

## ABSTRACT

THAMES, KELLY MICHELLE. An Elaboration and Reformulation of Social Support Theories of Crime: Conditioned Social Support Theory. (Under the direction of Patricia L. McCall).

Introduced by Cullen (1994) as an organizing concept for the field of criminology, social support theory predicts a negative relationship between social supports and crime. While extant criminological research offers evidence of social support's dampening effect on crime, there is some cross-national evidence to suggest that social support does not work to prevent crime in all contexts—for instance, the post-communist context—highlighting the need to elaborate the theory in an effort to enhance its explanatory power. The present project integrates elements of social justice theories to elaborate the social support paradigm in an effort to account for these empirical discrepancies. This paradigm is also examined to assess social support's positive influence on prosocial behaviors. The resultant theoretical elaboration, conditioned social support theory (from here, CSST), proposes that the negative effect of social support on crime is moderated by the perceptions of support recipients concerning the source(s) of social support and the conditions surrounding its receipt. These perceptions are also proposed to moderate the positive association of social support with prosocial behaviors. In addition to a presentation of CSST, the present project offers a cross-national test of CSST across a sample of European regions, using data supplied by Eurostat and by the 2008 European Values Study. Results of random effects regression analyses offer mixed support for CSST. While social support is not directly related to either crime or prosocial behavior in the theoretically predicted directions, the perceptions of the source of support and perceptions of the conditions under which it is received are found to moderate the effect of social support on crime and prosocial behavior; however, the moderating

influences of these perception measures are found to vary across sociopolitical contexts.

Finally, based on the results presented herein, directions for future research are discussed.

An Elaboration and Reformulation of Social Support Theories of Crime: Conditioned Social Support Theory

by  
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## **DEDICATION**

To my grandparents,

Wilford and Sue Thames and the late Bill and Mary Woodard

## **BIOGRAPHY**

Kelly M. Thames was born in Raleigh, North Carolina, and raised in nearby Cary. In 2006, she earned a Bachelor of Arts degree in criminology (*summa cum laude*) at North Carolina State University. She began her graduate studies at NCSU in 2008 and earned a Master of Science in Sociology degree in October 2010 under the direction of Dr. Patricia L. McCall. Kelly taught a number of sociology and criminology courses at NCSU while pursuing a Doctor of Philosophy degree in Sociology. Starting in Fall 2015, Kelly will be an assistant professor of sociology at Appalachian State University.

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## CHAPTER 1. INTRODUCTION

### 1.1. Prologue

Among the social-structural explanations of crime, perhaps the most often cited forces are those of the economy. From the classic theories of Durkheim (1897), the scholars of the Chicago School (Park, Burgess, and McKenzie 1925; Shaw and McKay 1942), and Merton (1938) to the more contemporary macrostructural and institutional anomie theories (Blau and Blau 1982; Messner and Rosenfeld 1997), economic forces are hypothesized to explain criminal offending at both the individual and the aggregate level. A common element of these economically founded theories is the hypothesized relationship between poor economic conditions and crime (Fowles and Merva 1996). A vast body of empirical studies has documented the deleterious effects of poor economic conditions—generally conceptualized as absolute and/or relative deprivation—on rates of crime, both in the United States and cross-nationally (Antonaccio and Tittle 2007; LaFree 1999; McCall, Land, and Parker 2010; Messner and Rosenfeld 1997; Messner, Raffalovich, and Sutton 2010; Ousey 2000; Pridemore 2008, 2011).

Scholars have also drawn from this same theoretical tradition in developing theories whose concepts are hypothesized to buffer the harmful effects of economic deprivation on crime rates. Introduced by Cullen (1994), social support theory is one such theoretical paradigm. The concept of social support underlies a number of contemporary criminological theories including institutional anomie (Messner and Rosenfeld 1994), collective efficacy (Sampson, Raudenbush, and Earls 1997), and general strain theory (Agnew 1992), but Cullen

offers a precise interpretation of the concept and of the foundational assumptions of these theories. Although many theories following this tradition assume that social support works to alleviate crime, Cullen makes this assumption explicit. Simply stated, Cullen argues that social support—in any form—reduces crime rates for both aggregates and individuals.

Following the publication of Cullen's theory, Colvin, Cullen, and Vander Ven (2002) offered a revision in the form of an integration of social support with the concept of coercion. Colvin et al. suggest that coercion—*anxiety-inducing forces that are hypothesized to cause crime*—is the theoretical inverse of social support and argue that both social support and coercion can be delivered on either erratic or consistent schedules. Colvin et al. (2002) also work to more precisely specify the social-psychological mechanisms through which social support and coercion are predicted to impact criminal behavior.

Although few direct tests of Colvin et al.'s (2002) differential social support and coercion theory exist, an assessment of empirical examinations of Cullen's (1994) social support theory—which largely consist of cross-national tests of the theory in Western-style democratic states—reveals that the theory and its underlying concepts have enjoyed generally consistent support. Nevertheless, the investigation of social support in the post-communist context (Antonaccio, Tittle, Brauer, and Islam 2015; Kim and Pridemore 2005), within which social support is found to be unrelated to crime, raises the question of whether the context in which social support is delivered (including the immediate circumstances surrounding the support recipient and the perceptions of the source of social support as held by the recipient) conditions social support's crime-reducing potential.

Accordingly, the present project aims to address the potential conditioning effects of the perceptions held by social support recipients on the effectiveness of social support in reducing crime. The resultant analysis yields an elaboration and reformulation of social support theories that incorporates insights gained through research associated with theories of distributive social justice. A newly formulated theoretical model is elaborated on and the implications of this model are discussed. Finally, an empirical test of the theory's unique contributions to the paradigm is presented.

### **1.2. Cullen's Social Support Theory**

Social support theory was proposed by Francis T. Cullen (1994) as a theoretical paradigm capable of organizing theory and research in the field of criminology. Cullen argues that, although often neglected by criminologists, the concept of *social support* has implicitly informed criminological theory since the early 20th century. Cullen draws his ideas primarily from the work of the scholars of the Chicago School, who emphasized that "organized networks of human relations can assist people in meeting both expressive and instrumental needs" (Colvin, Cullen, and Vander Ven 2000:24). While these traditional criminological theories tend to focus on the deleterious effects of the breakdown of human relations networks (in other words, the negative phenomena that cause crime), Cullen shifts his focus to the forces that work to maintain and even strengthen these networks (the positive phenomena that work to prevent crime). Cullen conceptualizes these positive phenomena as social support and argues that social support can explain variation in levels of social control, individual involvement in crime, and aggregate crime rates (Cullen 1994; Pratt and Godsey

2003). Specifically, Cullen hypothesizes that social support is negatively related to crime (Cullen 1994).

Drawing from extant analyses of the concept (House 1981; Lin, Dumin, and Woelfel 1986; Vaux 1988), Cullen (1994) defines social support as “the perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners” (Lin et al. 1986:18). As Cullen explains, this definition describes three major dimensions of social support. First, the objective delivery of social support must be distinguished from the recipient’s subjective perception of social support. That is, social support is not mechanically received—individuals “interpret, appraise, and anticipate it in the context of social situations” (Cullen 1994: 530; also see Matsueda 1992). Second, social support is also described as being of an expressive and/or an instrumental nature. According to Lin et al., instrumental social support entails using a relationship as a means to an end (or goal) “such as seeking a job, getting a loan, or finding someone to babysit” (1986:20). Instrumental social support also includes other types of assistance such as “material and financial assistance and the giving of advice, guidance, and connections for positive social advancement in legitimate society” (Colvin et al. 2002:24). Alternatively, expressive social support can take the form of a relationship that is an end in itself as well as a means to an end. Expressive social support “is the activity of sharing sentiments, ventilating frustrations, reaching an understanding on issues and problems, and affirming one’s own as well as the other’s dignity” (Lin et al. 1986:20). Expressive social support, then, is related to an

individual's emotional well-being while instrumental social support is focused on the material and financial well-being of an individual.

Third, Cullen's definition indicates that social support can exist at multiple levels of society. Cullen (1994) distinguishes between micro- and macro-level social supports. Micro-level social support can come from a variety of social relationships, including family and friendship relationships—a spouse, parent, child, neighbor, or a close friend can provide social support. Intimate relationships can provide both instrumental supports such as financial support/advice and expressive supports such as companionship. Macro-level support originates from social networks, communities, and/or larger ecological units (Cullen 1994). Macro-level social support, for instance, can include expressive supports received through networks and communities such as support groups or clubs created around common interests. Macro-level supports can also include instrumental supports received through private organizations and/or the government, for example, welfare payments or complimentary financial advising.

Cullen (1994) expands on Lin's definition of social support by delineating a fourth dimension of the concept: formal vs. informal delivery. Informal delivery of social support occurs through relationships with individuals not affiliated with any state/official agency. Formal social support is delivered through formal organizations such as schools, government welfare programs, and even the criminal justice system. Again, these formal and informal delivery systems can provide an individual with both expressive and instrumental supports.

At the crux of Cullen's (1994) thesis is the hypothesis that, regardless of form, social support is negatively related to criminal behavior—a relationship that can be demonstrated at both the individual and the macro level. As Cullen explains, "Whether social support is delivered through government social programs, communities, social networks, families, interpersonal relations, or agents of the criminal justice system, it reduces criminal involvement" (1994:527). Cullen expounds on this thesis in a series of 14 propositions (presented in Appendix A). Through these propositions, Cullen outlines the various mechanisms through which social support might reduce criminal involvement, including reducing criminogenic strains (also see Cullen and Wright 1997), fostering effective parenting and nurturing strong family units, supplying both the human and social capital required to desist from crime, creating opportunities for prosocial modeling, strengthening efforts at informal and formal social control, and reducing opportunities for victimization.

### **1.3. Mechanisms Explained: Differential Social Support and Coercion Theory**

Cullen (1994) acknowledges that his propositions provide only a vague account of the nature of the mechanisms through which social support protects against criminal behavior, leaving a more precise delineation of those mechanisms to the knowledge gained through future research. Accordingly, through their extension of the social support paradigm, Colvin, Cullen, and Vander Ven (2002) present that more precise delineation of those mechanisms. Colvin et al. (2002) offer a model of differential social support, making clear that the effect of social support varies depending on whether it is delivered on a consistent or an erratic basis. With these varying schedules of delivery come varying social-psychological outcomes.

Figure 1 provides a graphic representation of Colvin et al.'s (2002) explanation of the mechanisms through which social support reduces crime. It illustrates that although social support delivered on an erratic basis is hypothesized to lead to moderate levels of anger, low levels of self-control, and only moderately intense social bonds, social support delivered on a consistent basis leads to low levels of anger, high levels of internalized self-control, and strong moral as well as social bonds. In other words, varying schedules of delivery of social support result in varying levels of social bonds and deviance/criminal behavior. These positive social-psychological responses to consistent social support are hypothesized to lead to high levels of prosocial behavior, minimal criminal involvement, and minimal mental health problems. Consistently delivered social support, then, works to minimize criminal behavior because it “creates compliance” through the meeting of individuals’ expressive and instrumental needs (Colvin et al. 2002:28).

Along with a more detailed explanation of the effects of social support on criminal offending, Colvin et al. (2002) also suggest an integration of social support and coercion theories. The authors argue that coercion—which is defined as “a force that compels or intimidates an individual to act because of the fear or anxiety it creates” (and is, therefore, positively related to criminal behavior)—and social support are complimentary social forces whose interplay provides the foundation for their integration (Colvin et al. 2002:20). Colvin et al.'s (2002) resultant differential social support and coercion theory of crime hypothesizes that the experience of differential levels of social support and coercion, delivered on either a consistent or erratic basis, explain crime at both the macro and micro levels.

More specifically, drawing on the work of, among others, Patterson (1982, 1990, 1995), Moffitt (1997), Colvin and Pauly (1983), Hirschi (1969), and Agnew (1985, 1992), Colvin et al. (2002) illustrate the theme of coercion as it has emerged within the control and strain theory traditions. Colvin et al. explain that coercion—which is theorized to exist alongside social support as an inversely related phenomenon and, like social support, can emerge from both impersonal and interpersonal sources—is closely related to the development of weak, alienated social bonds and the experience of strain. Also like social support, depending on the schedule of delivery, coercion is theorized to result in a variety of negative social-psychological outcomes, which, in turn, lead the individual to varied levels of criminal offending. Figure 2 expounds on Figure 1 and represents the causal mechanisms involved in the relationships between social support, coercion, and criminal behavior. As Figure 2 illustrates, erratically delivered coercion is hypothesized to lead to strong levels of other-directed anger, low levels of self-control, and weak social bonds, which create a propensity toward chronic, predatory criminal behavior. Consistently delivered coercion, on the other hand, is theorized to lead to strong levels of self-directed anger, high levels of externalized self-control based on the fear of reprisal, and a weak, calculative social bond. The experience of consistent coercion, then, leads to an outcome of low levels of prosocial behavior, minimal levels of criminal behavior, and high levels of mental health problems. Although the theorists acknowledge that, in theory, consistent coercion could prevent criminal behavior, they argue that the difficulty associated with maintaining the surveillance necessary for truly consistent coercion generally renders consistent coercion erratic.

Important to Colvin et al.'s (2002) discussion of coercion are the theorized sources of coercive control. As previously stated, coercion can find its source in both impersonal relations (equivalent to Cullen's macro-level sources of social support) and interpersonal relationships (equivalent to Cullen's micro-level sources of social support). Impersonal sources of coercion are related to macro-structural arrangements that lead to the indirect experience of coercion (manifested as the experience of anger and anxiety), including economic and social pressures stemming from economic and governmental matters. Colvin et al. cite unemployment, poverty, and competition among groups as potential sources of impersonal coercion. Interpersonal sources of coercion are said to include direct, interpersonal relationships and are expressed as the use or threat of force and/or intimidation in an effort to gain compliance.

Perhaps most important to the linkage between social support and coercion and to the present project, the definition of coercion supplied by Colvin et al. (2002) suggests that coercion can include the threat to remove or the actual removal of social support. The removal of social support can occur at both the micro level of society within interpersonal relationships and at the macro level of society within larger social structures and the government. Regardless of the level of society at which social supports are removed, however, the coercive experience associated with this removal is hypothesized to lead to the aforementioned social-psychological outcomes and, finally, to differential propensities toward criminal behavior.

Additionally, differential social support and coercion theory hypothesizes that both erratic coercion and erratic social support delivery schedules can lead to an “attraction to illegitimate sources of social support” (Colvin et al. 2002:27). According to the theory, access to these illegitimate social support networks will result in chronic levels of skilled, organized criminal activity. If access to illegitimate social support networks is denied, the individual exposed to erratic social support is at risk of exhibiting moderate levels of unskilled, disorganized crime while the individual exposed to erratic coercion will exhibit chronic levels of unskilled, disorganized criminal activity. Clearly, the interplay of social support and coercion are highly intimate.

#### **1.4. Empirical Examinations of Social Support Theories**

##### **Social Support Theory**

Among economic indicators examined as explanations of crime rates within the United States and cross-nationally, social support has received the most consistent theoretical support (Stamatel 2009). With few exceptions—perhaps most notably Chamlin et al. (1999), Kim and Pridemore (2005), and Antonaccio et al. (2015)—regardless of conceptualization and measurement, social support has been found to be statistically significant and negatively related to crime—most often measured via rates of homicide (e.g., DeFronzo 1983, 1997; DeFronzo and Hannon 1998; McCall and Brauer 2014; Messner and Rosenfeld 1997; Pratt and Godsey 2003; Savolainen 2000; Thames and McCall 2015). As early as 1983, a negative relationship was noted between homicide rates among standard metropolitan statistical areas (SMSAs) and levels of Aid to Families with Dependent Children (AFDC) economic

assistance, a program meant to provide financial assistance to economically deprived families with children, particularly important for mothers who do not qualify to receive unemployment benefits (DeFronzo 1983). This relationship between levels of AFDC assistance and homicide rates was corroborated in 1997, this time among U.S. cities (DeFronzo 1997). DeFronzo and Hannon (1998) reveal a negative association between homicide and cost-of-living–adjusted government subsidized welfare payments (including AFDC and General Assistance payments) as well as the percentage of poor families receiving these forms of public assistance and homicide in a sample of U.S. counties. Chamlin et al. (1999) note a positive relationship between social support, measured as the magnitude of contributions to philanthropic organizations, and U.S. property crimes rates.

According to Messner and Rosenfeld's (1997) institutional anomie theory (IAT), the American economic institution dominates social life in such a way that it limits the ability of other institutions to insulate individuals from the pressure to achieve economic success. In their cross-national test of IAT, the decommodification index, a measure of the ability of governments to insulate citizens from deleterious market forces, is negatively related to homicide rates among 45 countries. Messner and Rosenfeld attempted to incorporate Esping-Anderson's (1996) concept of decommodification with their index, which includes three general dimensions of social support: (1) absolute and relative levels of expenditure for social support programs, (2) the sources of funding for those programs, and (3) the distribution of funding across types of social support programs (for instance, unemployment expenditures, family/dependents expenditures, workers' compensation, etc.). These

dimensions are operationalized by way of an index comprised of social welfare expenditures as a percentage of Gross Domestic Product (GDP), annual benefits payments per capita, and the percentage of expenditures allocated to employment injuries. Similarly, in a re-examination of Messner and Rosenfeld's data and test of IAT, Savolainen (2000) reported a significant negative relationship between homicide and welfare as it interacts with inequality.

Finally, Pratt and Godsey (2003) confirm these earlier findings, revealing that the percentage of total GDP spent on healthcare—a measure argued to represent the value placed on social institutions that may work against the criminogenic effects of “certain social-structural arrangements”—is negatively related to country-level homicide rates in a more comprehensive examination of 46 countries (p. 621). Pratt and Godsey's measure of social support represents (1) the financial relief on which a citizen can rely from their government when a family member requires medical attention, and (2) the extent to which the government allocates a proportion of the country's GDP to welfare benefits for its citizens. The former relates to the individual impact social support has for recipients and the latter represents the nature of the importance in governmental spending patterns for the populace. These generally consistent findings at different points in time and across various levels of analysis lend confidence to the validity of social support theory as a social force affecting crime rates.

### **Differential Social Support and Coercion Theory**

Unlike social support theory, there have been few direct tests of differential social support and coercion theory. Empirical applications of arguments related to coercion include

Colvin's (2007) qualitative analysis of governance and deviance in a New Mexico prison. Through this analysis, Colvin argues that changes in rates of deviance and variations in forms of deviance can be explained by historical variations in the levels of social support and coercion experienced by prison inmates. Although the empirical research aiming to support the theory is relatively thin, Colvin et al. (2002) point to a variety of related literatures to offer evidence that coercion operates to influence individual-level criminal offending. For instance, citing Patterson (1995) and Simons, Wu, Conger, and Lorenze (1994), the authors explain that children from coercive family environments are more likely to commence deviant activity at a relatively young age. Additionally, impersonal coercive forces, including economic pressures, have been shown to lead to strain, which manifests as negative emotions such as desperation and anger (Agnew et al., 1996; Menard 1995).

In one of the few tests of hypotheses stemming directly from differential social support and coercion theory, Listwan, Colvin, Hanley, and Flannery (2010) investigate the effects of the interaction of coercion experienced while in prison and social support experienced once released from prison on the psychological well-being of recently released individuals. Consistent with differential social support coercion theory, social support is found to be positively related to released inmates' well-being while coercion is found to be negatively related to well-being. In a more recent test of differential social support coercion theory within the prison context, Day, Brauer, and Butler (2015) find that although coercion experienced by prison inmates is consistently predictive of violent and defiant behaviors, social support is not related to either violent misconduct or acts of defiance.

Baron's (2014) test of differential coercion social support theory also offers somewhat mixed evidence in support of the theory. Focusing on the criminal behavior of homeless youths, Baron (2014) finds that both coercion and micro-level social support (delivered via families) demonstrate direct effects in the theoretically predicted directions. Relative to the effects of social support, however, coercion is found to be a stronger predictor of crime (Baron 2014). Similarly, in another direct test of differential coercion social support theory, Antonaccio et al. (2015) find that hypotheses related to coercion are better supported than those related to social support. Employing a number of measures of coercion and social support associated with multiple domains (including family, job, friends, neighborhood, and the government), coercion is consistently found to be predictive of violent and property crime among general city samples of adults in Bangladesh and Ukraine (Antonaccio et al. 2015). On the contrary, only measures of social support associated with the family and friends domains are found to be statistically significant and negatively related to criminal behavior among respondents in Bangladesh. In fact, among Ukrainian respondents, social support associated with the government and the job domains are found to be positively related to criminal offending (Antonaccio et al. 2015).

Following the evidence presented in the extant literature, then, differential coercion social support theory's arguments concerning the crime-inducing nature of impersonal and interpersonal coercive forces are well supported. However, contrary to previously discussed results offered by macro-level examinations of social support theory, only mixed support is found among studies testing differential coercion social support theory's arguments

concerning social support's ability to reduce criminal behavior. Although social support originating from friends and family seem to prevent crime, support associated with other life domains is found to be unrelated and, for certain life domains, sometimes positively related to crime.

## **CHAPTER 2. CONDITIONED SOCIAL SUPPORT THEORY**

### **2.1. Introduction and Logical Premises**

Although Cullen's (1994) original formulation of social support theory and the mechanisms underlying the causal chain linking coercion to negative emotional affect and crime outlined by Colvin et al. (2002) have been empirically supported, the tests of social support theories offered by Kim and Pridemore (2005) and Antonaccio et al. (2015) in the post-communist context point to an important caveat that has yet to be explored. As previously discussed, findings presented by Kim and Pridemore (2005) in their test of social support theory among Russian regions reveal no relationship between social support (measured as the proportion of the regional budget spent on health care and on education) and aggregate rates of homicide. These same aggregate level measures of social support (again, percentage of national and/or regional budgets spent on health care and education), however, have consistently proven to be statistically significantly related to crime in the hypothesized direction in cross-national studies limited to countries characterized by relatively stable, Western-style democratic governance. Similarly, although Antonaccio et al. (2015) find that social supports originating from family and friendship networks are negatively related to crime in Bangladesh, these same measures of support are not statistically significantly related to crime in post-communist Ukraine. Moreover, a positive relationship between social supports associated with the government and job domains are reported in Ukraine (Antonaccio et al. 2015). Taken together, then, these findings point to a discrepancy in the effects of social support on crime rates within these varied social and

political contexts. In short, social support seems to work differently in the post-communist context.

The distinctions between Western-style democracies and the post-communist governments of Eastern Europe are significant due to the variation in economic and political conditions of these areas, especially since the fall of communism in 1989. The transition from socialism to a democratic market economy was severely disruptive to countries of Eastern Europe because the economic transformation led to mass unemployment, growing mortality rates, and alarming increases in poverty and inequality (Kim and Pridemore 2005; Stamatel 2009; Standing 1996). Following a global trend of neoliberalization throughout recent decades, Western European countries have also experienced a rather turbulent period of economic and social policy transitions (Esping-Andersen 1996; Harvey 2005). However, unlike Western European countries, which have been able to rely on institutionalized welfare programs despite rising unemployment and austerity measures that reduce welfare support in recent decades, significantly weakened Eastern European governments have been unable to quell intensifying economic deprivation (Esping-Andersen 1996).

Although both Eastern and Western European countries have experienced a rather turbulent period of economic and social policy transitions during the past two decades, the neoliberal character of these transitions represents a sharp ideological shift from the socialist philosophies governing Eastern Europe prior to the dissolution of the Soviet Union. Research investigating public perceptions of social justice in the wake of the post-communist transition finds that Eastern European publics are more likely than those of Western Europe to support

highly egalitarian economic systems of rewards based on need (as opposed to merit) with high levels of government intervention and “prosocialist” ideologies incompatible with those of the newly imposed neoliberal systems, which have mandated the retrenchment of social welfare (Mason 1995:60; Mason and Kluegel 2000). Closely related to this philosophical divergence, Eastern European publics are also found to exhibit significantly lower levels of overall life satisfaction and are more likely to indicate perceptions of government distrust and economic injustice than their Western counterparts (Mason 1995; Mason and Kluegel 2000).

Following the insights gained through social justice research and considering the null effect of social support on crime in Russia (Kim and Pridemore 2005) and Ukraine (Antonaccio et al. 2015), a reasonable conclusion is drawn: General public dissatisfaction and the remnants of socialist philosophies may condition the effect of officially delivered, instrumental social supports in the post-communist context. As Cullen (1994) and Colvin et al. (2002) suggest, the manner in which social support is delivered and the manner in which social support is interpreted by the recipient are important factors to consider when evaluating the effectiveness of social support. Consequently—expanding the above argument beyond the context of post-communist states—the perceptions held by individuals receiving social support (in any form and from any source) can be argued to moderate the relationship between social support and crime. This premise provides the foundation for the following elaboration of social support theory.

## **2.2. Statement of Conditioned Social Support Theory**

### **Concepts and Basic Argument**

Simply stated, conditioned social support theory (CSST) proposes that the negative effect of social support on crime is moderated by both the schedule with which social support is delivered and the perceptions of support recipients concerning the source of social support and the conditions surrounding its receipt. Although Cullen (1994) and Colvin et al. (2002) hypothesize a negative relationship between social support and crime and Colvin et al. pay particularly close attention to the schedule within which social support (and, of course, coercion) is delivered, neither of these theories considers the conditioning effect of the perceptions held by those who receive social support toward the providers of that support. Figure 3 presents a graphical representation of this basic argument.

Before moving on to a more detailed discussion of the elaborated theoretical model, a brief delineation of theoretical concepts is in order. For the purposes of the current theoretical elaboration, social support can be defined as the perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners (Cullen 1994; Lin et al. 1986). As previously discussed, social support can be expressive or instrumental in nature and can originate from micro- and/or macro-level sources. Borrowing from Colvin et al. (2002), the schedule of delivery of social support refers to the continuum of consistency at which social support is delivered. Unlike Colvin et al., however, CSST assumes that the delivery schedule of social support exists on a continuum between consistent and erratic delivery. In other words, social support can be received by individuals

on either an entirely consistent or an entirely erratic basis or individuals can experience the delivery of social support on a schedule existing at some point in between those opposite ends of the continuum. An important note to include here is that the delivery schedule of social support should be considered a subjective characteristic determined by the recipients' perceptions of the social support they receive. Also important, individuals can receive social support from a variety of sources at any given time. For instance, individuals can simultaneously be recipients of both expressive supports from their friendship networks and recipients of federally funded welfare payments. Therefore, the schedule of delivery may vary among the sources of the various social supports individuals receive. Following this logic, individuals may perceive that, overall, they experience social support on a more or less consistent (or a more or less erratic) basis.

Further diverging from traditional social support theories, subjective perceptions of the sources of social support and subjective perceptions of the conditions under which social support is received are key concepts in CSST. Because these concepts are highly interrelated, they have been entered into the model illustrated by Figure 3 as a composite concept. Both the perceptions of the source of social support and the perceptions of the conditions of receipt are complex concepts, which are independently deserving of much attention.

To begin, the perceptions of the source of social support can be defined as *the general esteem in which the recipient holds the source of social support*. This perception can range on a continuum from high esteem (which, from here, will be described as “favorable”) to low esteem (which will be described as “unfavorable”). The extent to which the recipient

perceives a source as favorable or unfavorable can be influenced by a host of factors. When considering a micro-level source of social support, these factors can include, but are by no means limited to, the recipient's general perception of the source's social status, trustworthiness, and intent; the historical patterns of source-recipient interpersonal interaction; historical patterns of the recipient's observations of the source's behavior both within and outside the source recipient dyadic context; the level of respect garnered by the source outside of the source-recipient dyadic context (as perceived by the recipient); the effectiveness of any social supports previously delivered by the source; and the state of the source-recipient relationship at the time of (or at a time in close proximity to) the delivery of support. When considering macro-level sources of social support, a quite similar but nevertheless distinct array of factors will impact a recipient's perception of a source as favorable or unfavorable, including (but, again, not limited to) the recipient's general perception of the source's legitimacy, trustworthiness, and intent; the historical patterns of source-recipient relationship; historical patterns of the recipient's observations of the source's relationship with other individuals and/or institutions; the level of respect granted the source by other individuals and/or institutions (as perceived by the recipient); the effectiveness of any social supports previously delivered by the source; and the state of the source-recipient relationship at the time of (or at a time in close proximity to) the delivery of support.

The final factor listed above implies that the immediate circumstances surrounding the delivery of support could prove to be highly influential in the determination of a social

support recipient's perception of a source as favorable or unfavorable. This suggestion leads to a discussion of the recipient's perceptions of the conditions of receipt of social support. To be specific, the perceptions of the conditions of receipt can be defined as *the general perceptions held by the recipient of the conditions surrounding the receipt of social support, including the manner in which support is delivered, the stipulations associated with the delivery of support, and the recipient's perceptions of his/her general life circumstances*. These perceptions should be understood as being linked to the social support recipient's perceptions of distributive social justice (in other words, the extent to which the distribution of resources throughout the social world is perceived as fair or just). This concept also incorporates the influencing factor of the totality of strains experienced by the individual (as is implied by the phrase "perceptions of his/her general life circumstances"). More precisely, this concept is meant to take into consideration any injustices perceived by the support recipient in direct relation to the manner in and conditions under which social support is delivered and the general life satisfaction and emotional status of the recipient at the time of (or at a time in close proximity to) receipt. The perceptions associated with this concept can range on a continuum from low levels of perceived injustice (which will be described as "favorable") to high levels of perceived injustice (which will be described as "unfavorable").

It is through this concept that the theme of coercion is introduced. Borrowing from Colvin et al. (2002), coercion is defined as *oppressive, anxiety-inducing forces that compel an individual to act*. Colvin et al. argue that coercion finds its source in both interpersonal relationships and impersonal relations, including a host of societal institutions (e.g.,

governments and educational systems)—the same sources through which social support originates. What is more, coercion can be experienced as the threat to remove or the actual removal of social support. Therefore, the experience of coercion at the hands of interpersonal and impersonal relations will likely be at work in shaping a social support recipient's perceptions of the conditions under which social support is delivered/received. Social support could be delivered in a coercive manner. Likewise, stipulations surrounding the delivery of social support could be coercive in nature. Individuals may experience coercion in the form of fear that the social support they receive may be revoked without warning, leading to the creation of a perception of social supports as ephemeral and/or undependable. Any of these conditions of support receipt could lead to unfavorable perceptions. Important to note here is the close interrelationship between an individual's perceptions of the conditions of receipt of social support and that individual's perceptions of the source of social support. If social support is delivered in a coercive manner or the stipulations associated with the delivery of a social support are coercive in nature, the recipient will likely view the source of social support as unfavorable. Likewise, if the recipient is given reason to believe that a social support may be removed, the potential that the recipient will view the source as untrustworthy (and therefore unfavorable) will be greatly increased. As a result of the close connections of these two concepts, they are included in the current model as one composite concept.

Additionally, as previously discussed, Colvin et al. (2002) also suggest that coercion can exist as forces stemming from macro-structural arrangements, including economic

pressure experienced by the individual as a result of unemployment or poverty. These macro-structural sources of coercion are argued to be the cause of strain, which is hypothesized to lead to negative emotional states including anger and desperation. The experience of coercive forces within interpersonal relationships (such as strained family relationships, strained friendships, and the loss of valued relationships) can also lead to the development of anger and desperation (Colvin et al. 2002). Accordingly, the experience of these coercive forces is likely to be an important determinant of an individual's perception of his/her general life circumstances as unfavorable, leading the individual to perceive conditions surrounding the receipt of social support as unfavorable as well.

Turning back to Figure 3, we expect that as the ratios of unfavorable to favorable perceptions of the source and conditions surrounding receipt increase, the negative effect of social support on crime will decrease. As will later be explicated in greater detail, this diminished effect of social support on crime is hypothesized to be the result of a reduction in the subjective value of social support when it is received from unfavorable sources and in unfavorable conditions. Important to this argument is the assumption that, like the source and the conditions surrounding receipt, the value of social support is subjectively perceived. This assumption holds true for both instrumental and expressive social support and, in essence, suggests that social support is only as valuable (and therefore only as effective) as the individual recipient perceives it to be. Social support delivered by unfavorable sources and/or received in unfavorable conditions, then, is predicted to be perceived by the individual as less valuable than support received amid favorable perceptions. One should also take note of the

direct relationship between the schedule of delivery and the perceptions of the source and conditions of receipt indicated in Figure 3. Here, the model indicates that the schedule of delivery will have a direct effect on the perceptions of the source and the conditions of receipt. It is expected that if a social support is delivered on an erratic basis, the recipient will be more likely to view the source of the support and/or the conditions surrounding the receipt of that support as unfavorable (due to perceptions of untrustworthiness and/or injustice). More precisely, we expect that as the unpredictability of the schedule of delivery increases, we will also observe a greater likelihood that unfavorable perceptions will arise.

### **The Causal Model**

As Figure 3 indicates, the basic model of CSST suggests that both the schedule of delivery and the subjective perceptions of the source and the conditions of delivery of social support moderate the negatively hypothesized relationship between social support and crime. As the delivery of social support becomes more erratic, the negative effect of social support on crime is expected to diminish. Likewise, as the perceptions of the source and conditions of receipt become more unfavorable, the effect of social support to reduce crime will become increasingly diminished.

In an effort to further elucidate the mechanisms driving these relationships, a more precise causal model is presented in Figure 4. First, social support can be delivered on a continuum from erratic to consistent. This schedule continuum should be understood as a ratio of erratic to consistent delivery (erratic/consistent). We expect to find that as the ratio of erratic to consistent delivery of social support increases, the crime reducing effect of social

support will be diminished and, as will become increasingly clear, can actually be reversed. In other words, erratic social support can actually increase the likelihood of criminal involvement.

Second, following the logic of both Cullen's (1994) and Colvin et al.'s (2002) theories, consistently delivered social support has the ability to produce minimal levels of criminal behavior—measured at both the micro and macro levels of society. Borrowing heavily from Colvin et al., social support achieves this buffering effect on crime by way of the production of positive social-psychological outcomes. As social support meets individuals' instrumental and expressive needs and thereby reduces the impact of strain, consistently delivered social support produces low levels of anger and other negative emotions. Due to social support's ability to strengthen social ties and produce social bonds built on trust and commitment, consistently delivered social support produces a highly developed, internalized sense of self-control and a strong social bond to others in society. These positive social-psychological characteristics, in turn, produce high levels of prosocial behavior and low levels of criminal offending. In other words, recipients of consistently delivered social support are motivated toward compliance.

As Figure 4 makes clear, however, the ability of social support to produce these positive outcomes is conditioned by the recipient's perceptions of the source and the conditions of receipt of social support. These perceptions should be understood as existing on a continuum from unfavorable to favorable and, like the schedule of delivery, can be conceptualized as a ratio of unfavorable to favorable perceptions (unfavorable/favorable).

Therefore, as a support recipient's perceptions ratio increases (becomes more unfavorable), the effects of social support will be diminished and, in fact, can be nullified.

As previously mentioned, the decreased (and potentially nullified) effect of social support on crime due to unfavorable perceptions of the source and conditions of receipt is expected due to a hypothesized decrease in the worth of that social support (as perceived by the recipient). For instance, at the micro level, advice (an expressive form of social support) from a friend who is held in unfavorable esteem may not be considered as valuable to the recipient as the same advice delivered by a highly esteemed, highly trusted friend. Again, the unfavorable esteem may be the result of the fact that the recipient has some reason to distrust the friend or may be the result of a situational strain placed on the friendship (such as a recent disagreement).

Similarly, instrumental social support such as financial assistance from a highly esteemed friend may be perceived as more valuable than the financial assistance received from a friend held in low esteem. Take, for example, a situation in which an individual receives an objectively equal sum of money from two disparately esteemed friends. Although this money is capable of affording the recipient an equal value on the market, the funds received from the more favorably esteemed friend may, in the end, be perceived as more valuable. This incongruent value could be due to the recipient's greater appreciation for the money granted by the more favorable source. The recipient may also use the money given to him/her by a favorably esteemed friend more carefully. The positive social-psychological outcomes associated with a highly appreciated form of social support (including the

reduction of strain and the development of a strong social bond) might be more intense than those produced by social support that does not foster feelings of great appreciation. The recipient might also take greater care in managing the money he/she receives from someone he/she trusts and respects while money received from a friend held in low esteem might be more easily misspent. The higher stakes involved in a relationship with a favorably esteemed friend may make demonstration of effective investment of this instrumental social support more important. Additionally, the recipient might be less likely to readily accept an offer of financial support from a friend held in unfavorable esteem for fear of developing an obligation to the person; thus, the potential of this offer of support to produce a positive social-psychological response in the recipient is greatly reduced. As another example, if a recipient perceives one offer of social support as more generous than another—perhaps due to the greater financial sacrifice required of the source—the recipient might experience greater appreciation and more intense positive psychological benefits in response to the more generous offering.

Considering this principle on the macro level of society, the prediction is consistent with the discrepant results of Kim and Pridemore's (2005) investigation of social support theory in Russia in relation to investigations of the theory in Western European countries. Because publics in post-communist countries have been found to be more likely to distrust their governments (Mason and Kluegel 2000), the social welfare benefits offered by these governments may be subjectively less valuable than relatively equal welfare benefits offered to citizens of the (comparatively) more highly esteemed Western European governments. For

instance, if Eastern European publics do not trust their governments, they may not trust the quality of health care provided by their governments. As a result, Eastern European publics may be less likely to take advantage of publically available healthcare services than Western European publics who believe that the health care provided by their governments is of excellent quality. Even if the healthcare systems provided by Eastern and Western European governments are objectively equal in every respect, the healthcare systems of Eastern Europe would be less effective because citizens perceive them to be less valuable and, therefore, do not take full advantage of available services. What is more, if Eastern European publics believe that their government does not supply citizens with the amount and/or forms of social support that the government is perceived to be capable of providing, social supports the government does provide may be seen as inadequate and, therefore, devalued.

Another possible explanation for the devaluation of social supports delivered in the post-communist context points to the unfavorable perceptions held by post-communist publics in relation to conditions under which these social supports are received. As previously mentioned, not only are Eastern European publics more likely to indicate perceptions of economic injustice (directly associated with the welfare state) than their Western counterparts, they are also more likely to report low levels of overall life satisfaction and a sense of economic instability (Mason 1995; Mason and Kluegel 2000). Eastern European publics are unsatisfied with the quality of social welfare programs that are currently available to them and are not secure in the knowledge that they will continue to receive support in the future. Due to the high levels of perceived injustice associated with

Eastern European welfare programs, the support received by Eastern European publics is not capable of producing the positive social-psychological outcomes (such as a sense of trust or a reduction in strain) produced by Western European welfare states. As a result, the social supports delivered by Eastern European governments are predicted to be less valuable and, therefore, less effective than those delivered by Western governments.

Because consistent social supports delivered by unfavorable sources and within unfavorable conditions is diminished in value, it is less likely to produce the positive social-psychological outcomes associated with social support delivered and received in the context of favorable perceptions. This does not mean, however, that consistent social support delivered by an unfavorable source and under unfavorable conditions will produce negative social-psychological outcomes. We expect that social support will simply become increasingly ineffective in reducing crime, but as the schedule of delivery ratio increases toward erratic social support delivery, the potential for negative social-psychological outcomes does increase.

The production of negative social-psychological outcomes as a result of erratic delivery of social support is made clear by Figure 4. Closely following the causal model presented by Colvin et al. (2002), we predict that erratically delivered social support has the potential to lead to the propensity for exploratory deviance through the production of moderate levels of anger, low levels of self-control, and a weak social bond that is based on a calculation of self-interest. According to Colvin et al. (2002), exploratory deviance is prominent in individuals characterized by these negative social-psychological features due to

their attraction to deviance that will produce pleasure and their tendency to manipulate authority figures.

Like the outcomes of consistently delivered social support, the effects of erratically delivered social support are conditioned by the recipient's perceptions of the source and the conditions of receipt. In the case of erratic social support, however, an increase in the ratio of unfavorable to favorable perceptions increases the strength of the relationship between erratic social support and negative social-psychological outcomes. These insights are drawn from distributive social justice theories, which predict that individuals who perceive injustice relative to allocations of social benefits experience negative emotional reactions, including feelings of anger and resentment (Hegtvedt 2005; Hegtvedt and Markovsky 1995; Markovsky 1988; Turner and Stets 2005). The feelings of anger and resentment posited to result from the perceptions of injustice are expected to intensify the feelings of anger experienced by individuals receiving erratically delivered social supports. Thus, turning back to the examples described previously, an Eastern European recipient of erratic social support is predicted to have a greater likelihood of exhibiting negative social-psychological characteristics than a Western European recipient of erratic social support. Similarly, an individual who receives erratic social support from an unfavorable friend will be more likely to exhibit negative social-psychological outcomes than an individual who receives erratically delivered social support from a trusted friend.

Finally, following the causal model proposed by Colvin et al. (2002), erratically delivered social support and the exploratory deviance that follows is posited to lead to an

attraction to illegitimate sources of social support. If individuals are blocked from access to these illegitimate social support networks, the causal model leads to moderate levels of unskilled, disorganized criminal involvement. Alternatively, if access to illegitimate networks of social support is granted, recipients of erratic social support are predicted to exhibit chronic levels of skilled, organized criminal activity.

## **CHAPTER 3. TESTING CONDITIONED SOCIAL SUPPORT THEORY**

### **3.1. Introduction**

The theory presented herein is an attempt to expand social support theory to include the moderating effect of the perceptions of social support recipients in relation to the source of social support and the conditions under which social support is received. The resulting causal model associated with this elaboration indicates not only that the delivery schedule is a key determinant of social support's effectiveness in preventing crime but that the extent to which social support recipients perceive the source and conditions surrounding their receipt of social support as favorable is also an important factor that influences the ability of social support to reduce criminal behavior. Although conditioned social support theory (CSST) borrows heavily from Colvin et al.'s (2002) previous integration of the social support and coercion paradigms, the causal model has been reformulated in such a way that social support is reinstated as the primary predictor of criminal behavior while coercion is relocated and placed in an indirect (though still highly important) role. In this role, coercion—more specifically, perceptions of injustice related to coercion—along with a variety of factors that lead to an unfavorable perception of the source of social support can render social support useless in the prevention of crime. In fact, social support can, in the case of erratic delivery, be related to increases in the likelihood of involvement in criminal networks and, thus, criminal behavior.

The clear implication of the reformulated theory is that the mere existence of consistently delivered social support is not sufficient to reduce the rate of criminal offending

among individuals or among whole societies. According to the insights garnered from CSST, if it is to have any impact on crime, social support must be delivered in a largely consistent fashion *and* must originate from a source that is deemed trustworthy, respectable, dependable, and/or effective. Otherwise, recipients may not benefit from social support's potential positive social-psychological outcomes and will not be protected from participation in criminal activity.

More broadly, the theory implies that the social injustices that plague the sentiments of individuals throughout the globe may be diminishing the positive effects of the social supports they receive (even those that are consistently delivered). Because the foundation of CSST rests on this premise, if the theory is to prove effective in explaining criminal behavior, it is imperative that a test of hypotheses derived from this most basic premise be tested. The purpose of the present project, then, is to conduct a test of the basic arguments proposed by CSST. More specifically, the analysis presented herein tests the fundamental prediction of CSST on data representing European regions in 2008.

### **3.2. Hypotheses**

The unique contribution offered by CSST to the social support paradigm is the introduction of social justice concepts—specifically, the idea that perceptions of the source and conditions surrounding the receipt of support may moderate the effects of social support on criminal participation. The schedule of delivery of social support is an important factor in CSST's explanation of criminal behavior; however, due to current data limitations, an investigation into the effects of the delivery schedule of support is beyond the scope of the

present analysis. Nevertheless, as the theory's principle contribution, the focus of the present project on the moderating relationship between justice perceptions and social support is highly justified. In fact, as CSST suggests, the schedule of delivery of social support will likely have a direct effect on the perceptions of both the source of support and the conditions under which support is received, any measure of these perceptions will likely reflect this delivery effect. The result of this probability is that the present analysis may actually be accounting for a portion of the effect of the delivery schedule. In any case, the present analysis lends insight into the ability of CSST to explain criminal behavior and will aid in the development of any needed alterations to the theory.

Ideally, because CSST is concerned with the perceptions of individuals receiving social support, a micro-level test of the theory would be executed. Limited data availability, however, does not allow for such an analysis at the present time. Because Cullen (1994) and Colvin et al. (2002) argue that social support theories are applicable at both the individual level (through a micro-level analysis of social supports gained by way of interpersonal networks) and the community level (through a macro-level analysis of social supports available to groups of individuals within communities and larger geographic regions), for the purposes of this analysis, CSST will be evaluated at the macro level, focusing on instrumental social support supplied by government and private organizations. Likewise, all measures of perceptions of social support sources and the conditions/injustices surrounding receipt have been aggregated to reflect theoretical concepts at the macro level. Although the current analysis allows for the evaluation of the contextual effect of levels of

favorable/unfavorable perceptions of support sources and the conditions surrounding receipt within a geographical unit, the results must be evaluated and interpreted with caution so as to avoid committing the ecological fallacy—the attribution of aggregate-level characteristics to the individuals comprising the population (Robinson 1950). For instance, one must take care not to assume that those individuals reporting negative perceptions of the source of support are committing the crimes represented in the outcome variable.

Turning back to Figure 3, we find the simplified causal model proposed by CSST. Again, consistent with Cullen's (1994) original formulation, social support is theorized to have a direct, negative relationship with criminal behavior. From this prediction, Hypothesis One is derived:

*H<sub>1</sub>: European regions with higher levels of social support will have lower rates of crime.*

Figure 3 also indicates the moderating effect of perceptions of the source of support/conditions surrounding receipt on the relationship between social support and crime. As previously discussed, according to CSST, these perceptions are to be understood as ratios of unfavorable to favorable. Put more simply, perceptions of the source of social support and the conditions surrounding receipt of support can be measured as more or less unfavorable. The negative effect of social support on crime is theorized to diminish as levels of unfavorable perceptions increase. Because the present analysis will focus on social supports

provided by national governments, unfavorable perceptions of these national governments are most salient to this prediction. Also recall that unfavorable perceptions of the conditions surrounding the receipt of social support are posited to result from macro-structural strains—such as unemployment and poverty—and strain resulting from general feelings of dissatisfaction. Hypotheses Two and Three reflect this relationship:

*H<sub>2</sub>: As regional levels of unfavorable perceptions of the national government increase, the strength of the negative effect of social support on crime will decrease.*

In other words, regions with higher levels of unfavorable perceptions of the national government will demonstrate a weaker or nullified negative relationship between social support and crime.

*H<sub>3</sub>: As regional levels of unfavorable life conditions increase, the strength of the negative effect of social support on crime will decrease.* In other words, regions with higher levels of unfavorable life perceptions will demonstrate a weaker or nullified negative relationship between social support and crime.

Although the above hypotheses regarding the basic premise of CSST must be supported for the theory to be upheld, an investigation into the more nuanced causal model of the theory will be beneficial. Turning to Figure 4, recall that, following Colvin et al. (2002), consistently delivered social support under favorable perceptions of the source and

conditions surrounding receipt is theorized to lead to both low levels of criminal behavior and to high levels of prosocial behavior. If the causal logic of the theory is to find support, social support should have a positive effect on prosocial behavior. Hypothesis Four is derived from this prediction:

*H<sub>4</sub>: European regions with higher levels of social support will have higher rates of prosocial behavior.*

And, again, although an investigation of the effects of the schedule of delivery of social support is beyond the scope of the present analysis, a test of the moderating effect of unfavorable perceptions on the relationship between social support and prosocial behavior will be highly valuable to the theoretical paradigm. As Figure 4 reiterates, unfavorable perceptions of the source and conditions surrounding receipt is expected to devalue support, leading to a diminished and potentially nullified relationship between social support and prosocial behavior. Hypotheses Five and Six stem from this prediction:

*H<sub>5</sub>: As regional levels of unfavorable perceptions of the national government increase, the strength of the positive effect of social support on prosocial behavior will decrease.* In other words, regions with higher levels of unfavorable perceptions of the national government will demonstrate a weaker or nullified positive relationship between social support and prosocial behavior.

*H<sub>6</sub>: As regional levels of unfavorable life conditions increase, the strength of the positive effect of social support on prosocial behavior will decrease.* In other words, regions with higher levels of unfavorable life perceptions will demonstrate a weaker or nullified positive relationship between social support and prosocial behavior.

Hypotheses H<sub>1</sub> and H<sub>4</sub> specify a direct effect of social support on crime and prosocial behavior. Hypotheses H<sub>2</sub>, H<sub>3</sub>, H<sub>5</sub>, and H<sub>6</sub> predict the moderating effect of unfavorable perceptions of the source of social support and the conditions of receipt of social support on the relationship between social support and both homicide and prosocial behavior.

### **3.3. Data Source and Sample**

Data used to assess the hypotheses described above are drawn from two sources: Eurostat and the European Values Study. The Eurostat database contains information gathered by the European Union's (EU) statistical agency and, to the current analysis, has contributed measures of social support, crime, and a variety of structural control variables. In cooperation with the statistical agencies of EU member and candidate nations, Eurostat collects a variety of social and economic indicators, including data on social support and crime. Data are provided on a voluntary basis from member nations, candidate nations, and members of the European Free Trade Association (EFTA). These data represent indicators at various levels of aggregation and multiple time-points. A variety of indicators are available annually at the country level. For lower levels of aggregation, data are collected

approximately every five years, and most indicators are available beginning around 1995.

Eurostat's data holdings are an invaluable resource for researchers conducting cross-national studies because measures are standardized across countries to allow for the highest possible comparability (Eurostat 2004, 2005).

One of the great advantages of Eurostat's data holdings is the availability of data at subnational levels of aggregation. Eurostat collects and compiles data from participating nations at the regional, metropolitan, and city level. Consequently, a cross-national test of CSST at the regional level is made possible by the data supplied by the Eurostat archive. This allows the researcher to take advantage of variation in both the independent and dependent variables across these regions—variation that otherwise is masked with country-level measures. Therefore, the units of analysis for this study are regional areas of European Union member and candidate nations and EFTA countries approximately equivalent in size to U.S. states.<sup>1</sup> In total, the Eurostat archives offer a variety of indicators for 271 of these regions in the 27 EU member states (Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, and the United Kingdom), 30 regions in three current candidate countries (Croatia,

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<sup>1</sup> Eurostat regional statistics and European Values Study regional indicators are organized based on the "Nomenclature of Statistical Territorial Units" (NUTS) classification system, a hierarchical system through which member countries are subdivided into three region levels—NUTS level 1, NUTS level 2, and NUTS level 3. These region levels are determined based on minimum and maximum population thresholds. The current project uses statistics documented for NUTS level 2 regions (hereafter referred to simply as "regions"), which have resident populations between 800,000 and 7 million (Eurostat 2004, 2005).

the former Yugoslav Republic of Macedonia, and Turkey), and 16 regions in four EFTA countries (Iceland, Liechtenstein, Norway, and Switzerland).

In addition to the availability of data for subnational levels of aggregation, yet another advantage to Eurostat data is the availability of data from Eastern European nations. Kim and Pridemore (2005) offered an analysis of the effects of social support on homicide rates in Russian regions but did not examine social support theory in any other post-communist contexts. Fortunately, Eurostat offers data from the following Eastern European nations: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia. Six of these 10 countries have complete data for their inclusion in the analyses.

In combination with the Eurostat archive, the European Values Study (hereinafter referred to as EVS) has also been used. A large-scale, cross-national survey project aimed toward providing insights into the values of European citizens, the EVS contributed all measures of perceptions of social justice and measures of prosocial behavior. Funded by a variety of universities, research organizations, national science foundations, charitable trusts, charitable foundations, companies, and church organizations in participating countries, the survey has been conducted every nine years since 1981 (four published waves) and is available as an integrated dataset containing highly standardized measures across all participating countries (EVS, GESIS 2011).

The most recent wave—administered in 2008—covers 47 European countries, including coverage of all of the countries currently available via the Eurostat archive. Although study fieldwork was conducted independently in each participating country, the

EVS 2008 questionnaire translation and data collection were closely monitored by the EVS advisory board. Questionnaires were administered via face-to-face interviews using Computer Assisted Personal Interviewing or Paper and Pencil Interviewing in all countries [with the exception of Finland (internet panel) and Sweden (postal survey)], and although countries used a variety of sampling procedures, representative multi-stage or stratified random samples of the adult population over the age of 18 were used in each country. Not only does the EVS 2008 provide robust samples across nearly all countries in Europe but it also includes indicators that allow researchers to aggregate individual-level survey data to the regional level. The ability to aggregate study data to the higher region level makes the EVS 2008 an ideal source of data to test the macro-level hypotheses drawn from CSST.

Although the availability of data from both western democratic and eastern post-communist countries allows for an investigation of CSST across a variety of political and economic contexts and the availability of subnational data allows for greater variation of study variables, these data are not without limitations. Most notably, the present analysis is limited by data completeness. Though Eurostat regularly updates its data archive, the region-level data available within the Eurostat archives are by no means complete (most likely due to the voluntary nature of Eurostat's collection process). Also, because regions are not uniformly represented in the EVS 2008 sample and sample sizes within a number of the regions available in the dataset are quite small, full advantage cannot be taken of the individual-level data made available in the EVS 2008 integrated data set.

Although the limited comprehensiveness of both the Eurostat data and the EVS 2008 data has resulted in a restricted sample size, the study sample remains sufficient. Table 1 provides a summary of the study sample, including the countries represented and the number of regions represented as a proportion of the total number of regions within each country. Once EVS 2008 survey data were aggregated to the region level and merged with Eurostat data, the resulting sample consists of complete data across 175 total regions representing 12 Western European countries (147 regions) and six Eastern European countries (48 regions).

### **3.4. Measures of Theoretical Constructs**

#### **Scale Construction and Reliability**

Appendix B provides a summary of the variables used in the analysis. In constructing scales to operationalize the theoretical concepts, factor analysis with oblique (promax) rotation was performed to assess the extent to which constituent items form an underlying dimension. All items used to construct scales were found to load satisfactorily on the first factor and contributed to the reliability of the scale (measured by a Cronbach's alpha of .5 or greater). Although scales were first assembled via individual-level responses to EVS 2008 survey items, prior to the final analysis, individual-level scales were mean aggregated to create a region-level measure of theoretical concepts. The final sample of 175 regions includes only those regions that had individual-level sample sizes of 30 or more EVS respondents. Again, Appendix B provides a summary of scales included in the analysis and of pre-aggregation reliability analyses (via Cronbach's alpha values).

## **Dependent Variables**

Two outcome variables are included in the analysis to operationalize the concepts of criminal and prosocial behavior. Table 2 presents descriptive statistics for all dependent and independent variables in their original metrics (i.e., before centering).

### **Criminal Behavior**

The present study focuses on the effects of social support and moderating variables on rates of crime across regions within sampled European countries. More specifically, regional rates of homicide have been employed. Because homicide is a crime that is defined most similarly across countries, it is considered to be the most appropriate measure of violent crime for cross-national studies (LaFree 1999). As such, scholars often employ homicide rates (as opposed to rates of other types of violent crime such as rape, aggravated assault, or robbery) in empirical analyses. Not only is homicide argued to be the most accurately reported of all crimes (both in the United States and internationally), but the seriousness of homicide and the difficulty associated with concealing homicide make it a crime of relatively reliable measure.

Eurostat provides homicide statistics in the form of cause of death data, which are classified according to the *International Classification of Diseases* codes published by the World Health Organization (Eurostat 2004, 2005). Consequently, Eurostat data are equivalent in quality to those of the World Health Organization, the database widely considered to be the most reliable and valid source of data for cross-national studies of homicide (LaFree 1999). Eurostat provides age-standardized homicide rates (per 100,000

resident population) as three-year averaged rates. Such averaging allows for the avoidance of overly inflated and/or deflated rates that result from extreme yearly fluctuations—not uncommon in rare events such as homicide—and from unusual events (such as mass murder). Age-standardization allows for the comparability of homicide rates across countries because the measure acts as a control for each country’s age distribution. Because violent crime is generally regarded as a behavior demonstrated more often by young adults than by older adults, age-standardization is necessary to control for the existence of larger or smaller populations of individuals in crime-prone age categories across countries as well as individuals in non-crime-prone age categories.

For the purposes of this analysis, in an effort to maximize sample size, three-year averaged, age-standardized homicide rates for the years 2007 through 2009 have been employed. The resultant measure of homicide has been averaged, then, around the target year of 2008. Other time periods were considered, but this offered the most complete data for the analyses. Detailed descriptive statistics are presented in Table 2. Because a number of statistical models presented herein involve the decomposition of the study sample into two subsamples based on location in either Western Europe (N=127) or Eastern Europe (N=48), Table 2 presents descriptive statistics for the full sample (N=175) as well as descriptive statistics for each subsample. Homicide rates over the full sample average .86 homicides per 100,000 population with a standard deviation of .58. In Eastern regions, the homicide rate was more than twice that of Western European regions, with a mean of 1.39 homicides per 100,000 population and a standard deviation of .59 homicides per 100,000 population.

Regions with the lowest homicide rates are found in the United Kingdom, Austria, and Germany, while regions with the highest rates are found in Romania, Hungary, and Bulgaria.

### **Prosocial Behavior**

In addition to predicting a negative relationship between social support and crime, CSST also predicts a positive relationship between social support and prosocial behavior. Thus, the effects of social support on a regional measure of prosocial behavior have also been investigated. Colvin et al. (2002) provide little in the way of guidance in the creation of a measure of prosocial behavior. For the purposes of the proposed analysis, then, we will define prosocial behavior as *any behavior that is carried out with the intent to improve or enhance the social world—at both the micro and the macro level—through legitimate means*. Following this definition, operationalization of prosocial behavior among residents of a region is made possible through EVS data, which provide excellent measures of prosocial behavior that include self-reported volunteer work for and involvement/membership in prosocial organizations and/or causes.

Fortunately, the EVS 2008 includes questions asking respondents to indicate whether or not they volunteer for or hold membership in a variety of organizations including social welfare organizations, community action organizations, human rights organizations, environmental cause organizations, cultural organizations, trade unions, youth organizations, women's organizations, and peace organizations. The operationalization of prosocial behavior, first, involved the construction of an additive scale reflecting the total number of the above listed organizations for which respondents claim to volunteer (coded 0 or 1 for

each organization) and of which respondents claim to be a member (coded 0 or 1 for each). The resultant scale ranges from 0 to 18, and there are a total of nine organization types.

The second step in the construction of this and all other scales involved the mean aggregation of individual-level responses to the region level. This aggregation has resulted in a regional measure of prosocial behavior representing the average level of prosocial behavior across respondents within a given region. As Table 2 indicates, the mean prosocial behavior score for regions in the full data set is .63, with a standard deviation of .58. Western European regions indicate a mean prosocial behavior score more than twice that of Eastern European regions, with a prosocial behavior score averaged at .76 and a standard deviation of .62. Overall, prosocial behavior scores range from .03 to 2.87 across regions.

## **Independent Variables**

### **Social Support**

The primary independent variable of interest in the present study is a region-level social support measure provided by Eurostat. Because social support and differential coercion social support theories do not explicitly suggest a particular operationalization of social support, previous studies testing social support theory have offered a variety of measures representing the concept. With the exception of Chamlin and Cochran (1997:204), who define social support as “the willingness of communities to commit scarce resources to the aid and comfort of their members, distinct from the beneficence of the state” and measure social support as city-level United Way contributions, scholars have measured social support in the form of support provided by the government. For instance, Chamlin et al. (1999)

measure social support via a ratio of tax deductible contributions to the number of tax returns, while Pratt and Godsey (2002) use the proportion of national budgets spent on health care and education. Following Pratt and Godsey (2002), Kim and Pridemore (2005) include two measures, the proportion of regional budget spent on health care and on education.

Fortunately, the measure of social support provided by Eurostat allows for a broad operationalization of social support. Specifically, Eurostat offers a standardized measure of the total social benefits expenditure (documented in millions of Euros), which is reported to include: “social security benefits in cash, private funded social insurance benefits, unfounded employee social insurance benefits and social assistance benefits in cash received by households resident in a specific region” (Eurostat 2008:9). This measure—which has been carefully standardized by Eurostat to ensure it is comparable across countries—allows the current analysis to reliably account for a wide range of sources of instrumental social support in each region, which include supports provided by both national and subnational public and private organizations. For the purposes of the present analysis, the standardized measure has been transformed to reflect social benefits per capita in thousands of Euros measured for the year 2008. As Table 2 indicates, social benefits averaged €4,250 across the full sample, with a higher average of €5,380 in Western European regions and a lower average of €1,260 in Eastern European regions.

### **Perceptions of the Source and Conditions of Receipt**

At the heart of CSST are the perceptions held by those who are eligible to receive social support. The theory predicts that receiving support is simply not enough to prevent

criminal behavior because support recipients' perceptions of the source of support and on the conditions surrounding receipt of support will have a moderating effect on the relationship between social support and crime (and, of course, prosocial behavior). The theory offers much in the way of guidance in the operationalization of these concepts. The theory suggests that perceptions of the source of support can include the extent to which the recipient of support trusts and/or has confidence in the source of support. Because we are interested in determining the effects of unfavorable perceptions of the source of social support and a large proportion of social benefits finds its source in the national government, the current project has included a scale that indicates a lack of confidence in the state. Constructed with items supplied by the 2008 EVS, this scale is comprised of survey items indicating respondents' level of confidence in a number of state institutions, including: (a) parliament, (b) government, (c) social security, and (d) the education system. First, original survey items were reverse coded from 0 (a great deal of confidence) to 3 (no confidence at all), so that higher scores indicate lower levels of confidence in the state. Second, an additive scale was constructed using each item's z-score, with higher scores indicating lower levels of confidence in the state and, therefore, higher levels of unfavorable perceptions of the source of social support. Third, respondent-level scale scores were mean aggregated to the region level. Table 2 reveals that the lack of confidence scores across the full sample of regions range from -2.36 to 4.57, with an average of .39. Eastern European regions report an average lack of confidence score of 1.23, indicating averaged levels more than 15 times higher than Western European regions, which report an average score of .08.

Equally as important as the moderating effect of perceptions of the source is the potential moderating effect of perceptions of the conditions within which respondents find themselves surrounding the receipt of support. CSST suggests a variety of factors that can contribute to the development of unfavorable perceptions of the conditions of receipt, many of which can be categorized as strains. Following traditional criminological measures of strain (e.g., Agnew 1992) and introducing measures often included in social justice research (e.g., Mason 1995; Mason and Kluegel 2000), the measure used herein is an additive scale constructed of 2008 EVS items coded to indicate: (a) perceived lack of control over life, (b) overall life dissatisfaction, (c) overall unhappiness, (d) negative assessments of physical health, and (e) long-term unemployment. Because the metrics associated with these measures vary, the scale has been constructed as a sum of each item's z-score, with higher scores indicating higher levels of strain. Because individual-level scores have been mean aggregated to the region level, higher strain scores indicate higher levels of unfavorable perceptions of the conditions surrounding the provision of social supports to citizens in a given region. Table 2 reveals that across the full sample strain scores range from -2.52 to 2.58. Similar to the lack of confidence in the state scores, the average strain score across Eastern European regions is higher than that of Western European regions (.53 and -.41, respectively).

### **Control Variables**

Following previous studies of aggregate rates of homicide (as well as tests of social support theory), a number of structural variables identified as covariates of homicide in both the United States and Europe are proposed to be included in the analysis as control variables

(Chamlin and Cochran 1997; Kim and Pridemore 2005; Land et al., 1990; Pratt and Godsey 2002, 2003). These variables include indicators of economic deprivation/poverty (measured in the present study as infant mortality), economic prosperity (measured in the present study as regional Gross Domestic Product per capita—GDP), total regional population size, regional population density (that is, population per square kilometer—log transformed to correct for a highly skewed distribution), and percentage of the total regional population over the age of 65 years (to control for the demand/need for social benefits among aging populations). To control for previously discussed unique socio-political characteristics of regions located within Eastern Europe, a dummy variable indicating a region’s location in Eastern Europe is also included in the analysis of the full study sample. Refer to Table 2 for descriptive details of each structural covariate.

### **3.5. Preliminary Analyses**

Preliminary analyses indicated both heteroskedasticity and evidence of collinearity among study variables, leading to data transformations and concerns over model specification. More specifically, an examination of residuals plotted against fitted values generated using ordinary least squares regression (OLS) led to the detection of heteroskedasticity, which violates one of the assumptions of linear regression—that is, homoskedasticity, equal or constant error variance. To correct for heteroskedasticity, the homicide rate was log transformed—a transformation that is common in aggregate-level homicide studies for this purpose—and models are estimated using robust standard errors. Additionally, examination of the bivariate correlation matrices (see Tables 3 and 4) indicates

moderate to high correlations among a number of the study variables. In the full study sample, presented in Table 3, economic prosperity (measured via GDP) is found to be highly positively correlated with social benefits (with a bivariate correlation coefficient of .79)—an unsurprising correlation because one would expect that regions with high levels of economic prosperity would be capable of providing citizens with higher levels of social benefits. Also unsurprising, location in Eastern Europe is highly negatively correlated with both GDP (-.89) and social benefits (-.77). Within the Eastern European subsample, presented in Table 4, social benefits is found to be highly negatively correlated with infant mortality, indicating that regions with higher levels of poverty have lower levels of social benefits. Additionally, population density is highly correlated with GDP, indicating that more densely populated areas are characterized by higher levels of economic prosperity. Although bivariate correlations are quite high among the noted variables, results of preliminary OLS regression analysis remained substantively consistent across model specifications and variance inflation factor values (VIF) did not exceed 4, suggesting that multicollinearity is not a major concern.<sup>2</sup> Regardless of these hopeful preliminary analyses, results presented herein must be interpreted with caution to ensure that the effects of predictor variables are not masked by the effects of other highly correlated predictors. In addition, an examination of Cook's distance

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<sup>2</sup> The high correlations between the Eastern European dummy variable and both GDP and social support are, perhaps, most concerning when considering issues of collinearity among study data. In addition to careful preliminary OLS analysis conducted to detect problems associated with collinearity, a series of random effects regression models were estimated both including and excluding the Eastern European dummy variable. Results of these models indicate no substantive differences between models' specifications—coefficients remain stable and consistent across models. Because controlling for location in Eastern Europe is important to this analysis and no evidence of statistical problems related to collinearity have been found, full models include the Eastern European dummy variable.

values revealed a small number of outliers (cases whose Cook's distance values exceeded the commonly used cutoff— $4/n$ ); however, in an effort to maximize sample size, these cases were not omitted from the study sample because OLS regression analysis results were in no way substantively affected by their omission. Finally, to aid in interpretation and to minimize multicollinearity introduced via cross-product interaction terms, all independent variables have been grand-mean centered (see Cohen, Cohen, West, and Aiken 2003).

### **3.6. Analytic Strategy**

The hypotheses outlined previously are tested using a series of random effects regression models. Because the European regions included in the study sample are geographically located within countries, the grouped structure of these data present the possibility that regression error terms are correlated within country groups. In other words, the grouped nature of the study sample increases the likelihood of a violation of independence assumption of OLS regression. Random effects regression estimation allows the researcher to account for this geographically nested structure (and, therefore, the potential for intragroup error correlation), correcting for the correlated errors terms by nesting observations in conceptually meaningful clusters (see Phillips and Greenberg 2008). In this study, region-level observations are nested within countries.<sup>3</sup>

More specifically, a series of random effects regression models were estimated to determine the presence and strength of direct relationships between social support and

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<sup>3</sup> A Hausman specification test was conducted in an effort to determine the appropriateness of the random effects regression model over a fixed-effects model design. A statistically non-significant test result confirmed that the random effects model is appropriate for data used in this study.

dependent variables (hypotheses H<sub>1</sub> and H<sub>4</sub>) and to determine whether the introduction of social justice perception measures moderates the aforementioned relationships (hypotheses H<sub>2</sub>, H<sub>3</sub>, H<sub>5</sub>, and H<sub>6</sub>). To evaluate the potential moderating effect of perception variables on the ability of social support to decrease criminal behavior and increase prosocial behavior, product term variables were constructed and introduced into the model to investigate whether statistically significant interactions exist (net of the effects of constituent variables). Multiplicative product term variables were calculated using the measure of social benefits along with the lack of confidence in the state scale and the perceived strain scale. Stata/SE 12.0's "xtreg" procedure is used with robust standard errors to estimate the coefficients and statistical tests for the random effects regression analyses.

## CHAPTER 4. RESULTS

### 4.1. Homicide

Table 5 presents random effects regression coefficients from models examining linkages between social benefits and homicide and the potential moderating effects of social justice perception measures on the relationship between social support and homicide across the full sample of regions in Europe. R-square values for the models are also presented. Model 1 explores the effects of social benefits on the log transformed homicide rate after controlling for other potential covariates of homicide.<sup>4</sup> Models 2 and 3 explore the separate direct effects of the lack of confidence and strain scales, while model 4 includes both the lack of confidence scale and the strain scale. Models 5 and 6 include the interaction term testing for the moderating influence of lack of confidence in the state and strain on the relationship, respectively, between social support and homicide.

Although an examination of the bivariate correlation between social benefits and homicide (presented in Table 3) reveals a statistically significant negative relationship—providing preliminary support for hypothesis H<sub>1</sub> and, therefore, preliminary support for social support theories—results reported in model 1 (in Table 5) contradict theoretical expectations, revealing a statistically significant positive relationship between social benefits and homicide. These results suggest that regions with higher levels of social benefits have

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<sup>4</sup> Although extant criminological research suggests that the effect of social support on homicide rates may be lingering as opposed to immediate or contemporaneous (McCall and Brauer 2014), preliminary OLS analysis revealed no substantive differences between models specified with lagged social benefits measures, including lags of 1, 2, and 3 years. Therefore, the current analysis includes only contemporaneous (2008) measures of social benefits.

higher homicide rates. The percent of the population over the age of 65 is also found to be statistically significantly related to homicide in the theoretically predicted direction. On the other hand, the total region population, population density, infant mortality, GDP, and the Eastern European dummy variable fail to attain statistical significance.

The introduction of the lack of confidence scale in model 2 leads to the loss of the statistically significant relationship between social support and homicide but fails to find a statistically significant relationship between lack of confidence in the state and homicide. Percent of the population over the age of 65 remains statistically significant and negatively associated with homicide. Model 3 shows the results for a test of the direct effects of the strain scale, indicating that strain is significant and positively related to homicide. The effect of social support is not statistically significant, but, net of all other covariates, location in Eastern European is found to have significant positive effect on homicide rates. Percent of the population over the age of 65 is also statistically significant in the theoretically consistent direction. After including both the lack of confidence scale and the strain scale in model 4, the coefficients for the strain scale, the Eastern European dummy variable, and the percent over age 65 maintain the same direction and statistical significance from the previous model.

Models 5 and 6 fail to support hypotheses  $H_2$  and  $H_3$ — neither multiplicative product term variable is found to be statistically significant. These results fail to support the predictions of CSST. Consistent with models 3 through 5, however, net of other covariates, the Eastern European dummy variable and the percent of the population over age 65 continue to be statistically significant predictors of homicide. Similar to the previous models, models 5

and 6 fail to support hypothesis  $H_1$  and, therefore, offer no support for the basic argument underlying social support theories.

Although random effects regression models of the full sample of 175 regions offer no support for the predictions of CSST regarding homicide, Table 6 presents random effects regression coefficients from models examining the potential moderating effects of social justice perception measures on the relationship between social support and homicide after splitting the study sample into two subgroups of regions based on location within Western or Eastern Europe. CSST is built on the logical premise that the general public dissatisfaction and philosophical remnants of socialism evidenced in Eastern Europe may condition the effect of officially sourced, instrumental social supports delivered in the post-communist context. As such, theoretical mechanisms in varied political and social contexts may be distinct and separate investigations of the moderating potential of the lack of confidence and strain scales on the effect of social benefits in both the Western and the Eastern European contexts are warranted. In addition to this, the high bivariate correlations between the Eastern Europe dummy variable and the measures for social support (-.89) and for GDP (-.77) pose concerns about the soundness of the estimates in the full sample model.

Table 6 replicates models 5 and 6 discussed above for each of the Western and Eastern region subsamples. Taken together, findings presented in models 7 through 10 provide mixed support for CSST. Models 7 and 8 fail to support hypotheses  $H_2$  and  $H_3$  in the Western European subsample because neither the lack of confidence interaction term nor the strain interaction term are statistically significant. Results of analyses conducted across the

Eastern subsample presented in the models 9 and 10, however, move toward confirmation of the predictions of hypotheses H<sub>2</sub> and H<sub>3</sub>. Specifically, the coefficient for the interaction term including lack of confidence in the state is marginally significant, with a p-value of .108 associated with a two-tailed test.<sup>5</sup> A positive regression coefficient for this interaction term represents results supporting hypothesis H<sub>2</sub>, and the negative association between social benefits and homicide is strongest in Eastern European regions where lack of confidence in the state is low.<sup>6</sup> As Figure 5 illustrates, in Eastern European regions with high levels of confidence in the state, social benefits is negatively related to homicide while the negative relationship between social benefits and homicide is rendered positive in regions with low levels of confidence in the state. Similarly, model 10 supports hypothesis H<sub>3</sub>—a statistically significant positive strain interaction indicates that the negative relationship between social benefits and homicide is strongest in Eastern European regions with low levels of strain. Figure 6 depicts this relationship, making clear that social support is negatively associated with homicide in Eastern European regions with low levels of strain and positively related to homicide in regions with high strain levels.

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<sup>5</sup> Although the results of a two-tailed test are presented, a one-tailed test of hypothesis H<sub>2</sub> in this instance is appropriate because the interaction term is related to homicide in the theoretically hypothesized direction. The results of a one-tailed test, then, would indicate a p=.054, which indicates a relationship approaching significance.

<sup>6</sup> A significant z-value obtained via the Chow test of equality of regression coefficients (1.69, p<.05, one-tailed test) indicates a significant difference between the coefficients for the lack of confidence interaction term across the Western and Eastern European subsamples (see Clogg, Petkova, and Haritou 1995 and Paternoster, Brame, Mazerolle, and Piquero 1998).

Overall, these results provide mixed support for hypotheses H<sub>1</sub>, H<sub>2</sub> and H<sub>3</sub> because the relationship between social support and homicide in the Eastern European subsample appears to depend upon the levels of both strain and lack of confidence in the state.

#### **4.2. Prosocial Behavior**

Tables 7 and 8 provide results of models exploring the hypothesized processes by which social benefits is theorized to influence prosocial behavior, including the investigation of the moderating effects of lack of confidence in the state and strain. Models 11 through 16 are presented in Table 8 and report the results from a series of random effects regression models in which social benefits, lack of confidence in the state, strain, and lack of confidence and strain interaction terms are entered net of controls to predict prosocial behavior.

Although an analysis of bivariate correlations in Table 3 reveals a moderate positive relationship between social benefits and prosocial behavior, models 11 through 16 fail to support hypothesis H<sub>4</sub>. Model 11 reveals that, net of controls, social benefits is not found to be statistically significantly related to prosocial behavior. Total regional population size, infant mortality, regional GDP, percent of the population over the age of 65, and location in Eastern Europe are also not found to significantly predict prosocial behavior. The coefficient for population density, on the other hand, is found to be negative and significant, indicating that regions with lower levels of population density report higher levels of prosocial behavior.

The introduction of the lack of confidence in the state scale in model 12 reveals a statistically non-significant influence on prosocial behavior. Model 13 indicates, as

theoretically predicted, a significant negative relationship between strain and prosocial behavior net of the effects of the other variables in the model. The reintroduction of the lack of confidence in the state scale in model 14, however, renders the influence of strain on prosocial behavior non-significant. The only variable to maintain a significant relationship across models 11 through 14 is population density.

Focusing on the interaction terms added to models 15 and 16, no support for the moderating influence of perceptions of social justice is found. Net of controls, neither the lack of confidence in the state interaction nor the strain interaction are statistically significant. These results fail to support hypotheses H<sub>5</sub> and H<sub>6</sub>. In fact, only population density remains significant in models 15 and 16.

Again, because the logical premises of CSST suggest the potential for distinct theoretical processes in varied socio-political contexts, the study sample of regions has been divided based on location in Western and Eastern Europe. Models 17 through 20 in Table 8 present the results of random effects regression models predicting prosocial behavior across the split sample. Although the statistically non-significant coefficient for the lack of confidence interaction term in both models 17 and 19 provide no support for Hypothesis H<sub>5</sub> in either Western or Eastern European regions, hypothesis H<sub>6</sub> is supported in both samples. As models 18 and 20 reveal, the statistically significant negative strain interaction term coefficients indicate that in both Western and Eastern European regions the relationship between social benefits and prosocial behavior is moderated in the theoretically predicted direction by the level of strain. Figures 7 and 8 provide a graphical depiction of these

moderated relationships, both revealing a positive association between social benefits and prosocial behavior in regions categorized by low levels of strain and a negative association between social benefits and prosocial behavior in regions with high levels of strain.<sup>7</sup>

Taken together, the results presented herein fail to support hypothesis H<sub>4</sub>, provide mixed support for hypotheses H<sub>5</sub> and H<sub>6</sub>, and, thus, provide equivocal support for CSST. Although social benefits are not found to be statistically significantly related to prosocial behavior, results of the split sample analysis reveal that in both Western and Eastern European regions strain moderates the relationship between social benefits and prosocial behavior such that regions characterized by low levels of strain demonstrate a positive relationship between social benefits and strain while regions characterized by high levels of strain are associated with a negative relationship between social benefits and prosocial behavior.

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<sup>7</sup> Although the interaction term coefficients presented in models 18 and 20 seem to suggest a slightly stronger moderating influence of strain in Eastern European regions, a non-significant z-value obtained via the Chow test of equality of regression coefficients (Clogg et al. 1995; Paternoster et al. 1998) indicates that there is no significant difference between these effects across the Western and Eastern European subsamples. Relatedly, though the strain index achieves significance in model 19 and not in model 17, a non-significant equality of regression coefficients suggests no significant difference between the subsamples.

## **CHAPTER 5. DISCUSSION AND CONCLUSIONS**

### **5.1. General Conclusions**

Although extant criminological research offers evidence of social support's dampening effect on crime (e.g., DeFronzo 1983, 1997; DeFronzo and Hannon 1998; McCall and Brauer 2014; Messner and Rosenfeld 1997; Pratt and Godsey 2003; Savolainen 2000; Thames and McCall 2015), there is some evidence to suggest that social support does not work to prevent crime in all contexts—for instance, the post-communist context (Antonaccio et al. 2015; Kim and Pridemore 2005)—highlighting the need to elaborate on and refine social support theories of crime to enhance their explanatory power. Following Cullen's (1994) suggestion that the manner in which social support is interpreted by the recipient is an important factor to consider when evaluating the effectiveness of social support, the current project integrates elements of social justice theories to elaborate on the social support paradigm in an effort to account for these empirical discrepancies. The resultant theoretical elaboration, conditioned social support theory (CSST), applies to both micro and macro levels of social support in global societies. CSST suggests that the strain-reducing potential of social support to decrease crime and to promote prosocial behavior may be diminished, nullified, or even reversed under the influence of strain-inducing social forces and negative perceptions of the source(s) of support. More specifically, CSST predicts that when delivered under unfavorable circumstances—for instance, under coercive stipulations, amid high levels of life strain, or with erratic delivery schedules—and/or when delivered by sources perceived as unfavorable to the recipient—such as sources who are not trusted or sources for which the

recipient lacks confidence—social support is devalued and does not generate the positive social-psychological outcomes that lead to high levels of prosocial behavior and low levels of criminal behavior.

In addition to an elucidation of CSST, the current project offers a cross-national test of the core theoretical predictions of this newly developed theory across a sample of European regions. Random effects regression analysis is used to test (a) the direct effects of social support on both homicide rates and prosocial behavior and (b) the moderating influence of perceptions of the source of social support and perceptions of general life strains on the relationship between social support and both homicide rates and prosocial behavior. Results from the analyses offer mixed support for the research hypotheses, suggesting that although social support is not related to either crime or prosocial behavior in the theoretically predicted direction across the sample of European regions, the effects of social support on both crime and prosocial behavior are dependent on the perceptions of the source of support and perceptions of the conditions under which it is received (in this case, perceived strain) in the manner predicted by the theory. What is more, the moderating influences of these perception measures vary across sociopolitical contexts. Although perceptions of strain are found to moderate the relationship between social support and prosocial behavior across both Western and Eastern European regions, perceptions of strain are found to moderate the relationship between social support and crime only across Eastern European regions. Unfavorable perceptions of the source of social support—that is, lack of confidence in the

state—however, are found to moderate the relationship between social support and crime only across Eastern European regions.

Inconsistent with CSST and other social support theories of crime (Colvin et al. 2002; Cullen 1994), the present study finds that when controlling for the effects of population size, poverty, economic prosperity, population density, the aging population, perceptions of strain, lack of confidence in the state, and location in Eastern Europe, social support is not statistically significantly related to either crime or prosocial behavior. Although these results are not wholly supportive of the theoretically proposed crime-reducing effect of social support, they are consistent with the work of a number of scholars whose cross-national studies reveal statistically non-significant relationships between social support and crime in a variety of sociopolitical contexts at both the individual (Antonaccio et al. 2015) and the macro levels (Kim and Pridemore 2005; Neumayer 2003). The present study's failure to find statistically significant effects of social support may be due, in part, to the limited variation in homicide rates across the study sample, especially among the Western European regions. Additionally, the measure of social support used herein only reflects instrumental social supports delivered and applied at the macro level of society. Although social support theories of crime predict that social support should reduce criminality at all levels of society regardless of its source, extant research suggests that social supports originating in more immediate social networks surrounding individuals may be more effective at reducing criminal behavior (Antonaccio et al. 2015; Baron 2014). Focusing on social support delivered by macro-level agencies, then, might mask the crime-reducing potential of social supports

delivered by entities more intimately related to the recipient, such as families and friendship networks, that are not captured in this study's measure of social support. Likewise, a focus on formal, macro-level support might mask informal, micro-level social support's influence on prosocial behavior.

Although the results of the present study do not offer support for CSST's proposed direct effects of social support, study findings are far more favorable to the core arguments of CSST concerning the moderating influence of perceptions of the source of support and perceptions of the conditions under which support is received. Not only was the measure of perceived strain predictive of an increase in criminal activity across the full sample of regions but among Eastern European regions perceived strain is found to moderate the relationship between social support and rates of crime. Consistent with CSST, the relationship between social support and crime rates in Eastern European regions varies depending on the regional level of perceived strain. Specifically, in Eastern Europe, a negative relationship between social support and crime is found in regions with low levels of perceived strain while a positive relationship between social support and crime is found in regions with high levels of perceived strain. These findings indicate that in Eastern European regions with low levels of strain social support works to reduce criminal behavior; however, in Eastern European regions with high levels of strain, the crime-dampening effect of social support is diminished and actually reversed, because higher levels of social support are associated with higher rates of crime. In the context of a region with low levels of perceived strain, then, social support is found to effectively reduce rates of crime. The existence of high levels of perceived strain (in

other words, unfavorable conditions surrounding the receipt of social support), however, seems to create a context under which social support increases crime rates.

Although the positive relationship between social support and crime in Eastern European regions with high levels of unfavorable conditions may seem to contradict conditional social support theory, a close examination of the theory reveals that these findings are consistent with it and may offer additional support. More specifically, there exist two conceivable explanations for this finding that are consistent with CSST. First, the measure of perceived strain employed in this study may be capturing the effect of erratic delivery of social support, which is not explicitly measured in the model. CSST predicts that unfavorable conditions surrounding the receipt of consistently delivered social support will devalue social support such that the support will not lead to low levels of criminal offending and high levels of prosocial behavior. Unfavorable conditions surrounding the receipt of erratically delivered social support is predicted to exacerbate the negative social-psychological outcomes brought about by the erratic delivery of social support, thereby leading to an even higher likelihood of criminal offending. Though the current study does not measure or test the moderating influence of delivery schedule directly, the measure of perceived strain included herein is likely to offer some reflection of the schedule of social support delivery experienced by individuals in a given region. Turning back to the simplified causal diagram offered in Figure 3, the delivery schedule of social support is predicted to have a direct effect on the perceptions of support recipients. As Figure 3 illustrates, erratic delivery of social support will result in higher levels of unfavorable perceptions. For

example, erratically delivered social support may lead support recipients to feel a lack of control over their life circumstances, higher levels of overall life dissatisfaction, and/or higher levels of overall unhappiness—dimensions of strain included in the strain measure employed in the present study. Consequently, a region high in perceived strain, particularly when located in the turbulent, politically corrupt context of Eastern Europe (see Esping-Andersen 1996; Harvey 2005), may very well experience erratically delivered social support. For such a context—a region with high levels of erratically delivered social support—CSST would predict a higher rate of criminal offending.

The second explanation for the positive relationship between social support and crime in the case of regions with highly unfavorable conditions surrounding receipt involves the distinction between legitimate and illegitimate sources of social support—in other words, social support provided to citizens that the government derived from conforming versus criminal sources. As suggested by Antonaccio et al. (2015) in their study of Ukraine, a positive relationship between officially delivered social support and crime rates may reflect the fact that in the highly corrupt Eastern European context government funding may be perceived as comprised of “criminal capital” and high levels of social support provided by the government may indicate the high level of the spoils of criminal activities offered to citizens by their government (Antonaccio et al. 2015: 75).<sup>8</sup> This explanation is rendered more probable when one considers that the high levels of corruption found in such a context would

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<sup>8</sup> Although Antonaccio et al. (2015) draw these conclusions based on individual-level measures of social support (i.e., individuals with higher levels of government-delivered social support report higher probabilities of criminal offending), it is reasonable to assume that at the region level higher levels of formal social support in a similarly corrupt context might indicate a higher amount of illegitimate support on the part of the government.

likely be reflected in these measures of high levels of perceived strain. More specifically, the observation of political corruption in Eastern Europe would likely highlight the pervasive social injustice that characterizes the post-communist context. As previously discussed, perceptions of social injustice are associated with high levels of life dissatisfaction and overall unhappiness (see Mason and Kluegel 2000)—which, again, are dimensions of strain included in the strain scale employed herein. One would expect, then, that regions with high levels of observable political corruption would demonstrate high levels of perceived strain. Such an explanation is consistent with CSST because higher levels of criminal offending are predicted when access to illegitimate sources of social support are present. In any case, future research should explore these possibilities.

In addition to the moderating influence of the conditions surrounding the receipt of social support, the current study offers some evidence in support of CSST's prediction that the favorable versus unfavorable perception of the source of social support will moderate the relationship between social support and crime. Specifically, within the Eastern European subsample there is evidence that the effectiveness of social support in reducing crime depends on the perceptions of the lack of confidence in the source of social support. Consistent with the core propositions of CSST, in regions with favorable perceptions of the source of support (high levels of confidence), social support is found to reduce criminal offending. Similar to the findings associated with perceptions of strain, regions with unfavorable perceptions of the source of social support (low levels of confidence) evidence a

positive relationship between support and homicide—increases in unfavorable perceptions of the source of social support seem to be associated with increases in rates of crime.<sup>9</sup>

These results reveal an intriguing finding regarding the moderating effects of perceptions of the source of social support in regards to crime. CSST predicts that consistently delivered social support will be devalued (in other words, will not produce the positive social-psychological outcomes necessary to reduce criminal offending) when the source of social support is viewed in an unfavorable light. In such a context, the crime-reducing potential of social support will not be realized, rendering null the relationship between social support and crime. Although, as previously discussed, the current study does not consider the delivery schedule of social support, these findings may point to the need to refine CSST to account for the ability of unfavorable source perceptions to produce negative social-psychological outcomes and, thereby, increase the probability of criminal behavior even in the presence of consistently delivered social support. Alternatively, these results may reflect the presence of erratically delivered social support, because one would expect the erratic delivery of social support to lead to unfavorable perceptions of the source of support. Such an explanation would render the current findings consistent with CSST, because unfavorable perceptions of the source of social support are predicted to increase the production of negative social-psychological outcomes and, thereby, increase rates of crime. These results may also reflect the aforementioned possibility that Eastern European publics

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<sup>9</sup> Although these results do not attain statistical significance at the traditional  $p < .05$  level, the small margin separating these results from statistical significance (a difference of  $p = .004$ ) and the relatively small size of the Eastern European sample ( $N = 48$ ) warrant substantive interpretation of these findings with the caveat in mind that the empirical tests fell short of statistical significance.

view their government as a corrupt, illegitimate source of social support. A perception of ill-gotten gains by government used for social support could lead citizens to have little respect for—and, consequently, have diminished confidence in—their government and, therefore, report unfavorable perceptions of the source of social support. In any case, further investigation of the mechanisms driving these relationships is needed.

Future work should also further explore the moderating influence of perceptions of strain and the favorableness of the source of social support on the relationship between social support and *prosocial behavior*. Although the current study's findings reveal a statistically non-significant interaction between social support and perceptions of the source of support, perceptions of strain are found to moderate the relationship between social support and prosocial behavior. Consistent with CSST, strain is found to diminish the positive effect of social support on prosocial behavior in both Eastern and Western European regions. Across the study sample, those regions with lower levels of perceived strain evidence a positive relationship between social support and prosocial behavior. As levels of perceived strain increase, the positive effect of social support on prosocial behavior becomes weaker and, in regions with high levels of perceived strain, becomes negative. Although these findings are generally consistent with CSST, the theory does not currently address the potential of social support—even erratically delivered social support—to be associated with a decrease in prosocial behavior. As previously discussed in regards to criminal behavior, the possibility exists that the negative relationship between social support and prosocial behavior in the

context of high levels of perceived strain may be indicative of erratically delivered social support. Future research should explore this explanation and refine the theory accordingly.

Overall, the current study offers mixed support for the core propositions of CSST. Although the results suggest that perceptions of the favorableness of the source of social support and perceptions of strain surrounding the receipt of social support do moderate the relationship between social support and both crime and prosocial behavior, these findings are not consistent across sociopolitical contexts. Additionally, the findings uncover relationships that are not explicitly conceptualized by the theory in its current state. The discovered variability across European contexts and these unexpected relationships between study variables highlight the need for further investigation and potential theoretical adaptation. As such, directions for future research are elaborated on below.

## **5.2. Limitations and Future Research Directions**

The examination of CSST presented herein is not without its share of limitations. As previously discussed, limited variation in homicide rates across the study sample may not offer a great deal of variation to explain. Issues of collinearity may also be affecting study results, particularly in the full sample and in the Eastern European subsample. Although preliminary analyses seem to indicate that the results of statistical modeling are not plagued by collinearity—results are highly consistent across model specifications and variance inflation factor scores do not cause alarm—the high bivariate correlations among some variables begs caution in the interpretation of findings. Additionally, though the study sample includes European regions characterized by varying social and political contexts, the

relatively small sample size—particularly the Eastern European subsample—limits the generalizability of study results. The small Eastern European subsample is especially problematic in light of the variation in study findings across Western and Eastern European regions. Although the present study offers evidence of the moderating effects of perception measures within the Eastern European context, a more complete representation of Eastern European regions would allow for a more thorough investigation of theoretical mechanisms and more statistically robust results within this context. Given the limited number of regions representing Eastern European countries, results of analyses reported herein should be interpreted cautiously.

The current study is also limited by the lack of time-varying measures of theoretical concepts.<sup>10</sup> Although a cross-sectional examination of CSST is doubtlessly valuable—indeed, CSST should explain both cross-sectional and longitudinal variations in crime and prosocial behavior—a longitudinal test of the theory would provide a more nuanced investigation of the moderating effects of perception measures. For instance, a longitudinal examination of theoretical mechanisms could reveal whether changes in the level of social support over time or changes in the perceptions of the source and/or conditions of receipt are influential in predicting rates of crime and/or prosocial behavior. Additionally, a longitudinal test of the theory might reveal the existence of an accumulation effect of unfavorable perceptions on the ability of social support to reduce crime—allowing one to address the question: Are unfavorable perceptions held over longer periods of time more influential than

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<sup>10</sup> Although Eurostat provides measures of the included variables over time, EVS survey items used to operationalize perception measures are only available for the year 2008.

potentially fleeting perceptions held by social support recipients at one point in time? A longitudinal examination of CSST would also allow for an assessment of causal ordering, an investigation that is more difficult to achieve using cross-sectional data. Thus, future research should attempt to re-examine CSST using time-varying measures.

In addition to a small study sample and a lack of longitudinal measures, the current study is limited by narrow measures of theoretical concepts—most significantly, perception measures. Although the measures of perceptions of the source of social support and perceptions of conditions surrounding receipt used herein are consistent with theoretical concepts, they are far from ideal measures. The measure of perceptions of the source taps into only one aspect of an individual's perception of a source of support—confidence. As CSST suggests, the perception of a source of support held by a support recipient is multi-dimensional and may include (but is certainly not limited to) trustworthiness, respect, intent, and, in the case of a macro-level formal support source, legitimacy. Similarly, the measure of the perceptions of the conditions surrounding receipt used in the current study provides a singular dimension of those conditions. Recall that in addition to strain experienced by the individual (a measure of the individual's general life circumstances), perceptions of the conditions of receipt that may work to moderate the relationship between social support and crime include (but are not limited to) the manner in which support is delivered and any stipulations surrounding the delivery of support. To more thoroughly examine the extent to which these perceptions condition the relationship between social support and crime (in

addition to prosocial behavior), future research should consider incorporating broader, more inclusive measures of perception variables.

Along with the perception measures, the measures of social support and crime employed in the current project are somewhat narrow in scope. The current study's measure of social support is confined to the macro level and originates in formal sources. As previously discussed, evidence suggests that theoretical mechanisms may be masked at the macro level and may behave differently across the formal and informal source domains, the latter of which is a micro-level mechanism. Future research should investigate social support at the micro level and should work to incorporate social support measures that move beyond formal delivery. Additionally, the measure of crime employed in the current study represents violent crime, which is perhaps that most extreme form of criminal behavior and is reported by an agent of the state (in the case of this study, a medical examiner). Because CSST should work to explain any criminal behavior, future researchers should test CSST's ability to explain a range of criminal behavior and should also include self-reported crime. Such analyses would allow for a more nuanced examination of theoretical mechanisms and would provide the opportunity to identify potential theoretical elaborations and refinements.

Perhaps the most glaring limitation of the current analysis is the omission of a measure of the schedule on which social support is delivered. Recall, CSST predicts causal processes that vary according to the schedule of delivery of social support. Without measures of this delivery schedule, the full causal model remains untested and the interpretation of findings is greatly hindered. Inclusion of the delivery schedule in future tests of CSST might

also allow for an investigation of the extent to which the delivery schedule influences and/or is reflected in perceptions of the source of support and/or the conditions surrounding receipt as has been suggested in the substantive interpretations of the findings of this study.

Because many of the limitations discussed in this chapter are related to the lack of data availability, future research should endeavor to develop and implement survey instruments that will provide more accurate, complete measures of theoretical concepts, including perception measures, social support, schedule of social support delivery, and crime. Ideally, survey items should tap directly into all aspects of perception variables. Because CSST explains that perceptions should be examined as ratios (specifically, as ratios of unfavorable perceptions to favorable perceptions), survey items should provide measures of a wide range of perception dimensions. Survey items should also allow for the measure of social support across various life domains such as family, friendships, work, and government (see, for example, Antonaccio et al. 2015). Additionally, to uncover potential macro-social contextual moderating effects based on cultural, religious, political, and historical factors, surveys should be conducted in varied sociopolitical and cultural contexts and these contextual effects should be estimated using multilevel modeling techniques. Such a data collection and analysis would allow for the investigation of contextual effects without masking the effects of social support and perception measures at the individual level. Furthermore, such a survey would eliminate the risk of committing the ecological fallacy. Finally, data collection efforts should allow for a longitudinal test of CSST by incorporating

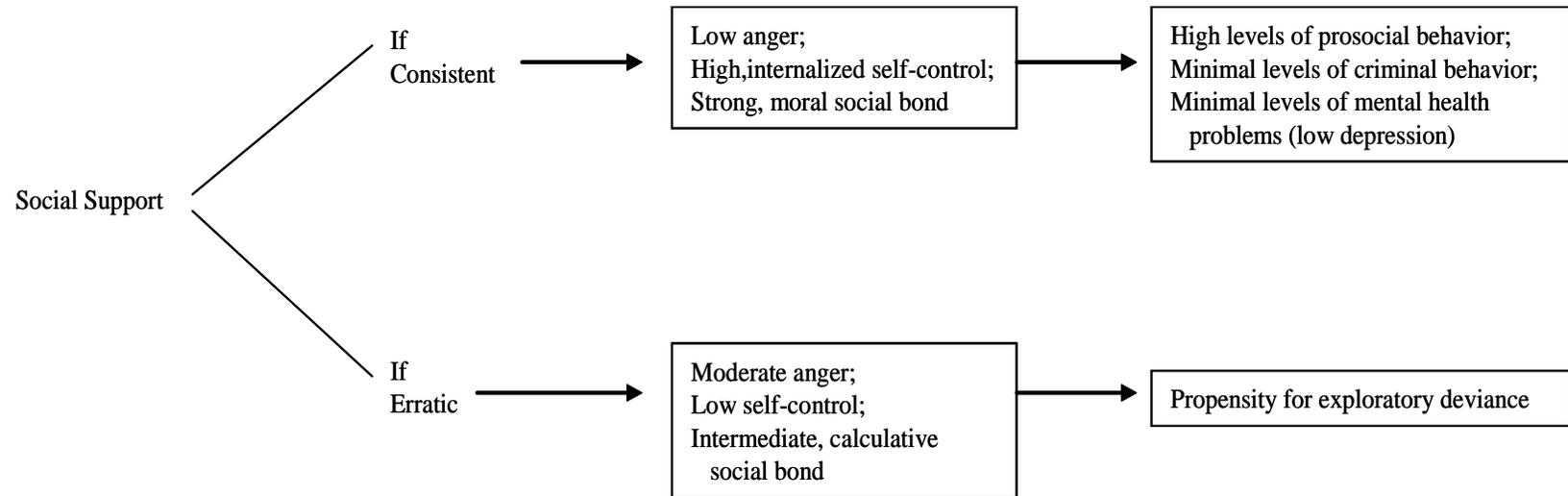
multiple survey waves or attempts should be made to include retrospective questions into the survey to measure temporally relevant forces.

In spite of the limitations of the current study, the results suggest that perceptions—of both the source of social support and the conditions under which support is delivered and received—moderate the relationship between social support and crime. Thus, the current study offers equivocal support for the propositions of CSST, thereby warranting the attention of scholars and future research. The current study also offers some evidence concerning policy implications of CSST. Perhaps most significantly, results indicate that, in the Eastern European context in particular, social support only works to reduce crime in regions that indicate low levels of perceived strain and high confidence in the government. The measures of strain and confidence employed herein doubtlessly reflect injustices perceived by Eastern European publics in both their personal lives and in relation to their governments. These findings suggest, then, that in regions with high levels of perceived social injustice, the mere existence of social support is not enough to reduce crime and/or promote prosocial behavior. The implications of such a theory are far-reaching— following the theory’s logic, a truly socially supportive environment is a socially just environment. Creating such an environment will involve wholesale changes in political and cultural institutions toward becoming institutions that will invite favorable perceptions on the part of individuals—in other words, minimizing the level of societal injustice.

Although the type of dramatic social change necessitated by the theory’s propositions may seem like an enormous task, the theory points to the fact that as perceptions of social

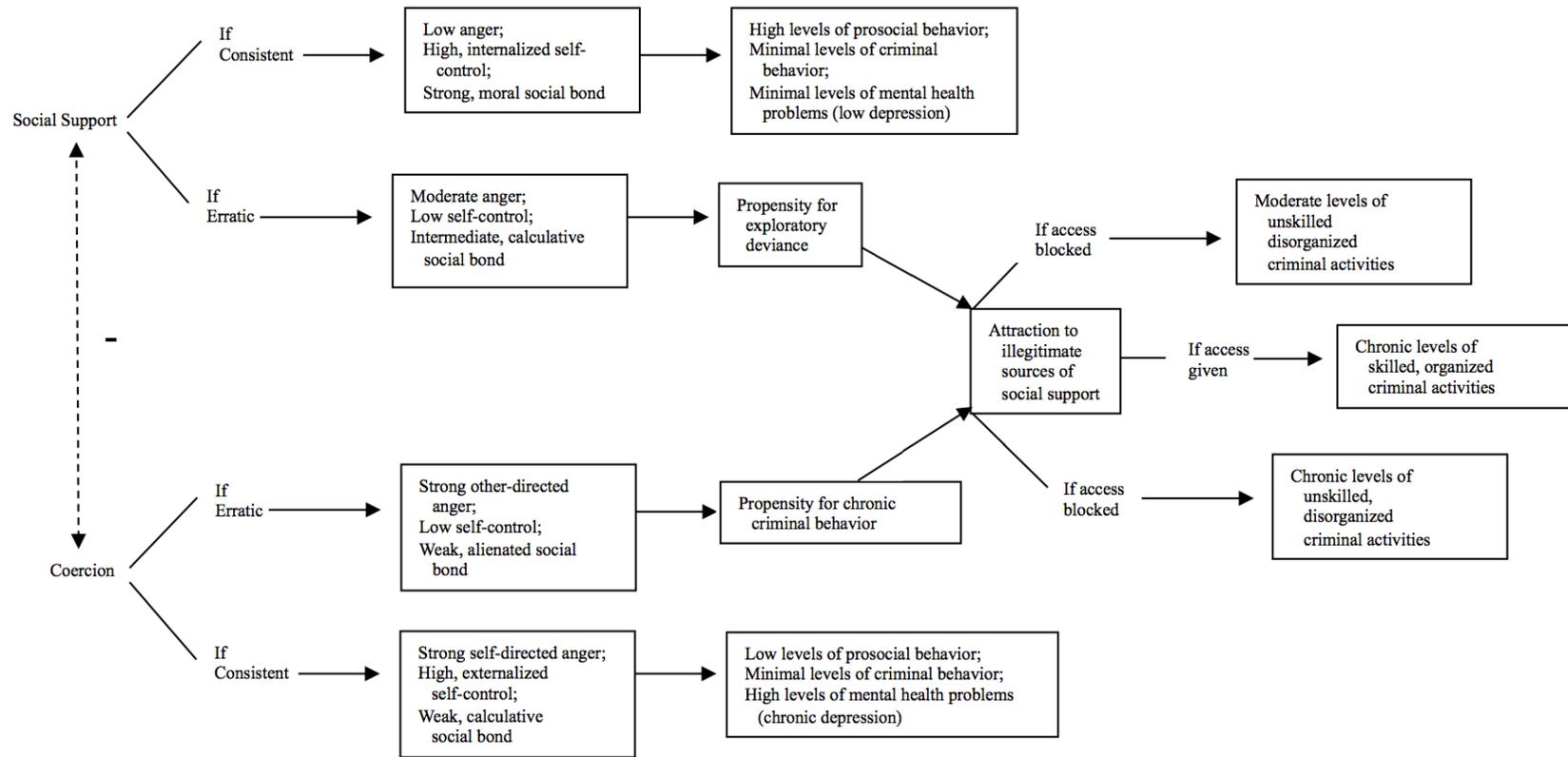
support recipients become increasingly favorable, the negative relationship between social support and crime is strengthened. Therefore, even changes made on an incremental scale (such as governments instilling a heightened sense of trust among their citizens through more consistently delivered, universally available social supports) will begin to positively impact the effectiveness of social support.

Figure 1. Model of social support theory as posited by Colvin, Cullen, and Vander Ven (2002).



Adapted from Figure 1 in Colvin, M., F. T. Cullen, and T. Vander Ven (2000). "Coercion, Social Support, and Crime: An Emerging Theoretical Consensus." *Criminology* 40:19–22.

Figure 2. Model of differential social support and coercion theory.



Adapted from Figure 1 in Colvin, M., F. T. Cullen, and T. Vander Ven (2000). "Coercion, Social Support, and Crime: An Emerging Theoretical Consensus." *Criminology* 40:19–22.

Figure 3. Simple model of causal linkages of conditioned social support theory.

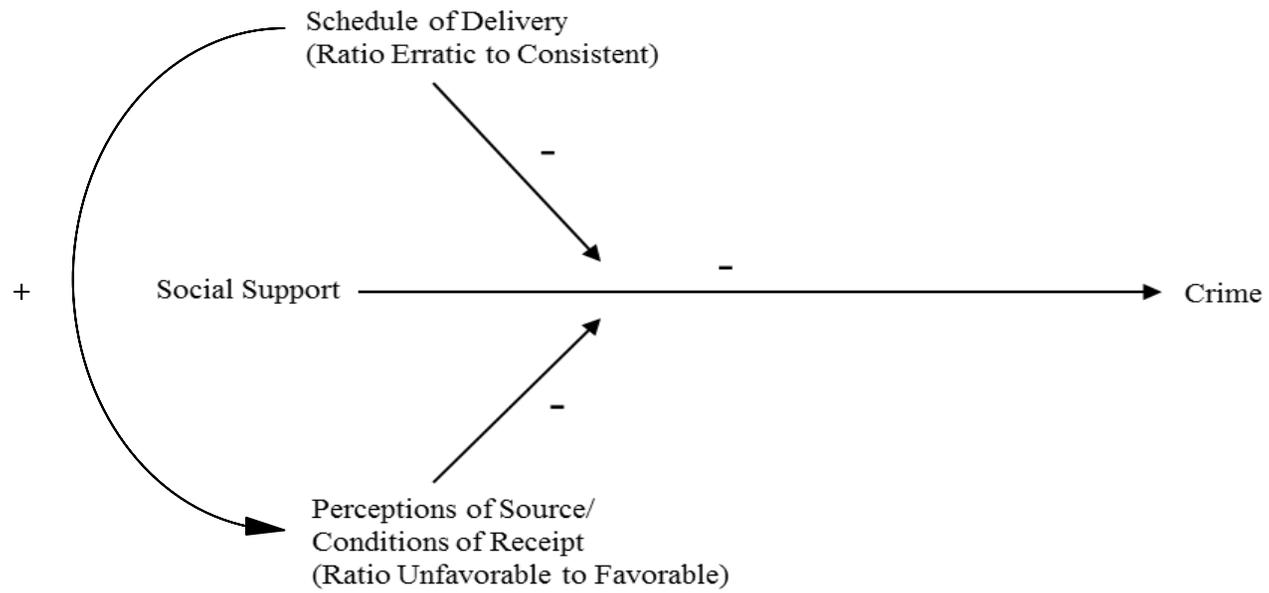


Figure 4. Model of conditioned social support theory.

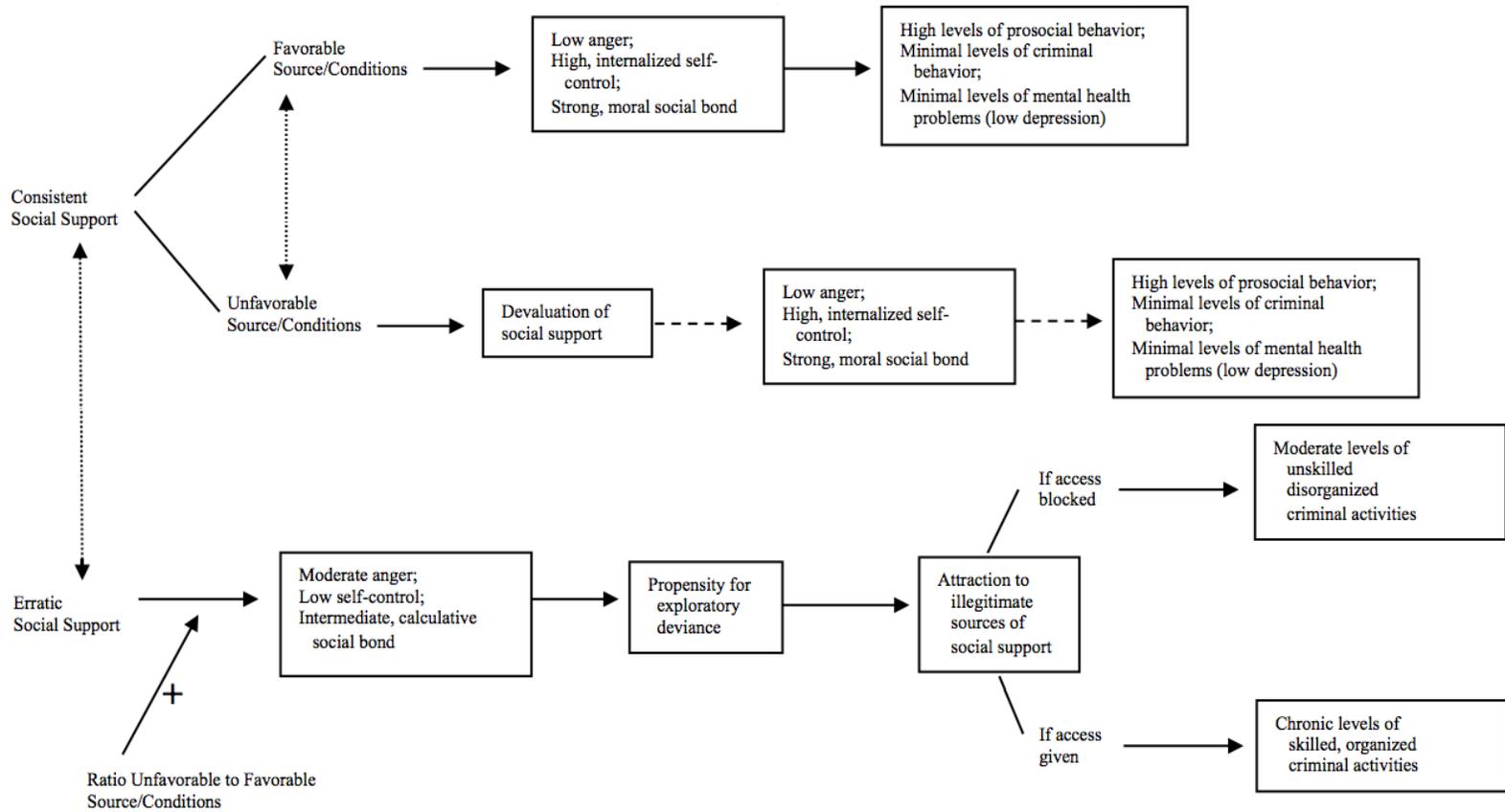


Figure 5. Graphical display of effects of interaction between confidence in the state and social support on homicide in Eastern European regions.

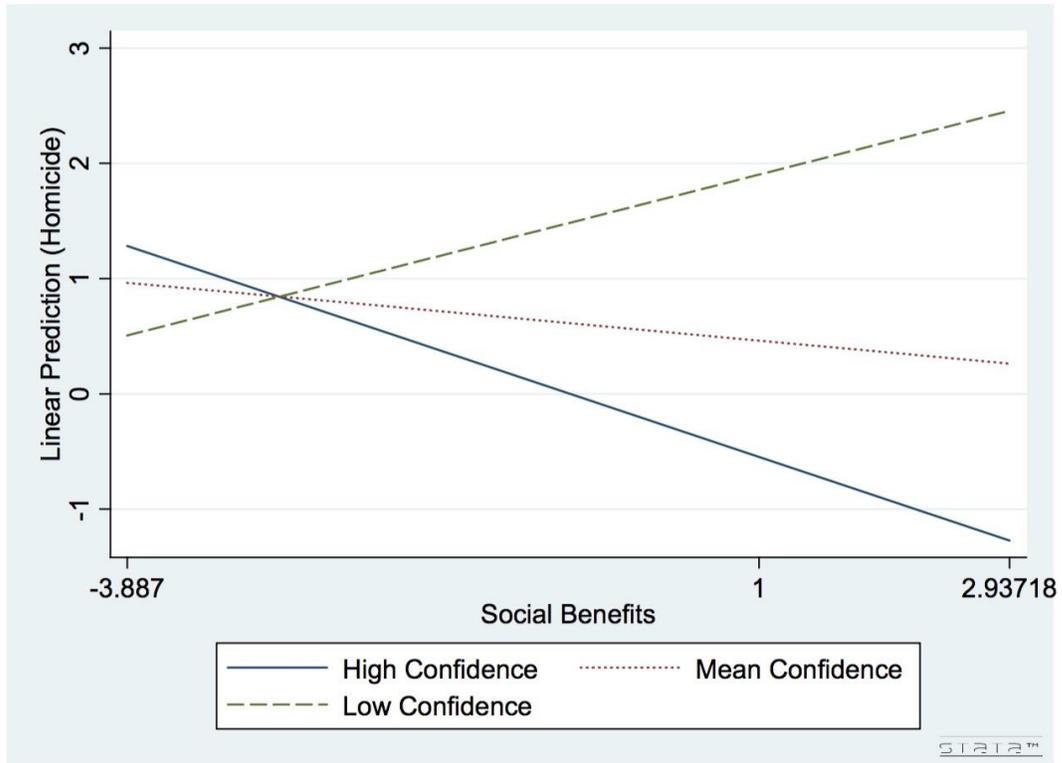


Figure 6. Graphical display of effects of interaction between strain scale and social support on homicide in Eastern European regions.

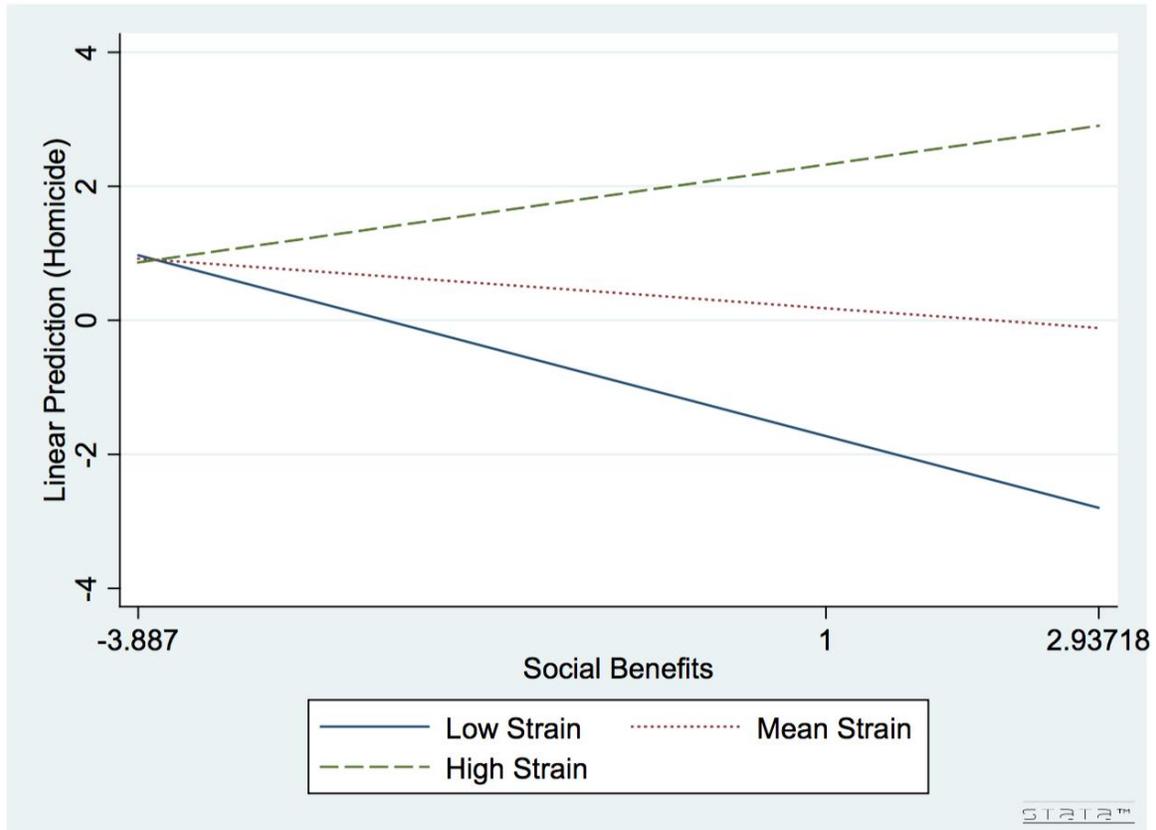


Figure 7. Graphical display of effects of interaction between strain scale and social support on prosocial behavior in Western European regions.

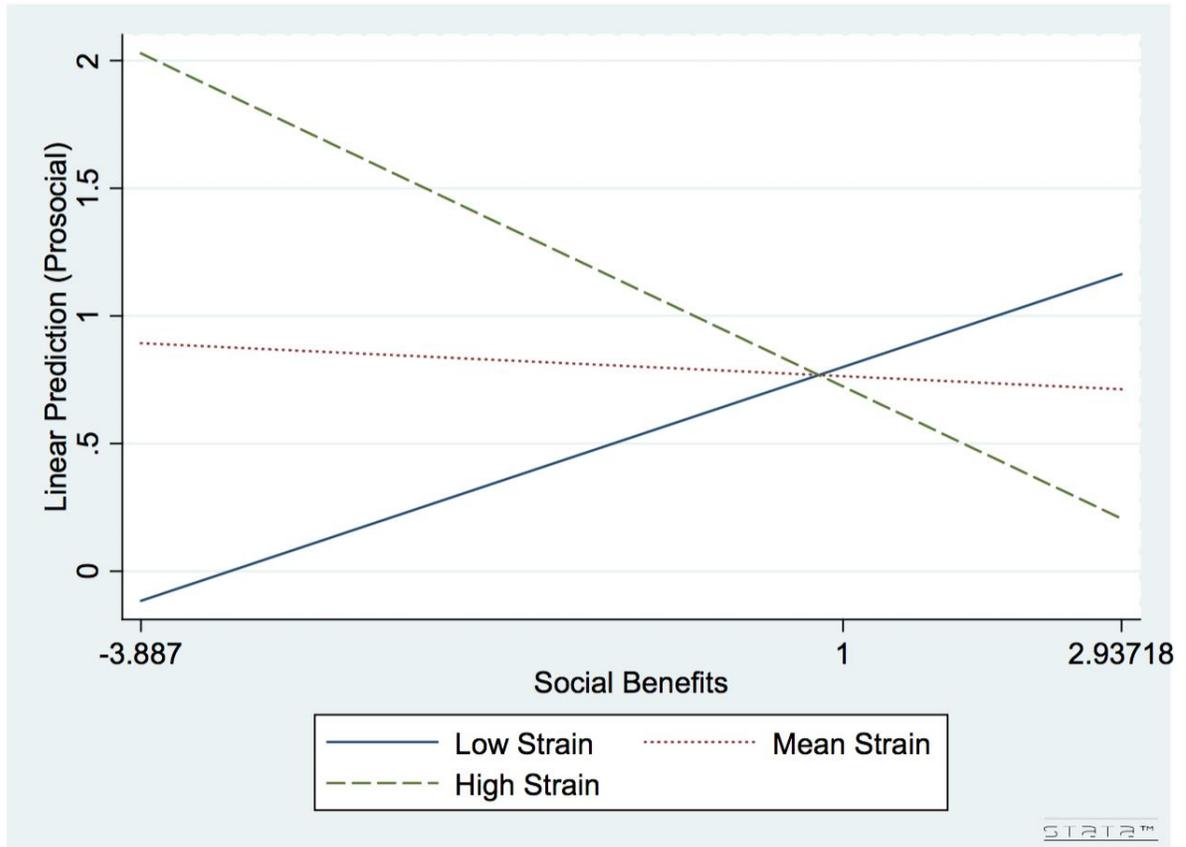


Figure 8. Graphical display of effects of interaction between strain scale and social support on prosocial behavior in Eastern European regions.

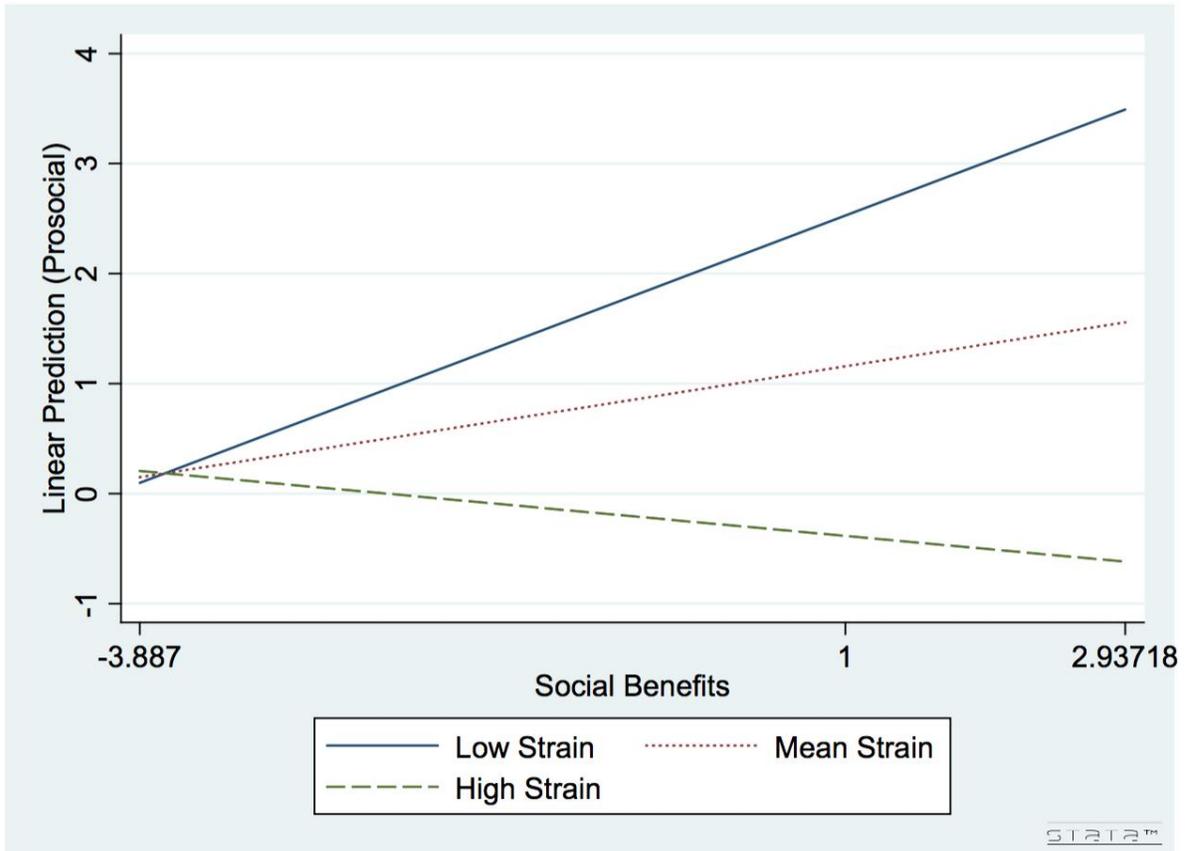


Table 1. European Regions (NUTS Level 2) Represented in Analyses Relative to the Total Number of Regions in Each Country

Austria	9/9
Belgium	11/11
Bulgaria*	6/6
Croatia*	0/3
Czech Republic*	8/8
Cyprus	0/1
Denmark	0/5
Estonia*	0/1
Finland	1/5
France	20/26
Germany	23/39
Greece	0/13
Hungary*	7/7
Iceland	0/1
Ireland	2/2
Italy	0/21
Latvia*	0/1
Lichtenstein*	0/1
Lithuania*	0/1
Luxembourg	0/1
Macedonia* (former Yugoslav Republic)	0/1
Malta	0/1
Montenegro	0/1
Netherlands	12/12
Norway	0/7
Poland*	15/16
Portugal	5/7
Romania*	8/8
Slovakia*	4/4
Slovenia*	0/2
Spain	13/19
Sweden	8/8
Switzerland	0/7
Turkey*	0/26
United Kingdom	23/32

Note: Eastern European countries marked with an asterisk; 18 of the 35 countries listed here are not included in the study sample.

Table 2. Descriptive Statistics for Regional Homicide Rates and Predictor Variables

Variable	Full Sample	Western Europe	Eastern Europe
Age-standardized homicide rate (per 100,000 population)	.86 [.58] (0, 3.3)	.65 [.43] (0, 2.4)	1.39 [.59] (.5, 3.3)
Homicide rate, log transformed	.574 [.29] (0, 1.46)	.47 [.25] (0, 1.22)	.84 [.24] (.41, 1.46)
Pro-social behavior index	.63 [.58] (.029, 2.87)	.76 [.62] (.05, 2.87)	.30 [.24] (.03, 1.54)
Social benefits (in thousands of Euros per capita)	4.25 [2.06] (.36, 7.18)	5.38 [1.04] (2.52, 7.18)	1.26 [.51] (.36, 1.95)
Population size (in millions)	2.05 [1.49] (.26, 11.66)	2.1 [1.64] (.26, 11.66)	1.92 [.99] (.61, 5.19)
Population density	362.6 [771.11] (3.3, 6574.6)	427.15 [865.65] (3.3, 6574.6)	191.82 [389.15] (48.4, 2519.4)
Population Density, log transformed	5.09 [1.15] (1.19, 8.79)	5.22 [1.24] (1.19, 8.79)	4.75 [.74] (3.88, 7.83)
Infant mortality	4.39 [2.13] (1.5, 13)	3.64 [.93] (1.5, 7.8)	6.39 [2.97] (1.5, 13)
GDP (in thousands of Euros per capita)	23.2 [11.03] (3, 60.6)	28.4 [7.56] (12.9, 60.6)	9.41 [5.48] (3, 32)
Percentage aged 65 and over	.17 [.03] (.09, .23)	.17 [.03] (.09, .23)	.15 [.02] (.11, .21)
Lack of confidence in state index	.39 [1.16] (-2.36, 4.75)	.08 [1.07] (-2.36, 4.57)	1.23 [.97] (-1.08, 3.66)
Strain index	-.15 [.85] (-2.52, 2.58)	-.41 [.72] (-2.52, 1.95)	.53 [.82] (-.69, 2.58)
N (listwise)	175	127	48

Table 3. Bivariate Correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Homicide rate**	1.00	--	--	--	--	--	--	--	--	--	--
(2) ProSocial behavior	-.098	1.00	--	--	--	--	--	--	--	--	--
(3) Social benefits	-.524*	.420*	1.00	--	--	--	--	--	--	--	--
(4) Total population	-.032	-.207*	-.039	1.00	--	--	--	--	--	--	--
(5) Population density**	.190	.160*	.178*	.297*	1.00	--	--	--	--	--	--
(6) Infant mortality	.423*	-.260*	-.597*	.068	-.037	1.00	--	--	--	--	--
(7) GDP	-.407*	.475*	.794*	-.590	.383*	-.590*	1.00	--	--	--	--
(8) Percent over 65	-.288*	-.057	.438*	-.109	-.209*	-.256*	.173*	1.00	--	--	--
(9) Lack of confidence index	.039	-.309*	-.430*	-.112	-.034	.304*	-.457*	.064	1.00	--	--
(10) Strain index	.424*	-.470*	-.510*	.098	-.128	.446*	-.616*	.059	.512*	1.00	--
(11) Eastern Europe dummy	.563*	-.357*	-.894*	-.055	-.183*	.580*	-.770*	-.464*	.446*	.495*	1.00

Note: \* indicates  $p < .05$ ; \*\* transformed with natural logarithm.

Table 4. Bivariate Correlations for Western and Eastern European Subsamples

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Logged homicide rate	1.00	-.070	-.418*	.197	-.273	.581*	-.378*	.216	.349*	-.054
(2) ProSocial behavior	.166	1.00	.167	-.193	.130	-.108	.207	.079	-.158	.012
(3) Social benefits	.004	.246*	1.00	-.128	.290*	-.741*	.502*	-.246	-.409*	-.081
(4) Total population	-.069	-.250*	-.204*	1.00	.224	.287*	-.054	-.173	-.264	-.146
(5) Logged population density	-.042	.101	.003	.301*	1.00	-.375*	.800*	-.141	-.355	-.050
(6) Infant mortality	-.254*	-.107	-.058	.079	.468*	1.00	-.654*	.272	.321*	-.032
(7) GDP	.149	.356*	.354*	.102	.320	-.098	1.00	-.235	-.462*	-.169
(8) Percent over 65	-.126	-.312*	.101	-.149	-.372*	-.197*	-.338*	1.00	.535*	.522*
(9) Lack of confidence index	.131	-.427*	-.135	.256*	.034	.164	-.422*	.332	1.00	.451*
(10) Strain index	-.324*	-.212*	-.082	-.090	.077	.193*	-.209*	.297*	.347*	1.00

Note: Correlations for Western European regions presented below diagonal (N=127); correlations for Eastern European regions presented above diagonal (N=48); \* indicates p<.05

Table 5. Random Intercept Models Predicting Homicide (with Robust Standard Errors), N=175 European Regions

	Model 1: Base Model	Model 2: Lack of Confidence	Model 3: Strain	Model 4: Lack of Confidence & Strain	Model 5: Lack of Confidence Moderator	Model 6: Strain Moderator
Social benefits per capita	.042 * (.024)	.037 (.025)	.030 (.023)	.025 (.024)	.026 (.024)	.026 (.023)
Total population	-.005 (.009)	-.004 (.009)	-.009 (.009)	-.010 (.009)	-.009 (.009)	-.010 (.009)
Population density, log transformed	.010 (.020)	.009 (.020)	.000 (.020)	-.001 (.020)	-.001 (.019)	.001 (.019)
Infant mortality	.013 (.017)	.014 (.017)	.008 (.018)	.008 (.017)	.008 (.018)	.007 (.017)
GDP	45.463 (2381.68)	92.764 (2403.95)	2507.89 (2538.78)	2709.67 (2596.19)	2375.06 (2512.11)	2513.54 (2419.17)
Percent over 65	-1.461 * (.768)	-1.37 * (.715)	-1.907 ** (.669)	-1.751 ** (.685)	-1.784 ** (.673)	-1.73 ** (.696)
Eastern Europe dummy	.385 (.161)	.367 (.168)	.293 * (.158)	.297 * (.158)	.284 * (.162)	.286 * (.151)
Lack of confidence scale	-----	.001 (.019)	-----	-.022 (.019)	-.023 (.016)	-.022 (.019)
Strain scale	-----	-----	.082 ** (.032)	.094 ** (.029)	.094 ** (.029)	.094 ** (.026)

Table 5 continued

	Model 1: Base Model	Model 2: Lack of Confidence	Model 3: Strain	Model 4: Lack of Confidence & Strain	Model 5: Lack of Confidence Moderator	Model 6: Strain Moderator
Social benefits-Lack of confidence interaction term	-----	-----	-----	-----	-.007 (.011)	-----
Social benefits-Strain interaction term	-----	-----	-----	-----	-----	-.008 (.010)
R <sup>2</sup> (overall)	.27	.28	.35	.40.	.42	.41.

Note: \*\*p<.05; \*p<.10 (two-tailed test).

Table 6. Random Intercept Models Predicting Homicide in Western and Eastern European Samples (with Robust Standard Errors)

	Western Europe (N=127)		Eastern Europe (N=48)	
	Model 7: Lack of Confidence Moderator	Model 8: Strain Moderator	Model 9: Lack of Confidence Moderator	Model 10: Strain Moderator
Social benefits per capita	.021 (.025)	.020 (.028)	-.103 (.143)	-.152 (.156)
Total population	-.016 ** (.006)	-.019 * (.010)	.040 (.031)	.032 (.035)
Population density, log transformed	.025 (.017)	.025 (.019)	-.094 (.079)	-.092 (.071)
Infant mortality	-.011 (.018)	-.011 (.017)	.037 ** (.017)	-.092 ** (.071)
GDP	1270.23 (2408.06)	1841.73 (2625.96)	15224.0 (12151.8)	16410.77 (10522.75)
Percent over 65	-1.70 * (.904)	-1.662 * (.973)	.083 (1.815)	1.367 (1.354)
Lack of confidence index	-.010 (.022)	-.017 (.015)	.263 * (.150)	-.015 (.046)
Strain index	.079 * (.032)	.085 (.056)	.140 ** (.045)	.628 ** (.195)
Social benefits-Lack of confidence interaction term	-.012 (.016)	-----	.097 † (.060)	-----
Social benefits-Strain interaction term	-----	-.003 (.036)	-----	.167 ** (.070)
R <sup>2</sup> (overall)	.14	.11	.45	.48

Note: \*\* p<.05; \* p<.10; † p=.108 (two-tailed test)

Table 7. Random Intercept Models Predicting Pro-Social Behavior (with Robust Standard Errors), N=175 European Regions

	Model 11: Base Model	Model 12: Lack of Confidence	Model 13: Strain	Model 14: Lack of Confidence & Strain	Model 15: Lack of Confidence Moderator	Model 16: Strain Moderator
Social benefits per capita	.015 (.054)	.013 (.053)	.028 (.051)	.022 (.051)	.023 (.049)	.023 (.048)
Total population	.089 (.014)	.008 (.013)	.013 (.013)	.012 (.012)	.015 (.014)	.013 (.012)
Population density, log transformed	-.063 ** (.024)	-.060 ** (.022)	-.053 ** (.025)	-.054 ** (.024)	-.055 ** (.021)	-.050 * (.025)
Infant mortality	-.014 (.014)	-.013 (.015)	-.009 (.015)	-.010 (.016)	-.011 (.016)	-.013 (.015)
GDP	4504.06 (3895.28)	3892.71 (3840.51)	2088.65 (3416.44)	2189.47 (3582.90)	1559.79 (3725.04)	1623.43 (3534.64)
Percent over 65	-.972 (2.073)	-.580 (2.209)	-.572 (2.026)	-.375 (2.150)	-.417 (2.102)	-.288 (2.071)
Eastern Europe dummy	-.354 (.242)	-.305 (.254)	-.268 (.209)	-.258 (.222)	-.287 (.203)	-.298 (.219)
Lack of confidence index	-----	-.050 (.042)	-----	-.036 (.051)	-.037 (.054)	-.036 (.051)
Strain index	-----	-----	-.076 ** (.032)	-.058 (.041)	-.057 (.040)	-.056 (.042)

Table 7 continued

	Model 11: Base Model	Model 12: Lack of Confidence	Model 13: Strain	Model 14: Lack of Confidence & Strain	Model 15: Lack of Confidence Moderator	Model 16: Strain Moderator
Social benefits-Lack of confidence interaction term	-----	-----	-----	-----	-.014 (.021)	-----
Social benefits-Strain interaction term	-----	-----	-----	-----	-----	-.020 (.013)
R2 (overall)	.15	.15	.18	.18	.18	.19

Note: \*\*p<.05; \*p<.10 (two-tailed test).

Table 8. Random Intercept Models Predicting Pro-Social Behavior in Western and Eastern European Samples (with Robust Standard Errors)

	Western Europe (N=127)		Eastern Europe (N=48)	
	Model 17: Lack of Confidence Moderator	Model 18: Strain Moderator	Model 19: Lack of Confidence Moderator	Model 20: Strain Moderator
Social benefits per capita	.007 (.063)	-.026 (.055)	-.024 (.105)	.202 * (.109)
Total population	.021 (.014)	.015 (.012)	-.068 ** (.026)	-.061 ** (.025)
Population density, log transformed	-.063 ** (.031)	-.049 (.031)	-.001 (.050)	.011 (.060)
Infant mortality	-.018 (.035)	-.034 (.034)	.017 (.018)	.028 * (.016)
GDP	1096.11 (4205.60)	295.60 (3838.85)	9242.37 (13681.38)	7780.15 (14859.81)
Percent over 65	-.267 (2.293)	.031 (2.733)	1.77 (1.565)	.996 (1.512)
Lack of confidence index	-.050 (.055)	-.076 (.069)	.259 (.197)	.004 (.041)
Strain index	-.051 (.060)	.074 (.086)	-.058 * (.033)	-.450 ** (.109)
Social benefits-Lack of confidence interaction term	-.006 (.025)	-----	.079 (.066)	-----
Social benefits-Strain interaction term	-----	-.089 * (.048)	-----	-.121 ** (.034)
R <sup>2</sup> (overall)	.03	.02	.17	.18

Note: \*\* p<.05; \* p<.10 (two-tailed test).

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## APPENDIX

## Appendix A. Propositions Outlining Cullen's (1994) Social Support Theory

### The Ecology of Social Support:

1. America has higher rates of serious crime than other industrialized nations because it is a less supportive society.  
Corollary:  
The more a society is deficient in the support needed, the higher its crime rate will be.
2. The less social support there is in a community, the higher the crime rate will be.

### Support and Crime

3. The more support a family provides, the less likely it is that a person will engage in crime.  
Corollary:
  1. The more support is given to families, the less crime will occur.
  2. Changes in levels of support for and by families have contributed since the 1960s to increases in crime and to the concentration of serious violence in high-risk inner-city neighborhoods.
4. The more social support in person's social network, the less crime will occur.
5. Social support lessens the effects of exposure to criminogenic strains.
6. Across the life cycle, social support increases the likelihood that offenders will turn away from a criminal pathway.
7. Anticipation of a lack of social support increases criminal involvement.
8. Giving social support lessens involvement in crime.
9. Crime is less likely when social support for conformity exceeds social support for crime.  
Corollary:  
Social support from conformist sources is most likely to reduce criminal involvement.

### Support and Control

10. Social support often is a precondition for effective social control.
11. A supportive correctional system lessens crime.
12. Social support leads to more effective policing.
13. Social support lessens criminal victimization.  
Corollary:  
A more supportive society reduces exposure to victimization.
14. Social support lessens the pains of criminal victimization.

Adapted from: Cullen, F. T. 1994. "Social Support as an Organizing Concept for Criminology Presidential Address to the Academy of Criminal Justice Sciences." *Justice Quarterly* 11:527-559.

## Appendix B. List of Variables

### *DEPENDENT VARIABLES*

**Homicide** = Standardized homicide rate (per 100,000 population) (Eurostat 2008)

**Additive prosocial behavior scale (18 items;  $\alpha = .748$ )** = Respondent indicated membership and volunteer activity in the following nine organization categories: welfare; community action; third world development/human rights; ecology/environment/animal rights; cultural; trade union; youth; women's rights; peace movement (EVS 2008)

### *INDEPENDENT VARIABLES*

**Social support** = Total regional social benefits expenditure (in millions of Euros) (Eurostat 2008)

**Additive scale of lack of confidence in the state (4 items;  $\alpha = .740$ )** = Respondent indicated level of confidence in the following four areas of state governance: parliament; government; social security; education system (EVS 2008)

**Additive scale of strain (4 items;  $\alpha = .645$ , with standardize components)** = Respondent indications of the following strains: perceived lack of control over life; overall life dissatisfaction; overall unhappiness; negative assessments of physical health (EVS 2008)

### *CONTROL VARIABLES*

**Total population** (Eurostat 2008)

**Population density (population per square kilometer)** (Eurostat 2008)

**Infant mortality** (Eurostat 2008)

**Gross Domestic Product (per capita)** (Eurostat 2008)

**Percent total population over 65 years of age** (Eurostat 2008)