development level of a country than other potential indicators (Pratt & Godsey, 2002, 2003; Pridemore, 2008). The HDI is compiled by the World Health Organization and available through the United Nations Development Program. The HDI quantifies the level of social and economic development of a country through three components: education, life expectancy, and wealth. The values in the HDI range from 0 to 1, with values closer to one representing high levels of development; the data is from the year 2005. The level of relative and absolute deprivation in a country represents structural strain imposed on residents. The strain generated by society leads to enhanced frustration, often manifested through violent actions (Agnew, 1999; Blau & Blau, 1982). In efforts to maintain consistency with homicide studies, relative deprivation is operationalized as the ratio of the median incomes of the richest 20% to the poorest 20% of citizens in a country (Kim & Pridemore, 2005; Pratt & Godsey, 2002, 2003; Pridemore & Kim, 2007). Absolute deprivation represents the effect of prolonged poverty, and is captured through the country's infant mortality rate (Messner & Rosenfeld, 1997; Pridemore, 2005, 2008). The measures of deprivation are gathered from the year 2005 of the World Bank data source.

Homicide research has measured the inequality resulting from economic discrimination through indexes of fractionalization (Cole & Gramajo, 2009; Hansmann & Quiqley, 1982; Montalvo & Reynal-Querol, 2005). A fractionalization index measures the probability that two randomly selected individuals in a country will belong to the same group. The current study includes an index of ethnic fractionalization, and index of language fractionalization, and an index of religious fractionalization. The values for the indexes are gathered from research on inequality, conducted by Alesina et al. (2003). Each index ranges from 0 to 1, with numbers closer to one representing increased heterogeneity.

Results

The descriptive statistics for the individual level and structural level variables are presented in Tables 1 and 2, respectively. Tables 3 and 4 display the results from HLM on assault victimization. Table 3 explores the multivariate relationship between individual and structural measures of opportunity and victimization. The measures that maintain a significant relationship to assault are found in Table 4. Table 4 also includes cross-level interaction terms in the full model. The graphical representations of the interaction terms are depicted in Figures 1 and 2. As noted in Table 1, relatively few respondents report an experience of assault victimization within the year prior to the survey date (7%). The measures of daily routines indicate the majority of individuals are involved in activities that position them in the public sphere. About 61% of respondents convey they go out at least once a month or more for leisure activities. Over half of the respondents are routinely exposed to motivated offenders through active involvement in work/school activities (59%). The lifestyle indicators portray about 45% of the respondents live alone, the majority of respondents are female (57%), and the average age of the respondents in the analysis is 43 years.

Insert Table 1 about here

Table 2 represents the descriptive statistics for the structural level variables. Female involvement in the labor force across countries in the analysis ranges from 26% to 53%. The average score reveals females account for slightly less than half of the workforce across the forty-five countries (44%). The mean unemployment score is 9%, indicating a relatively low level of unemployment across nations. The unemployment measure ranges from 2% to over 31%, with only four countries scored as greater than 20%. Structural measures of the population demographics are captured by the sex ratio and the age structure of the country.

On average, the countries in the analysis are comprised of more females than males in the population (104:100), and juveniles and young adults make up less than one fifth of the population (16%). Residents of urban areas experience more opportunities for victimization; an average of 65% of the total population across the nations is urban. The urban population variable ranges from 13% to 97%. The score for most countries in the analysis demonstrate over 50% of the total population is urban. Countries in the African region comprise the high scores on the unemployment measure, and the low scores on the urbanization scale. Cole and Gramjo (2009) find socioeconomic variables are useful to explain the differences between regions, and provide a better explanation of regional differences than location or cultural indicators. Socioeconomic measures at the structural level of analysis include HDI, indexes of deprivation, and fractionalization. African countries do indeed have a lower score on the HDI scale and elevated rates of deprivation.

The average score on the HDI index is 0.83, indicating a relatively high level of development across the forty-five countries. The mean score of relative deprivation across countries is 8.41. This is relatively low on the scale of economic inequality, which ranges from 3.50 to 25.30. The scale for absolute deprivation, measured by infant mortality, ranges from 3 to 109. The average score across the forty-five nations is approximately 21. Economic discrimination is captured by fractionalization scales, each with a range from 0 to 1. The mean score of religious fractionalization (0.44) is greater than the average scores for ethnic (0.31) and language fractionalization (0.28). This suggests the presence of more religious groups in countries, as compared to ethnic and language groups (Montalvo & Reynal-Querol, 2005).

Insert Table 2 about here

Models 1 through 4 of Table 3 represent the results from a logistic regression style analysis of individual and structural measures of opportunity on assault victimization. The models encompass significant random effects for individual level variables; all other variables are fixed. The random effects found for going out for leisure activities, respondents' sex, and respondents' age signify these measures vary across the countries in the study. Model 1 of Table 3 presents the HLM results for routine activities/lifestyles variables on assault victimization. Models 2 through 4 are represented by an equation similar to that of Model 1, with additional structural level control variables. The notation for the multilevel random effects model of opportunity presented in Model 1 of Table 3 is:

$$\eta_{ij} = \gamma_{00} + \gamma_{01}(FEEMP) + \gamma_{02}(UNEMP) + \gamma_{03}(SRATIO) + \qquad (2)$$
$$\gamma_{04}(AGEST) + \gamma_{05}(URBAN) + \gamma_{10}(GOOUT) + \gamma_{20}(WKSCH) +$$
$$\gamma_{30}(LVALONE) + \gamma_{40}(MALE) + \gamma_{50}(AGE) + \gamma_{60}(Y2000) + \mu_{0j} +$$
$$\mu_{1j}(GOOUT) + \mu_{4j}(MALE) + \mu_{5j}(AGE).$$

The null model of the HLM equation for assault victimization is significant. This specifies significant residual variance across the country level of measurement, and indicates multilevel models are an appropriate method to employ in this research. The relationships of individual measures on assault, presented in Table 3, are in the direction proposed by routine activities/lifestyles theory. The odds ratios reported for the individual level variables remain relatively similar across each of the four models in Table 3. The links between activities/lifestyles and assault are not greatly influenced by the consideration of structural opportunity.Individuals' activities, captured by how often respondents go out in the evening for leisure, is positively related to victimization. A one unit increase in how often respondents go out for recreation results in an 8% increase in odds of assault. The significant effect of the demographic characteristics on assault emphasizes the role expectations associated with the lifestyle measures. The risk of victimization is raised for respondents who live alone (OR=1.30) or are male (OR=1.18). In support of lifestyles theory, older respondents are at a decreased risk of assault (OR=0.98).

Model 1 of Table 3 also considers measures of structural opportunity, and the results provide some support for the routine activities theoretical framework. The number of females involved in the labor force and the age structure of the population maintain a positive relationship with assault victimization. Respondents are likely to experience victimization if they live in countries with more females engaged in the labor force (OR=1.07), or countries characterized with a large percentage of young people in the population (OR=1.08). In line with contentions offered by opportunity theory, residents in countries with a high ratio of females to males in the population have a 3% decrease in odds of assault.

Models 2 through 4 of Table 3 incorporate the structural level control variables to the model. The measure of the development level of the country is added to the equation in Model 2. A one unit increase in the HDI results in a 7% increase in odds of victimization for country residents (Model 2, Table 3). When HDI is considered, the effect of population age structure on assault victimization loses significance, but the effects of female employment and sex ratio on assault remain consistent with the findings presented in Model 1.

The effect of HDI on victimization loses statistical significance with the inclusion of relative and absolute deprivation measures in the model (Model 3, Table 3). The country level of income inequality represents a better predictor of assault victimization than the sex ratio of the population. Respondents in countries with high levels of inequality have a 5% increase in odds of assault. The structural measure of female employment maintains a significant effect on victimization in Model 3. Model 4 of Table 3 includes the proxies for economic discrimination. The effects of the fractionalization indexes on assault do not reach statistical significance. The proportion of females in the workforce and economic inequality maintain significant effects on assault victimization in Model 4.

Insert Table 3 about here

Models 1 and 2 of Table 4 present the results of the full model, with the inclusion of cross-level interaction terms. In efforts to highlight the important effects of opportunity on assault victimization, Table 4 presents only the statistically significant results of the individual and structural level variables. Both of the models in Table 4 are represented by a similarly structured equation. The notation for equation including the interaction term of female employment and going out in the evening for leisure (Model 1) is:

$$\eta_{ij} = \gamma_{00} + \gamma_{01}(FEEMP) + \gamma_{02}(UNEMP) + \gamma_{03}(SRATIO) + \qquad (3)$$
$$\gamma_{04}(AGEST) + \gamma_{05}(URBAN) + \gamma_{10}(GOOUT) + \gamma_{20}(WKSCH) +$$
$$\gamma_{30}(LVALONE) + \gamma_{40}(MALE) + \gamma_{50}(AGE) + \gamma_{60}(Y2000) + \mu_{0j} +$$
$$\mu_{1j}(GOOUT) + \mu_{4j}(MALE) + \mu_{5j}(AGE) + \gamma_{11}(FEEMP)(GOOUT).$$

At the individual level of analysis, the lifestyles measures of live alone, male, and age maintain a significant effect on assault victimization (Table 4). The values of the odds ratios remain similar to the statistics presented in Table 3. The HLM results for the direct effects of individual daily activities on assault are presented in Table 4, because these variables comprise the interaction terms in Model 1 and Model 2. At the structural level of analysis, the findings show an escalated risk of victimization for respondents in countries characterized by economic inequality (OR=1.04).

Insert Table 4 about here

Significant cross-level interaction terms indicate variation in the effect of individual routines on assault across countries in the analysis. The findings illustrate the percentage of females in the workforce moderate the relationship between how often respondents go out for leisure and victimization (Model 1, Table 4). In addition, the effect of individual involvement in work/school on assault victimization is moderated by country level unemployment (Model 2, Table 4). Graphical depictions of the cross-level interactions are displayed in Figures 1 and 2. The log odds of assault victimization are represented on the y-axis; structural opportunity is graphed on the x-axis at the mean (labeled 0), one standard deviation below the mean (labeled -1), and one standard deviation above the mean (labeled 1).

Insert Figure 1 about here

Figure 1 represents the interaction effect of female employment and going out for leisure activities on victimization. Regardless of the level of female employment, individuals who go out almost every evening are at a higher risk of assault than those who never go out. The risk of assault victimization is elevated for individuals who go out daily for recreation in countries characterized by a large number of females in the workforce. Respondents who never go out for leisure and reside in countries with low female labor force participation are at the lowest risk of victimization. The difference in risk of assault victimization between individuals who go out every day and those who never go out is greater in countries with above average female employment, than in countries with levels of female employment below the mean.

The cross-level interaction between unemployment and work/school is assessed in Model 2 of Table 4. Individual level work/school routines have a statistically significant direct effect on assault victimization. Individuals who work/school have a 20% increase in odds of assault when there is no unemployment at the country level. Moreover, respondents who go out regularly for leisure activities experience an amplified risk of victimization (OR=1.09). At the structural level of analysis, economic inequality and female employment maintain direct effects on assault (OR=1.04 and OR=1.07, respectively).

Insert Figure 2 about here

The graphical illustration of the unemployment and work/school interaction term is displayed in Figure 2. In countries with low levels of unemployment, respondents who work/school have a much higher risk of victimization than individuals who do not work/school. The risk of assault decreases for respondents across all countries as the level of unemployment rises. The difference in victimization risk between individuals who work/school and those who do not decreases in countries with a mean level of unemployment.

At one standard deviation above the mean unemployment level, respondents who work/school have a lower risk of victimization than those who do not work/school.

Conclusions

Routine activities/lifestyles theory expresses a multilevel approach of opportunity is appropriate to assess the risk of victimization (Cohen & Felson, 1979; Hindelang et al., 1978). Additionally, Cohen and Felson (1979) specify cross-level interaction terms provide an explanatory bridge between individuals' activities and structural context. The theory provides an ideal framework to explore cross-national data on victimization. The current study analyzes assault victimization using nested data for respondents in forty-five developed and developing countries. Cross-level interaction terms emphasize the moderating influence of country structure on individual activities in relation to victimization experience.

The findings indicate individual level activities contribute to the risk of assault victimization. Going out for leisure activities maintains a direct effect on assault, even when elements of country structure are considered. The activities of individuals who go out frequently for recreation are largely unstructured, and take place in the public sphere. The risk of victimization is intensified for persons whose daily routines expose them to situations favorable to the convergence of victims and offenders (Cohen & Felson, 1979). While going out in the evening is related to assault victimization, the link between work/school and assault does not reach statistical significance. This implies the time of day may also impact the opportunities available for victimization (Lynch, 1987). Furthermore, the results present young males who live alone are at greatest risk for assault, as these persons are more likely than older females to engage in independent activities in the public sphere. Young males are presented as suitable targets, exposed to motivated offenders, and suffer from a lack of guardianship. The absence of a capable guardian is also evident for individuals who live alone (Hindelang et al., 1978).

The multilevel analysis of assault victimization emphasizes the role of structural opportunity. Residents in countries with a large percentage of females in the labor force experience assault as they traverse the public domain to pursue their wants and needs. The circulation of residents outside of the home provides greater opportunities for targets and offenders to converge (Cohen & Felson, 1979; Felson & Cohen, 1980). The proportion of females in the workforce is a strong predictor of violent victimization; the relationship maintains a positive effect on assault when other structural measures are considered. Relative deprivation is also a strong indicator of victimization. Residents in countries with high levels of economic inequality experience strain as a result of blocked opportunities. These individuals express feelings of frustration through violent behaviors and contribute to an enlarged pool of motivated offenders (Agnew, 1999; Blau & Blau, 1982; Hansmann & Quiqley, 1982; Krahn et al., 1986). The direct effects of individual and structural opportunity on assault reported in the current study highlight the utility of a multilevel assessment of non-lethal victimization. The results also provide some support for the contextual variation of individual routines, as proposed by Cohen and Felson (1979). There is a moderating effect of employment measures at the country level on the relationship between individual routines and assault victimization. More specifically, the percentage of females in the labor force moderates the effect of going out for leisure on assault victimization.

Residents in countries with a high level of female employment are guided into the public domain as a part of their daily routines. The opportunity for targets and offenders to converge is amplified for individuals involved in recreational activities on a daily basis (Cohen & Felson, 1979). Respondents who go out often for leisure in countries with a low level of female employment are offered some protection against victimization. These nations are characterized by limited movement in the public domain and heightened levels of guardianship, which results from the location of more females in the private sphere. Individuals residing in countries with a low percentage of female employment are further protected if they do not engage in leisure activities. Time spent in the private sphere protects respondents from interaction with the pool of motivated offenders (Cohen & Felson, 1979; Felson & Cohen, 1980).

The effect of work/school on assault victimization is revealed through the cross-level interaction term that incorporates country unemployment. Miethe et al. (1987) propose persons who work/school are prime targets for victimization, because they leave and return home at approximately the same time every day. The risk of victimization is compounded for residents who work/school in countries with low levels of unemployment; a significant number of individuals regularly inhabit the public sphere (Cohen et al., 1980; Felson & Cohen, 1980). The daily activity of work/school actually protects respondents from victimization in countries with elevated unemployment. In these nations, the pool of motivated offenders is not located in the public sphere, but is created by the concentration of unstructured activities in the private sphere. The routines of individuals who work/school lead them away from potential offenders, decreasing the risk of victimization.

In contrast, respondents who do not work/school are exposed to the pool of offenders through their engagement in unstructured, home centered activities (Cohen & Land, 1987; Cohen et al., 1980; Land et al., 1990; Miethe et al., 1987; Miethe et al., 1991). Felson (1998) suggests policy enacted to decrease victimization needs to concentrate on changes in individuals' behavior and situational prevention measures. For example, respondents who work/school in countries with low levels of unemployment experience a greater risk of victimization than those residing in countries with high unemployment rates. Policies in countries with low unemployment rates would benefit from an assessment of routine behavior changes and proposed avenues to effectively decrease exposure to motivated offenders. Preventative measures should consider the role individual activities/lifestyles and structural opportunities play in assault victimization. Importantly, policies need to recognize individual routines/lifestyles are not independent of contextual factors (Felson, 1998).

Limitations and Future Research

The ICVS/EU ICS data offers the most comprehensive cross-national self-report victimization information currently available; however, several limitations in the current research must be recognized. First, the sample was constrained to residents of the capital/main cities in each country to enhance comparability across developed and developing nations. This restriction of the data reduces the generalizeability of the results. Second, the dependent variable is a dichotomous measure of one type of violent victimization. The measure does not capture repeat victimization or the location of the attack, limiting the detailed understanding of opportunities surrounding victimization. A basic limitation of self-report surveys is the failure of respondents to report an incident of victimization that has occurred in the time frame allocated in the survey. Additionally, individuals who have been victimized are more likely to complete a survey based on victimization experiences. These practices reveal a potential over or underestimation of victimization in the data; however, Cruszczynska (2002) indicates the accuracy of the ICVS data is not affected by the telescoping or forgetting effect. Cross-national research in general is limited by the different cultural interpretations employed by respondents. The ICVS/EU ICS data addresses this constraint by using consistent wording of the survey questions across all countries. Dominant cultural influences are also evident in the variable selection and meaning attributed to measures of structural opportunity, as the majority of existing studies are based on developed countries. Structural measures that adequately reflect opportunity across all levels of country development need to be explored; however, these elements have yet to be clearly defined in empirical research.

References

Agnew, R. (1999). A general strain theory of community differences in crime rates. *Journal of Research in Crime and Delinquency*, 36, 123-155.

Alesina, A., Devleeschauwer, A., Easterly, W., Kurlat, S. & Wacziarg, R. (2003). Fractionalization. *Journal of Economic Growth*, 8, 155-194.

Altheimer, I. (2007). Assessing the relevance of ethnic heterogeneity as a predictor of homicide at the cross-national level. *International Journal of Comparative and Applied Criminal Justice*, 31, 1-20.

Altheimer, I. (2008). Social support, ethnic heterogeneity, and homicide: A cross-national approach. *Journal of Criminal Justice*, 36, 103-114.

Anderson, T. L. & Bennett, R. R. (1996). Development, gender, and crime: The scope of the routine activities approach. *Justice Quarterly*, 13, 31-56.

Avison, W. R. & Loring, P. L. (1986). Population diversity and cross-national homicide: The effects of inequality and heterogeneity. *Criminology*, 24, 733-749.

Bennett, R. R. (1991). Routine activities: A cross-national assessment of a criminological perspective. *Social Forces,* 70, 147-163.

Bjerregaard, B. & Cochran, J. K. (2008). Want amid plenty: Developing and testing a cross-national measure of anomie. *International Journal of Conflict and Violence*, 2, 182-193.

Blau, J. R. & Blau, P. M. (1982). The cost of inequality: Metropolitan structure and violent crime. *American Sociological Review*, 47, 114-129.

Bouten, E., Goudriaan, H., & Nieuwbeerta, P. (2002). *Criminal victimization in seventeen industrialized countries*. In Nieuwbeerta, P. (Ed.), *Crime victimization in comparative perspective* (pp. 13-28). Dan Haag: Boom Juridische uitgevers.

Cao, L. & Maume Jr., D. J. (1993). Urbanization, inequality, lifestyles and robbery: A comprehensive model. *Sociological Focus*, 36, 11-26.

Cohen, L. E. & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review,* 44, 588-608.

Cohen, L. E. & Land, K. C. (1987). *Sociological positivism and the explanation of criminality*. In Gottfredson, M. & Hirschi, T. (Eds.), *Positive Criminology* (pp. 43-58). Sage Publications.

Cohen, L. E., Felson, M., & Land, K. C. (1980). Property crime rates in the United States: A macrodynamic analysis, 1947-1977; with ex ante forecasts for the mid-1980s. *The American Journal of Sociology*, 86, 90-118.

Cohen, L. E., Klugel, J. R., & Land, K. C. (1981). Social inequality and predatory criminal victimization: An exposition and test of a formal theory. *American Sociological Review*, 46, 505-524.

Cole, J. H. & Gramajo, A. M. (2009). Homicide rates in a cross-section of countries: Evidence and interpretations. *Population and Development Review*, 35, 749-776.

Cruszczynska, B. (2002). *Cross-national perspective of violent victimization risk*. In Nieuwbeerta, P. (Ed.), *Crime victimization in comparative perspective* (pp. 213-226). Dan Haag: Boom Juridische uitgevers.

DeFronzo, J., Ditta, A., Hannon, L., & Prochnow, J. (2007). Male serial homicide: The influence of cultural and structural variables. *Homicide Studies*, 11, 3-14.

Felson, M. (1998). *Crime and everyday life*. 2nd Edition. Thousand Oaks: Pine Forge Press.

Felson, M. & Cohen, L. (1980). Human ecology and crime: A routine activities approach. *Human Ecology,* 8, 389-406.

Hansmann, H. B. & Quigley, J. M. (1982). Population heterogeneity and the sociogenesis of homicide. *Social Forces*, 61, 206-224.

Hawley, A. (1950). *Human ecology: A theory of community structure*. New York: Ronald Press.

Hindelang, M. J., Gottfredson, M. R., & Garofalo, J. (1978). *Victims of personal crime: An empirical foundation for a theory of personal victimization*. Cambridge, MA: Ballinger Publishing Company.

Hsieh, C. & Pugh, M. D. (1993). Poverty, income inequality, and violent crime: A meta-analysis. *Criminal Justice Review,* 18, 182-202.

Kim, S. & Pridemore, W. A. (2005). Poverty, socioeconomic change, institutional anomie, and homicide. *Social Science Quarterly,* 86, 1377-1398.

Krahn, H., Hartnagel, T. F., & Gartrell, J. W. (1986). Income inequality and homicide rates: Cross-national data and criminological theories. *Criminology*, 24, 269-295.

Land, K. C., McCall, P. L. & Cohen, L. E. (1990). Structural covariates of homicide rates: Are there any invariances across time and social space? *American Journal of Sociology*, 95, 922-963.

Lauritsen, J. L. (2001). The social ecology of violent victimization: Individual and contextual effects in the NCVS. *Journal of Quantitative Criminology*, 17, 3-32.

Lee, M. R. (2000). Community cohesion and violent predatory victimization: A theoretical extension and cross-national test of opportunity theory. *Social Forces,* 79, 683-688.

Lee, M. R. (2001). Population growth, economic inequality, and homicide. *Deviant Behavior*, 22, 491-516.

Lee, M. R. & Bankston, W. B. (1999). Political structure, economic inequality, and homicide: A cross-national analysis" *Deviant Behavior*, 19, 27-55.

Levi, K. (1982). Homicide and suicide: Structure and process. *Deviant Behavior*, 3, 91-115.

Lynch, J. P. (1987). Routine activity and victimization at work. *Journal of Quantitative Criminology*, 3, 283-300.

Meier, R. F. & Miethe, T. D. (1993). Understanding theories of criminal victimization. *Crime and Justice*, 17,459-499.

Messner, S. F. & Rosenfeld, R. (1997). Political restraint of the market of levels of criminal homicide: A cross-national application of institutional-anomie theory. *Social Forces,* 75, 1393-1416.

Messner, S. F. & Sampson, R. J. (1991). The sex ratio, family disruption, and rates of violent crime: The paradox of demographic structure. *Social Forces*, 69, 693-713.

Miethe, T. D. & McDowall, D. (1993). Contextual effects in models of criminal victimization. *Social Forces*, 71,741-759.

Miethe, T. D. & Meier, R. F. (1990). Opportunity, choice, and criminal victimization: A test of a theoretical model. *Journal of Research in Crime and Delinquency,* 27, 243-266.

Miethe, T. D., Stafford, M. C., & Long, J. S. (1987). Social differentiation in criminal victimization: A test of routine activities/lifestyle theories. *American Sociological Review,* 52, 184-194.

Miethe, T. D., Hughes, M., & McDowall, D. (1991). Social change and crime rates: An evaluation of alternative theoretical approaches. *Social Forces*, 70, 165-185.

Montalvo, J. G. & Reynal-Querol, M. (2005). Ethnic diversity and economic development. *Journal of Development Economics*, 76, 293-323.

Ortega, S. T., Corzine, J., Burnett, C., & Poyer, T. (1992). Modernization, age structure, and regional context: A cross-national study of crime. *Sociological Spectrum*, 12, 257-277.

Pratt, T. C. & Godsey, T. W. (2002). Social support and homicide: A cross-national test of an emerging criminological theory. *Journal of Criminal Justice,* 30, 589-601.

Pratt, T. C. & Godsey, T. W. (2003). Social support, inequality, and homicide: A cross-national test of an integrated theoretical model. *Criminology,* 41, 611-644.

Pridemore, W. A. (2002). What we know about social structure and homicide: A review of the theoretical and empirical literature. *Violence and Victims*, 17, 127-156.

Pridemore, W. A. (2005). Social structure and homicide in post-Soviet Russia. *Social Science Research*, 34, 732-756.

Pridemore, W. A. (2008). A methodological addition to the cross-national empirical literature on social structure and homicide: A first test of the poverty-homicide thesis. *Criminology,* 46, 133-154.

Pridemore, W. A. & Kim, S. (2007). Democratization and political change as threats to collective sentiments: Testing Durkheim in Russia. *The ANNALS of the American Academy of Political and Social Science, 605*, 82-103.

Raudenbush, S. W. & Bryk, A. S. (1992). *Hierarchical linear models: Applications and data analysis methods*. Thousand Oaks, London, New Delhi: SAGE Publications.

Rountree, P. W., Land, K. C., & Miethe, T. D. (1994). Macro-micro integration in the study of victimization: A hierarchical logistic model analysis across Seattle neighborhoods. *Criminology*, 32,387-414.

Sampson, R. J. & Lauritsen, J. L. (1994). *Violent victimization and offending: Individual-, situational-, and community-level risk factors*. In Albert, J. R. & Jeffrey Jr., A. R. (Eds.), *Understanding and preventing violence: Social and psychological perspectives on violence*, Volume 3 (pp 1-114). Washington, DC: National Academy Press.

Stamatel, J. P. (2009). Correlates of national-level homicide variation in post-communist east-central Europe. *Social Forces*, 87, 1423-1448.

Stein, R. E. (2010). The utility of country structure: A cross-national multilevel analysis of property and violent victimization. *International Criminal Justice Review*, 20, 35-55.

Tseloni, A. & Farrell, G. (2002). *Burglary victimization across Europe: The roles of prior victimization, micro- and macro-level routine activities*. In Nieuwbeerta, P. (Ed.), *Crime victimization in comparative perspective* (pp. 141-162). Dan Haag: Boom Juridische uitgevers.

Tseloni, A., Wittebrood, K., Farrell, G., & Pease, K. (2004). Burglary victimization in England and Wales, the United States and the Netherlands. *British Journal of Criminology, 44*, 66-91.

Uludag, S., Colvin, M., Hussey, D., & Eng, A. L. (2009). Democracy, inequality, modernization, routine activities, and international variations in personal crime victimization. *International Criminal Justice Review*, 19, 265-286.

Unnithan, N. P. & Whitt, H. P. (1992). Inequality, economic development, and lethal violence: A cross-national analysis of suicide and homicide. *International Journal of Comparative Sociology*, 33, 182-196.

van Kesteren, J. N. (2007). Integrated database from the international crime victims survey (ICVS) 1989-2005, codebook and data. Tilburg, INTERVICT.

van Kesteren, J., Mayhew, P., & Nieuwbeerta, P. (2000). *Criminal victimisation in seventeen industrialised countries*. Wetenschappelijk Onderzoek- en Documentatiecentrum.

van Wilsem, J. (2004). Criminal victimization in cross-national perspective. *European Journal of Criminology, 1*, 89-109.

van Wilsem, J., de Graaf, N. D., & Wittebrood, K. (2002). *Variations in cross-national victimization: The impact of composition and context*. In P. Nieuwbeerta (Ed.), *Crime victimization in comparative perspective* (pp. 119-140). Dan Haag: Boom Juridische uitgevers.

van Wilsem, J., de Graaf, N. D., & Wittebrood, K. (2003). Cross-national differences in victimization: Disentangling the impact of composition and context. *European Sociological Review, 19*, 125-142.

Vieraitis, L. M. (2000). Income inequality, poverty, and violent crime: A review of the empirical evidence. *Social Pathology: A Journal of Reviews, 6*, 24-45.

Wilcox, P., Land, K. C., & Hunt, S. A. (2003). *Criminal circumstance: A dynamic multicontextual criminal opportunity theory*. Hawthorne, NY: Aldine de Gruyter.

Table 1. Individual Level Descriptive Statistics (N=53792)

	Mean	(SD)	Min.	Max.
Dependent Variable				
Assault	0.07	(0.25)	0	1
Independent Variables				
Go Out	Category			%
	Never			17.3
	Less Often			21.3
	Once a Month			18.2
	Once a Week			30.6
	Almost Every Day			12.6
	Mean	(SD)	Min.	Max.
Work/School	0.59	(0.49)	0	1
Live Alone	0.45	(0.50)	0	1
Male	0.43	(0.50)	0	1
Age	42.99	(17.90)	15	102
2000	0.53	(0.50)	0	1

Table 2. Structural Level Descriptive Statistics (N=45)

	Mean	(SD)	Min.	Max.
Independent Variables				
Female Employment	44.33	(4.48)	25.60	52.48
Percent Unemployed	9.03	(6.08)	2.20	31.59
Female/Male Ratio	104.32	(4.35)	98.20	117.20
Age Structure	15.81	(3.80)	10.30	23.60
Percent Urban Population	65.48	(18.94)	12.50	97.30
Control Variables				
Human Development Index	0.83	(0.15)	0.39	0.97
Economic Inequality	8.41	(5.68)	3.50	25.30
Infant Mortality	20.73	(26.78)	3.00	109.00
Ethnic Fractionalization	0.31	(0.23)	0.00	0.93
Language Fractionalization	0.28	(0.27)	0.00	0.92
Religious Fractionalization	0.44	(0.23)	0.00	0.86

Table 3. Results from HLM on Assault Victimization

	Model 1	Model 2	Model 3	Model 4
	OR	OR	OR	OR
Intercept	0.04 *	1.06	0.04	0.08
Individual Level Variables				
Go Out	1.08 ***	1.08 ***	1.10 ***	1.09 ***
Work/School	1.03	1.04	1.04	1.04
Live Alone	1.30 ***	1.30 ***	1.30 ***	1.30 ***
Male	1.18 ***	1.19 ***	1.18 ***	1.18 ***
Age	0.98 ***	0.98 ***	0.98 ***	0.98 ***
Year 2000	0.72	0.72	0.76	0.65
Structural Level Variables				
Female Employment	1.07 **	1.06 **	1.07 **	1.07 **
Percent Unemployed	0.99	0.99	0.99	0.98
Female/Male Ratio	0.97 *	0.97 *	0.98	0.97
Age Structure	1.08 **	1.01	0.99	1.03
Percent Urban Population	0.99	1.00	1.00	1.00
Human Development Index		0.07 ***	0.90	0.54
Economic Inequality			1.05 **	1.04 *
Infant Mortality			1.01	1.00
Ethnic Fractionalization				1.59
Language Fractionalization				0.60
Religious Fractionalization				1.65
Variance components				
μ_0	0.643 ***	0.739 ***	0.662 ***	0.641 ***
μ_1	0.009 *	0.009 *	0.008 *	0.008 *
μ_4	0.032 *	0.032 *	0.032 *	0.031 *
μ_5	0.000 ***	0.000 ***	0.000 ***	0.000 ***

***p<.001, **p<.01, *p<.05

Table 4. Cross-Level Interactions for Assault Victimization

	Model 1	Model 2
	OR	OR
Intercept	0.30	0.07
Individual Level Variables		
Go Out	0.78	1.09 ***
Work/School	1.04	1.20 ***
Structural Level Variables		
Female Employment	1.05	1.07 **
Percent Unemployed	0.98	0.99
Economic Inequality	1.04 *	1.04 *
Cross-Level Interactions		
Female Employment X Go Out	1.01 *	
Unemployment X Work/School		0.99 ***
Variance components		
μ_0	0.564 ***	0.616 ***
μ_1	0.007 *	0.008 *
μ_4	0.032 *	0.033 *
μ_5	0.000 ***	0.000 ***

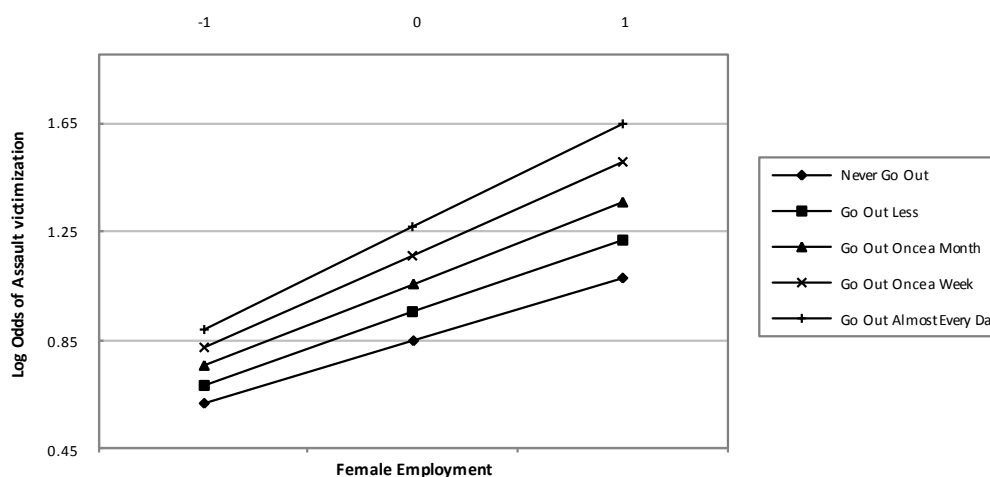***$p<.001$, **$p<.01$, *$p<.05$

Figure 1. Female Employment X Go Out Interaction Term

Figure 2. Unemployment X Work/School Interaction Term