Spring 5-5-2022

Effects of Victimization and Community Characteristics on Health Outcomes

Katie Meyer
University of Nebraska-Lincoln, kmeyer48@huskers.unl.edu

EFFECTS OF VICTIMIZATION AND COMMUNITY CHARACTERISTICS ON HEALTH OUTCOMES

By

Katie L. Meyer

A THESIS

Presented to the Faculty of
The Graduate College at the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Master of Arts

Major: Sociology

Under the Supervision of Professor Lisa Kort-Butler

Lincoln, NE

April 2022

EFFECTS OF VICTIMIZATION AND COMMUNITY CHARACTERISTICS ON HEALTH OUTCOMES

Katie L Meyer, M.A.

University of Nebraska, 2022

Advisor: Lisa Kort-Butler

Drawing on the neighborhood disorder model, the environmental stress model, and general strain theory, this study examined the effects of victimization experiences, anticipated victimization, and perceived community characteristics on overall physical health and mental health outcomes. This study used cross-sectional survey data from the 2014-2015 Nebraska Annual Social Indicator Survey (NASIS). Linear regression was used to examine how victimization experiences, worry about victimization, community context, and perceptions of crime and policing were associated with the health outcomes, controlling for demographic characteristics. The findings show that more worry about crime, less positive community perceptions, and less perceived police protection were associated with poorer physical health. In addition to these same factors, poorer mental health was associated with perceived increases in crime and feeling anger about crime in a community. These findings are consistent with prior research showing that victimization and community characteristics affect different health outcomes. Future research should examine perceptions of community cohesion variables with robust measures. Addressing variables about perceptions where communities lack cohesion and social order can help reduce stress and strain for individuals.

INTRODUCTION

Growing evidence indicates that exposure to victimization is associated with health conditions (Stockdale et al., 2007). Since 2017, each year 15% of U.S. adults have indicated they were victims of crime in the past year (Saad, 2020). Research suggests that not only does personally being victimized influence health, but so too does witnessing or anticipating victimization (Knack et al., 2012). Those who have witnessed or personally been victimized reported worse physical and mental health compared to non-victims or individuals who have not witnessed victimization (Bouffard & Koeppel, 2014).

In addition, exposure to adverse living conditions, such as greater levels of physical and social disorder and crime, increases the constant worry among individuals (Kruger, Reischl & Gee, 2007). This constant worrying often leads to fear one's safety about their living conditions. Anticipating victimization may create a constant worry or fear that is associated with negative health effects for individuals. Constant worrying also contributes to reduced social trust and neighborhood cohesion, altered social habits, and ultimately poor physical and mental health, (Lytle, Intravia & Randa, 2020).

Although prior research shows that victimization influences health outcomes, it is unclear what kinds of perceptions of crime and community conditions affect health outcomes (Stockdale et al., 2007). In this present study, the goal is to contribute to and expand upon the existing body of research that focuses on how perceptions of community conditions regarding crime and personal exposure to victimization matter to an individual's self-reported mental and physical health. To explore these connections, this study draws on the neighborhood disorder model and the environmental stress model

(Kruger, Reischl & Gee, 2007), as well as stress theory (Wheaton, Young, Montazer & Stuart-Lahman, 2013) and general strain theory (Agnew, 2002). The first two perspectives capture a picture of how community perceptions matter for health outcomes, and the second two theories illustrate how victimization experiences may affect health outcomes.

The aim of this thesis is to explore the question how victimization experiences, anticipation of victimization, and community perceptions of crime affects overall physical and mental health. In this thesis, I first review the literature on how perceptions of communities play a role in an individual's overall physical and mental health. Then, I review the literature on how victimization experiences and anticipation of victimization are associated with physical and mental health. Using data from the Nebraska Annual Social Indicators Survey (2014-2015), I explore three research question by regressing community perceptions and victimization on two different health outcomes. The nature of this state-wide survey, which samples across urban, suburban, and largely rural locations. relies on respondents' self-defined "community" rather than the more narrowly defined "neighborhood," which research often portrays as boundaries (Lorenc et al., 2012). Finally, study results reveal how community perceptions, apart from geographic boundaries, are strongly associated with the outcome of physical and mental health while examining how victimization and anticipation of victimization play a role in overall health outcomes. I conclude with a discussion of future research and the importance of community cohesion.

LITERATURE REVIEW

Community Characteristics and Health Consequences

Criminal victimization may impact an individual's health (Reisig, Holtfreter & Turanovic, 2017), and factors such as community conditions shape anticipated victimization experiences and fear of crime (Browning & Cagney, 2002). Several models explain how neighborhood conditions may affect whether an individual may perceive they will be victimized and how neighborhood conditions could affect overall health. One model is *the neighborhood disorder model* (Kruger, Reischl & Gee, 2007). This model suggests that physical and social incivilities affect fear of crime. For instance, poverty, low SES, low income, and deteriorated neighborhoods may predict higher feelings of worry because the risks of being exposed to crime is higher (Elchardus, De Groof & Smits, 2008). This fear usually is triggered by stress with living in deteriorating neighborhoods where crime rates tend to be higher. Research suggests if neighborhood crime is high, people may isolate themselves from going outside, creating a risk associated with poorer mental health (Browning et al., 2020). For instance, individuals who isolated him or herself tend to have fewer social interactions, which in turn, is tied to worse mental health (Browning et al., 2020). Fewer social interactions are correlated with worse mental health outcomes (Browning et al., 2020). Exposure to higher levels of neighborhood crime is associated with problematic outcomes such as physical inactivity, depression and anxiety, poor academic performance, and obesity (Ramey & Harrington, 2019).

Beyond actual crime in communities, the *neighborhood disorder model* suggests physical and social incivilities may contribute to fear and poorer health (Kruger et al., 2007). For instance, physical incivilities such as poor-quality housing, crowding, noise,

and lack of sunlight are associated with the worry that a person experiences and their mental health. Social incivilities, such as day-to-day issues (e.g., young people hanging around, lack of community pride) and larger community issues (e.g., low levels of community trust and cohesion) may generate a sense of unease, insecurity, and worry. Those who express such fears about their neighborhood tend to have poorer physical and mental health (Ziegler & Mitchell, 2003).

A related model describing the relationship among communities, perceptions of crime, and health is the *environmental stress model* (Kruger et al., 2007). This model integrates aspects of the physical environment and individual mental health outcomes, moderated by coping. Environments, such as neighborhoods, can trigger certain past experiences. For instance, if an individual was victimized or witnessed crime, there may be certain details about the environment in which the crime occurred that sparks continuing reminders of trauma. If the individual does not live in a community that has easily accessible health resources or social support, they may not directly have access to resources needed to cope with their victimization experience, thereby compromising their health. In other words, "stressors perceived as threatening may lead to stress reactions, involving physiological, emotional, and behavioral elements, which in turn may elicit strategies designed to cope with and potentially adapt to the threat" (American Psychological Association, 2020, pp.2). These stressors may occur through different avenues of life history, social networks, and community environments (Wheaton et al., 2013).

Stress Theory

Stress theory (Wheaton, 2013; Thoits, 2010) and general strain theory (Agnew, 2002) are also useful in understanding how victimization experiences and community conditions can be conceptualized as stressors that negatively impact health and well-being. For instance, stress theory states stressors make an individual respond in the pattern of the bodily process of alarm (alert), resistance (responsive physiological adaption to reestablish homeostasis), and exhaustion (Wheaton et al., 2013). Once this occurs, individuals may experience an undermining in their performance and worse health outcomes (Wheaton et al., 2013). Undermining can be anything from work performance, education performance, or family affairs. Once this undermining takes place, overtime, physical or mental health outcomes may change.

General Strain Theory

Like stress theory, general strain theory may also play a role in how an individual's health is affected. Agnew (2002, pp.604) "argues that strain or negative treatment by others leads to negative emotions like anger and frustration." When these negative emotions occur and people do not have access to effective coping mechanisms or support, they may engage in unlawful behavior to reduce strain or internalize strain where no outlet exists. Internalizing strain can then negatively impact an individual's physical and mental health. Taken together this group of theories suggests negative perceptions of one's community regarding crime and stressful experiences such as victimization undermine health and well-being.

Fear of Crime and Health Consequences

These theoretical models are supported by research that indicates that victimization experiences and perceived risks in one's community are associated directly and indirectly with individual's overall health conditions. When examining an individual's behavior based on those who have been exposed to crime (witnessing victimization) or have personally been victimized there are several emotions that affect how one behaves. Not only does coping play a role in how one will react, but another emotion that affects how one will react to exposure or victimization is worry. Berenbaum (2010; 962) defines worry as: "…repetitive thoughts that also have all three of the following characteristics: (1) the repetitive thoughts concern an uncertain future outcome; (2) the uncertain outcome about which the person is thinking is considered undesirable; and (3) the subjective experience of having such thoughts is unpleasant." These characteristics affect the physical reactions to their emotions.

One emotion, fear, or the immediate threat is also a very common pattern that is seen in individuals who experience worry. It consists of repetitive thoughts about future uncertain harm (worry) and a more widespread but low-level emotion that sits quite separate to concrete feelings of imminent danger (anxiety) (Berenbaum, 2010). These emotions usually appear in categories based on their behavioral response to perceived risk of victimization and fear of crime. Most of the research focuses on rationality of one's actions and reactions to their emotions. On the one hand worrying about crime may be an 'instrumental' function of threat, vulnerability, and helplessness (Elchardus, De Groof & Smits, 2008). For instance, if an individual worries about crime they realize they may be at risk of being a victim. When they realize they could be a possible victim they start to feel vulnerable, to the extent they no longer can avoid. This potential threat is

linked to an individual's physical and social vulnerabilities. On the other hand, worrying about crime can be an emotional expression, representing the less tangible emotions associated with social uncertainties (Britt, 2001).

One major factor of worry and fear is personally experiencing victimization. There are many health effects that one may experience based on if they are personally victimized. For example, PTSD is experienced more often by individuals who have been victimized compared with nonvictims (Stockdale et al., 2007). Victims of violent crime report lower levels of physical well-being out(Britt, 2001). Not only does violent crime affect victims but victims of property crimes also report lower physical well-being (Britt, 2001). Being a victim can also decrease mental health. Those who are personally victimized tend to worry more about safety and future life roles (difficulties in social, occupational, or interpersonal functions) than nonvictims (Hanson, Sawyer, Begle & Hubel, 2010).

Another contributor to varying health outcomes is witnessing victimization. Agnew (2002) considers witnessing victimization (neighborhood or school violence) to be a form of vicariously experienced strain. This strain is related to negative affective emotional states, such as higher rates of aggression and other behavioral problems as well as depression (Agnew, 2002). Witnessing victimization has lasting effects on health outcomes. For those who have witnessed crime may experience PTSD, alcohol abuse, and other health disorders (Stockdale et al. 2007). Studies found that witnessing violence is a strong predictor of adverse mental health such as anxiety, anger, and depression (Rosenthal, 2000).

In addition to witnessing victimization and personally experiencing victimization, anticipating victimization also has a lasting effect on health outcomes. When an individual anticipates being a victim it is correlated with how one's behavioral choices are reactions of one's emotions. When an individual begins to think of the possibility of victimization their physical behavioral changes are a response to the fear or threat of being a victim. Like previous studies have found, behavior is not a consequence but also a correlation of emotional responses to the risk of crime (Stafford, Marmot & Chandola, 2007). When one constraint his or herself from social activity it creates a feedback loop whereby fear leads to more social isolation, which then causes even higher levels of worry and/or fear (Lorenc et al., 2012). Along with social isolation and limited physical movement, Regnifo and Bolton (2012) found that these types of behavioral patterns matter. For example, routine activities are correlated with variation in cognitive assessments of victimization risk and disorder and that these two patterns predicted behavioral patterns in opposite directions (Regnifo & Bolton, 2012). These voluntary activities usually came with a heightened sense of risk of crime (Jackson, 2009).

Lastly, perceptions of community conditions usually create fear that correlate with inaccurate perceptions of crime. This means that one may constantly fear they are in danger, when, the crime rate is actually low (Lorenc et al., 2012). The individual's emotions become their expressions. The expressive response to crime is not necessarily tied directly from realistic threats, but rather behaviors that cause stress. These behaviors that create stress can be a result of ill health, economic uncertainty, and neighborhood turnover (Elchardus, De Groof & Smits, 2008). These perceptions are associated with a range of mental and physical health outcomes. One major factor is how these effects link

fear of crime to wellbeing via avoidance behaviors adopted to lessen the perceived risk of victimization (Boxer et al., 2020). When individuals worry, they often experience a sense of fear, creating avoidance behavior. Avoidance behavior is often a response to worry. Avoidance behaviors start by taking everyday precautions, such as locking doors, leaving lights on, security cameras, etc. Also, not only are these small precautions taken, but many individuals start to limit their lifestyle activities to avoid areas or activities perceived as involving exposure to violence (Boxer et al., 2020). By reducing the number of opportunities to form social ties and participate in social activities, individuals believe they are safer. These behaviors, however, often limit interpersonal interaction which is correlated with poorer mental health.

Current Study

Direct effects of victimization include physical and psychological harm to individuals (Boxer, Drawe & Caplan, 2020). When an individual is exposed to violence in their community, there tends to be poorer physical and psychological health reported (Kruger et al., 2007). Perceptions of community conditions are associated with a range of mental and physical health outcomes. However, most prior research focuses on the concept of neighborhoods, which may suggest more defined boundaries (Browning & Cagey, 2002). But some places may not be so neatly defined, particularly in more rural locations (Lytle et al., 2020). In this situation, respondents' perceptions of community conditions may hold more meaning for their well-being (Ceccato & Nalla, 2020). For example, adults fear more in urban areas compared to rural areas (Rosenthal, 2000). However, it is becoming more common for adults of rural areas to become fearful of

crime and victimization (Bouffard & Koeppel, 2014). Rural crime and victimization may look a bit different than urban settings, but the reported worry gap between rural and urban is slowly closing (Lytle, Intravia, & Randa, 2020).

This study builds on prior theory and research by considering how perceptions of community cohesion and crime influence health. This research seeks to answer three research questions. First, do victimization experiences affect overall physical and mental health? Prior research suggests victimization is detrimental to health (Stockdale et al., 2007). Victims of crime report worse physical and mental well-being than nonvictims (Britt, 2001). Second, does anticipating victimization affect overall physical and mental health? Previous research implies that anticipating victimization decreases an individual physical and mental health (Stafford, Marmot & Chandola, 2007). When an individual anticipates they will be a victim of crime, they change their behavior which is linked to decreases in health (Regnifo and Bolton, 2012). Finally, how are perceptions of community characters associated with how crime affects overall physical and mental health? Based on prior research how an individual feels about his or her community creates a sense of fear that alters their expressive response to stress (Lorenc et al., 2012).

METHODS

Design

The data set used in this thesis is the 2015 Nebraska Annual Social Indicator Survey (NASIS) (Smyth et al., 2015). This data set was collected by the Bureau of Sociological Research at the University of Nebraska – Lincoln with the purpose of examining the changes in patterns of quality of life for Nebraskans. The target population of those who were surveyed were individuals who lived in Nebraska, ages 19 and older. To get the best

response rate possible, NASIS 2014-2015 used a mail survey as it was cost-efficient and could reach a high coverage rate (Smyth et al., 2015). NASIS was an address-based sample (ABS). The ABS method includes all addresses for individuals and households who have an address according to the US Postal Service. This method yields high coverage for household populations (English et al., 2012). The survey used the "next birthday" method to maintain a probability sample (Dillman, Smyth, & Christian, 2014); the individual (19 years of age or older) in the household whose next birthday was after July 1, 2015, was asked to complete the survey. The surveys were collected between August 12, 2015, and October 20, 2015. Each survey sent out included a cover letter, survey booklet, a future research interest card, cash incentive of $1, and large postage-paid business reply envelope. For those who did not respond, a second survey was sent on September 2, 2015. The total amount of surveys collected was 1,143. This total included completed and partially completed surveys.

Sample

There were 3,500 sampled households (Smyth et al., 2015). Due to nonresponse and partial surveys mailed in, the total sample that was examined consisted of 1,143 adults (Smyth et al., 2015). The response rate was 32.7% (Smyth et al., 2015). After listwise deletion, the analytical sample for this study consists of 1,099 adults because of missing data on individual questions. Of the reported sample, there were 442 males, and 657 females.

Next, the sample of adults consists of 40.69% males and 59.31% females, with 3.26% being between the ages 19-24, 11.29% between the ages 25-34, 23.19% between

the ages 35-49, 32.55% between the ages 50-64, and 29.09% are 65 years of age or older. Of the sample, 90.64% reported being white, 1.93% reported being Black or African American, 3.26% reported being Hispanic, and 4.17% reported their race/ethnicity as being other. For socioeconomic status (SES), most of the sample has at least a high school diploma or GED.

Measures

Dependent Variables

This study examined overall physical and mental health. *Physical health* was measured using the question, "would you say your overall health and well-being is excellent, good, fair, or poor?" This variable was recoded so that 1=poor, 2=fair, good=3, and excellent=4.

To examine *mental health*, a scale was created using 13 items that mirror the CED-D (Radloff, 1977). Respondents were asked: "In the past week, please indicate the number of days (0-7), including today, that: you felt sad; you felt bothered by things that usually don't bother you; you felt lonely; you had trouble keeping your mind on what you were doing; you felt that everything you did was an effort; you felt fearful; you talked less than usual; you felt depressed: you did not feel like eating; you appetite was poor: you felt that you could not shake off the blues even with the help of family or friends: your sleep was restless; and you could not get 'going'." This variable was created by taking the mean of the reported number of days across the 13 symptoms (alpha= 0.8891).

Independent Variables

Victimization Experiences

Personal victimization experience was measured using the question, "Have you, or has a person close to you, been a victim of any crime in the last 12 months?" The response choices were "you: yes or no; and a person close to you: yes or no." This variable was combined to create one dichotomous variable, where 0=no victimization experience and 1=personal or network victimization experience. These items were merged because of the low frequency for personally being victimized.

Anticipated victimization was measured using a mean scale of seven items. Respondents were asked, "How often do you personally worry about walking alone at night; being the victim of identity theft; your residence being broken into; getting robbed; being raped or sexually attacked; getting murdered; and someone in my family becoming a victim of a crime." The response choices were never=1, rarely=2, sometimes=3, or almost always=4 (alpha= 0.8771).

Perceived Community Characteristics

Several questions were used to measure perceived community characteristics. First, *community role models* were used as a proxy for positive community relations and social civility. Respondents were asked, "How many youths in your community have positive role models in their lives?" The response choices were 0=none, 1=few, 2=some, a 3=great deal.

Two variables tapped feelings about crime in the community. *Crime rate* was measured using the question, "the rate of crime in your area seems to be increasing, about the same, or decreasing." The response choices were 1=increasing, 0=about the same, and -1=decreasing. Another question used to examine crime in the community was *anger*

about crime. Respondents were asked, "How angry are you when you think about crime in your community?" The response choices were 0=not angry at all, 1=somewhat angry, 2=fairly angry, and 3=very angry. Crime rate and anger about crime had a 0.3677 correlation.

Lastly, two questions were combined into a mean variable reflecting attitudes about *community police protection*. The first question that was used was, "how confident are you that the police can protect you from violent crimes like assault?" The second question used was, "how confident are you that the police can protect you from property crimes like theft?" The response categories are, "1=not at all confident, 2=somewhat confident, 3=mostly confident, and 4=very confident." The items reported a 0. 0.7564 correlation.

Control Variables

Individual's behavioral responses are highly connected to the individual's characteristics. Depending on the individual's characteristics there are factors that contribute to how likely an individual is to be a victim of neighborhood crime. This analysis controlled for gender, age, socioeconomic status, race, and news consumption, factors associated with victimization and perceptions of crime (Ray & Kort-Butler, 2019). For instance, women tend to report more fear and worry of becoming victims of crime than men (Farrall, Gray & Jones, 2021). Typically, it is reported women feel this way because they feel less able to physically defend themselves, they have higher perceived negative impact, and they see the likelihood of victimization as higher for

themselves and for their social group (Jackson & Gouseti, 2013). *Gender* was measured using the question, “are you: male or female,” where “0= Male and 1= Female.”

Another factor is age. Evidence shows that as age goes up, the less likely one is to worry about being a victim of crime. Older individuals tend to worry less about their community characteristics as many have lived in their homes for an amount of time where they feel comfortable (Jackson, 2011). Age was measured using the question, “what year were you born in?” This variable was transformed into an ordinal variable with categories with responses of age groups. The response categories were 19-24 years old, 25-34 years old, 35-49 years old, 50-64 years old, and 65 years old or older.

Another control variable measured was race. Race was measured with the question, “what race or races do you consider yourself to be?” The response choices are: “White (Caucasian), Black or African American, Hispanic, and Other:”

The economic status and income level tend to play another role in the type of community one is associated with. Those who tend to be living with average or higher economic standings, tend to be less fearful of being a victim of crime (Evans, 2003). These individual characteristics tend to be correlated which means some individuals are more likely than others to be exposed to community crime. To measure socioeconomic status, the question used was, “what is the highest degree attained?” The response categories are, “1= No Diploma, 2= HS Diploma / GED, 3=Some College / No Degree, 4= Technical / Associate / Jr. College (2 year, LPN), 5= Bachelor’s Degree (4-year BA, BS, RN), and 6= Graduate Degree.”

Ziegler and Mitchell (2003) found that young adults fear frequently because they read local newspapers and watch local newscasts much more often. Lastly, to measure

community attitudes the question used was “How many days in an average week do you watch local TV news?” The response categories ranged from 0 to 7 days.

Analysis Plan

For this study, linear regression modeling was used. Models were analyzed to test the relationship between the outcome variables physical and mental health, and the correlates variables victimization, anticipation of victimization, and community perceptions. First descriptive statistics are presented in Table 1. Next, linear regressions were done on the independent variables’ victim, worry, and neighborhood characteristics. These linear regressions were analyzed in two separate models on the dependent variables physical and mental health (Table 2). Lastly, controls were added to the models (Table 3). Correlation tests on each variable was done in STATA. Standard errors and coefficients are presented in Tables 2 and 3.

Results

Table 1 provides descriptive statistics for each of the study variables. On average, the adults reported having good physical health. For mental health, on average adults reported having 1.23 days of feeling psychological stress. For independent variables, 75.48% have not been victimized and 24.52% have been victimized. When it comes to anticipating victimization, on average adults reported rarely worrying about crime in their community. For community characteristics, on average, adults feel that youth in their neighborhood have few to some role models in their community. Also, adults feel that crime is staying the same or slightly increasing in their communities. On average, adults feel somewhat to fairly angry about crime in their community. Lastly, for community

characteristics adults feel somewhat to mostly confident that police will protect them in their community (1.95).

Table 2 presents preliminary linear regressions of the victimization and community variables on the health outcomes. Model 1 is the regression on physical health. There was a significant association between physical health with role models (B=11; $p < .001$), with anger toward crime (B= -.07; $p < 0.01$) and community police protection (B=11; $p < .001$) and the effects on overall physical health. In other words, the more role models an individual reported in a community, the better reported overall physical health. Higher levels of anger towards crime in the community was associated with worse overall physical health. Also, for community police protection, as confidence in the police protection goes up, overall physical health increases. Victim, worry about crime, and rate of crime in a community did not present any significant associations with overall physical health. Overall, it appears that community characteristics are significantly associated with overall physical health.

Also presented in Table 2 Model 2 is the linear regression model for the dependent variable psychological stress (mental health). Model 2 shows that there was a significant association between victim (B=.21; $p < 0.05$) , worrying about crime (B=0.34; $p < .001$), role models (B=-0.26; $p < .001$), anger towards crime (B=0.12; $p < 0.01$), rate of crime (B=-0.18; $p < .01$), and police protection (B=-0.15; $p < .01$) in your community. This model had all significant associations. In other words, victims of crime are more likely to report more days of psychological stress than nonvictims. Worrying more about crime results in reporting more days of feeling psychological stress. When it comes to community attitudes, the more role models reported in a community the less

psychological stress reported. In addition, the more anger towards crime in a community the more psychological stress reported. Lastly, more confidence in police protection from crime results in less psychological stress reported. Therefore, victimization, worrying about crime, and community attitudes are highly associated with mental health outcomes.

In Table 3, the control variables were added to the models. Model 1 is the linear regression model for the dependent variable physical health. In Model 1 there was a significant association found between worrying about crime, police protection, role models, gender, age, and socioeconomic status. As in Table 2, police protection and anger towards crime were significant, here in Table 3, Model 1 only police protection remains significant. For role models, the more role models in a community, the better overall physical health reported. The more confidence in police protection the better physical health reported. Also, in Table 2 anticipation of victimization was not significantly associated with overall physical health, but when the controls are added in Table 3, anticipation of victimization is significantly associated with overall physical health. This means that the less worry about crime in a community, better physical health is reported. Victim, rate of crime and anger towards crime do not have a significant association on overall physical health, while controlling for age, gender, socioeconomic status, race, and local news.

In Table 3, Model 2, controls were added to the regression model on the outcome variable mental health. When the control variables were added, some independent variables no longer had significant associations. For instance, victim, is no longer significantly associated with psychological stress. However, all other variables such as anticipation of victimization, role models, crime rate, and anger towards crime, and

police protection were all still significantly associated with the outcome variable mental health. Such as worrying about crime in a community resulted in worse psychological stress reported. The more role models in a community, the better psychological health. As community attitudes towards crime rate increased, psychological stress increased as well. When anger about crime in a community increased, psychological health worsened. Lastly, the more confidence in police protection in a community the better psychological health reported Overall, this shows that community perceptions matter for an individual's self-reported health and well-being.

In Table 3 across both models, there were significant findings for mental and physical health. For example, anticipating victimization matters for both physical and mental health. The more an individual anticipates victimization the worse physical health and more reported days of psychological stress were presented. Also, community perceptions mattered for physical and mental health. The more role models and the more confidence in police protection, the better an individual's physical and mental health. However, perceptions that crime was increasing in the community and anger towards crime in the community mattered only for mental health. The angrier an individual was towards crime in their community the more days of poor mental health were reported. Taken together the results generally support the idea that stress around victimization and perceptions community crime negatively affect health and well-being.

Table 1. Descriptive Statistics

Variable	Mean/Proportion	Std. Error	Range (Min – Max)
Dependent Variables			
Overall Physical Health	3.01	0.73	1-4
Mental Health	1.23	1.29	0-7
Independent Variable			
Victimization (1=Yes)			0-1
No victim	0.754		
Victim	0.245		
Anticipated Victimization	2.33	0.66	1-4
Community Characteristics			
Role Models	1.84	1.06	0-3
Anger Towards Crime	2.01	0.98	0-3
Rate of Crime	0.41	0.57	-1-1
Community Police Protection	1.95	0.74	0-3
Controls			
Age			1-5
19 – 24 years old	0.032		
25 – 34 years old	0.112		
35 – 49 years old	0.231		
50 – 64 years old	0.325		
65 or older	0.291		
Gender			0-1
Male	0.406		
Female	0.593		
Race			1-4
White	0.906		
Non-White	0.093		
Socioeconomic Status	0.030		1-6
Local News	4.79	2.53	0-7

Source: Nebraska Annual Social Indicator Survey (NASIS) 2014-2015

Unstandardized Coefficients

Table 2. The effects of Victim, Worry, and Community Characteristics on Overall Physical Health and Psychological Stress (Mental Health)

Variable	**Model 1. Physical Health**		**Model 2. Mental Health**	
Independent Variables	***Coef.***	***Std. Error***	***Coef.***	***Std. Error***
Victim (1=Yes)	-0.01	0.05	0.21*	0.09
Anticipation Victimization	-0.07	0.04	0.34***	0.06
Community Characteristics				
Role Models	0.11***	0.02	-0.26***	0.04
Anger Toward Crime	-0.07**	0.03	0.12**	0.04
Crime Rate	*0.01*	0.04	-0.18**	0.08
Police Protection	0.11***	0.03	-0.15**	0.05
Intercept	1.87***	0.12	0.99***	0.21

Source: Nebraska Annual Social Indicator Survey (NASIS) 2014-2015
***p<0.001; **p<0.01; *p<0.05
Unstandardized Coefficients

Table 3. Linear Regression Model of the Effects of Victimization, Worry, and Community Characteristics on Overall Physical Health and Mental Health with Controls

Variable	**Model 1. Physical Health**		**Model 2. Mental Health**	
Independent Variables	***Coef.***	***Std. Error***	***Coef.***	***Std. Error***
Victim (1= Yes)	-0.04	0.05	0.12	0.09
Anticipation Victimization	-0.08*	0.04	0.36***	0.07
Community Characteristics				
Role Models	0.08***	0.02	-0.22***	0.04
Crime Rate	*-0.00*	0.04	-0.15*	0.08
Anger Towards Crime	-0.02	0.03	0.09*	0.04
Police Protection	0.08**	0.03	-0.14**	0.05
Controls				
Age	-0.05*	0.02	-0.17***	0.04
Gender	0.09*	0.05	-0.14	0.08
Race	-0.01	0.03	0.07	0.06
Socioeconomic Status	0.11***	0.02	-0.15***	0.03
Local TV News	-0.01	0.01	0.01	0.02
Intercept	1.63***	0.017	2.09***	0.29

Source: Nebraska Annual Social Indicator Survey (NASIS) 2014-2015
***p<0.001; **p<0.01; *p<0.05
Unstandardized Coefficients

Discussion

The purpose of this study was to explore how victimization experiences, anticipated victimization, and perceptions of community characteristics about crime affected overall physical and mental health. The results suggest that physical and mental health are affected by whether an individual is a victim or not, whether an individual anticipates being a victim or not, and whether an individual has more positive or negative

perceptions of a community. The neighborhood disorder and environmental stress models (Kruger et al., 2007), as well as the stress process model (Wheaton et al., 2013) and general strain theory (Agnew, 2002), suggest that perceived community conditions and victimization experiences can harm well-being (Lornec et al., 2012). Drawing on these theories, three research questions were tested using linear regression. First, do victimization experiences affect overall physical and mental health? Second, does anticipating victimization affect overall physical and mental health? Third, how are perceptions of community characters associated with crime affects overall physical and mental health? First, past research suggests that individuals who experience victimization are more likely to report worse mental and physical health conditions than nonvictims (Reisig et al., 2017; Stockdale et al., 2007). In a preliminary model this study found that victimization experiences were associated with more days of poor mental health compared to nonvictims. In the preliminary model, there was no significant association between victimization experiences and differences in physical health. However, when considering community perceptions and personal characteristics in the final models, this study found that victimization experiences were ultimately unrelated to both health outcomes. Agnew (2002) found that this may be because perceptions of risks are tied more to demographic characteristics and community perceptions more when understanding the outcomes of physical and mental health issues. Victimization may cause strain, which then leads to negative emotions; however, if individuals live in a community that they do not feel they experience strain, then health outcomes may not be affected (Agnew, 2002).

Second, in contrast to victimization experiences, anticipating victimization was associated with poorer overall physical health and more days of poor mental health. This significant association between anticipation of victimization and overall self-reported physical health and mental health supports past research (Zeigler & Mitchell, 2003). Although prior research points to the negative health effects of personal experiences with victimization, anticipating victimization in one's environment may be equally stressful. For instance, prior research shows that if one anticipates victimization the expectation of being a victim occurring will continue to create new emotions and stress that may result in poorer physical health outcomes and struggles with mental health (Agnew, 2002; Kruger et al., 2007; Stafford et al., 2007).

Agnew (2002) and Wheaton's et al. (2013) theoretical research about stress and strain of anticipation is also highly supported by this anticipation finding. Wheaton et al. (2013) found that psychological stress is very dangerous to one's physical and mental health outcomes. Overtime, as stress builds up, and routine responses change, individuals become worn down mentally and physically. From this analysis, we can see that as more individuals worry about crime in their community, their physical and mental health is impacted. Agnew's (2002) work also supports this finding. He found that strains such as environmental (community), anticipated, or chronic are more likely to cause physical and psychological distress (Agnew, 2002). It is likely that the more worrying about crime in a community is because the individual's anticipations of victimization in their community will remain the same, therefore, the constant stress will always be there. These anticipated and community strains will then place a burden on the individual's mental and physical health.

Finally, several key perceptions about communities and crime were significantly associated with overall physical and mental health, consistent with prior research (Lornec et al., 2012). For both physical and mental health, confidence in police protection and the perceived presence of multiple community role models (a proxy for positive community relations) was associated with better physical and mental health. These findings are consistent with research on community cohesion. Ceccato and Nalla (2020) found that when an individual perceives a community as controlled and safe, the individual will feel less stress that their health is not at risk. Therefore, this study found that the more confidence in police protection in a community the better self-reported health and well-being. Evans (2003) research supports the preliminary finding that positive community relations (or community role models) reflect different health outcomes. For instance, the more positive community relations the more positive social interactions which results in more community cohesion and safety (Evans, 2003). Prior research states that positive community cohesion and safety result in better mental and physical health outcomes (Ziegler & Mitchell, 2003).

Interestingly, perceptions of crime, were only related to mental health. Believing that crime was increasing was related to poorer mental health. In addition, the angrier an individual felt about crime in their community the worse the individual's mental health. These associations are consistent with the idea that people's emotional reactions to crime may influence (and be influenced by) their level of fear, anxiety, and mental well-being (Stafford, Marmot & Chandola, 2007). The findings for this research support Stafford, Marnot and Candola (2007) in that community perceptions and community crime may impact how an individual anticipates being victimized. It appears that the more negative

community perceptions the more likely an individual may be stressed out. This stress can lead to feelings of worry and fear. This worry and fear then can negatively impact the mental health because of the constant anticipation occurring in one's day to day activities (Lorenc et al., 2012). Prior research also states that mental health may be affected by perceptions of crime because if an individual perceives crime as continuously occurring or a negative threat, this puts an additional burden on the individual. If an individual feels this burden, their psychological stress may increase (Stafford, Marnot & Candola, 2007).

In addition, these results support past research on the theoretical perspectives of Kruger's et al. (2007) research about *environmental stress model* and *neighborhood disorder model*. The *neighborhood disorder model* suggests that social and physical incivilities create a sense of unease, insecurity, and worry (Stafford, Marnot & Condola, 2007). From this analysis, the more negative perceptions of a community results in more worrying about crime in a community. This may be because negative community perceptions impact how much worrying about crime occurs, therefore, if one is constantly worried because their community, perceptions of feeling safe and comfortable are not present. This leads to more negative health comes reported (Lorenc et al., 2012). This analysis is also supported by the theoretical *environmental stress model*. This model suggests that the more stressors perceived in a community the more stress reaction, involving physiological, emotional, and behavioral elements, which then do not allow individuals to cope and adapt to the threat (Kruger et al., 2007). These environmental stressors occur through the community perceptions that then cause individual's mental and physical health to be affected.

Limitations

Despite the findings presented in this current study, there are several limitations. One limitation is this study relied on subjective perceptions of community conditions regarding crime. If objective measures of community crime rates were used there may be an additional layer of information provided regarding the context about the community (Kruger et al., 2007). Relatedly, although the focus of this study was perceptions, measures of characteristics at the community-level may be useful but were not available with these data. Hierarchical models that place individuals into their context may add to understanding what frames an individual's perceptions (Stafford et al., 2007). Geographic location of communities could also contribute independently to the variables that are associated with health outcomes (Evans, 2003). Future research should include location, population patterns, and crime rates to better understand the similarities and differences in patterns of health outcomes.

Another limitation is that the physical and mental health measures are self-reported measures of health. For instance, physical health was measured using one question about how an individual rates their overall health, which may not give a complete picture or definition of what an individual is feeling or has been through. For mental health, the variable was measured using a psychological distress scale, which does not account for other factors of mental health such as anxiety, PTSD, or substance use, which have been previously linked to factors like victimization experiences (Stockdale et al., 2007). Future research should look at additional metrics of both physical and mental health. Also, access to treatment of physical conditions or mental health conditions could be another direction for future research. Such access is community dependent, and as

such may be another factor shaping perceptions of community safety and well-being (countyhealthrankings.org).

In this study the measure of victimization was another limitation. The variable was combined for personally being victimized and another individual you know being victimized. By combining this variable, the potential differing effects of measuring the victimization experiences separately was not examined (Kort-Butler & Habecker, 2018). Relatedly, there was not an available measure to assess whether or how respondents altered their behavior to avoid places they did not feel safe (Boxer et al., 2020). Additional research should consider more robust measures of victimization experiences and behaviors tied to beliefs about personal safety.

Lastly, the sample used is another limitation. Using cross-sectional data, causal relationships cannot be fully considered. Using NASIS, this study only examined individuals from Nebraska, making this study hard to generalize to the full population. However, examining only Nebraska provides an interesting case. Nebraska has low crime rates compared to other states, suggesting that perceptions about crime matter above and beyond personal experiences with crime. For example, police force capabilities vary around the state, with some municipalities have their own police forces, but most rural areas relying on sheriff departments that cover a large area. Even with police covering large areas and the time it may take for a police patrol to get to a crime, the perceptions the police could protect the community mattered.

Directions for Future Research

A sense of community cohesion and support is an important contributor to how individuals perceive their personal safety (Lorenc et al., 2012). From this analysis, future research should examine perceptions of community cohesion variables. In this study the measures such as role models, police protection, anger towards crime, and crime rate were proxies for community perceptions. Though there were significant associations found, robust measures should be examined further. For instance, measures about attitudes towards a community may be a better indicator of how individuals perceive their community rather than using measuring that have to proximate the attitude. Also, measures of perceptions of community could be more objective, giving an accurate and defined answer to community characteristics.

Another direction for future research should look at whether child/adult reports of neighborhood exposure reflect actual lived experiences or are just products of perceptual biases. There is little match-up of the self-reports of crime between adult's neighborhood crime exposure. Most of the prior research that examined adult's exposure to violence relied heavily on self-reports (Person, Breetzke & Ivory, 2015). However, there is little evidence that these self-reports line up with actual reports of violent crime.

When it comes to perceived crime, this analysis found that the emotional connection to perceived crime affects mental health but not physical health. To fully understand this better, future research should incorporate more measures of what types of injuries or coping mechanisms were used. By understanding injuries, comparative analysis could be done to see what types of injuries are associated with the worse mental and physical outcomes. Also, by acknowledging the coping mechanisms, it can help clarify what positive strategies can mediate this relationship between perceptions of

crime and health outcomes. These coping strategies than can provide evidence for community-based resources available to individuals for these different health outcomes.

Also, this study was done in one state, making it hard to generalize to the larger population. Future research to address differences in urban, suburban, and largely rural spaces. Accounting for geographic location can help analyze key factors such as population density, racial/ethnic makeup, composition of age and gender, education levels, crime rates, and more, when it comes to analyzing how these community characteristics affect differences in health outcomes.

Lastly, theoretically combining public health models may help tie ends about how perceptions really affect health. For instance, looking at how community context for safety and victimization are associated with health can help address how physical and mental conditions are impacted. Merging ideas can create a more dynamic approach to address health outcomes.

CONCLUSION

This study found that victimization, anticipation of victimization, and perceived community characteristics affect physical and mental health outcomes. While these results support past research, there is still a great deal of research that needs to be devoted to understanding just how much perceptions of a community affect differences in health outcomes. There are still unknown gaps in how perceptions of crime in a community may be linked to different characteristics of the community. Collectively, resources such as police protection, health institutions, and intervention services in communities can help decrease the anticipation of crime in a community that creates a sense of fear and worry.

Eliminating the feeling of danger and fear is crucial to an individual's health. Addressing these resources where communities lack cohesion and social order can help reduce stress and strain for individuals. Reducing stress for individuals can reduce poorer mental and physical health outcomes helping individuals live a healthy life.

REFERENCES

Agnew, R. 2002. Experienced, vicarious, and anticipated strain: An exploratory study on physical victimization and delinquency. *Justice Quarterly*, 19 (4), pp.603-632.

Baron, S.W. 2009. Street youths' violent responses to violent personal, vicarious, and anticipated strain. *Journal of Criminal Justice,* 37,pp.442-451.

Bouffard, L.A., and Koeppel M.D.H. (2014). Understanding the potential long-term physical and mental health consequences of early experience of victimization. *Justice Quarterly*, 31(3), pp.568-587.

Boxer, P., Drawve, G. and Caplan, J., 2020. Neighborhood Violent Crime and Academic Performance: A Geospatial Analysis. *American Journal of Community Psychology*, 65(3- 4), pp.343-352.

Britt, C.L. 2001. Health consequences of criminal victimization. *International Review of Victimology,* 8, pp.63-73.

Browning, C., and Cagney, K. 2002. Neighborhood structural disadvantage, collective efficacy, and self-rated physical health in an urban setting. *Journal of Health and Social Behavior,* 43, pp.383-399.

Ceccato V. and Nalla, M.K. 2020. Crime and fear in public places: Towards safe, inclusive, and sustainable cities. *Routledge Studies in Crime and Society.*

Elchardus, M., Groof, S.D., and Smits, W. 2008. Rational fear represented malaise: A crucial test of two paradigms explaining fear of crime. *Sociological Perspectives,* 51(3), pp.435-471.

Evans, G. W. 2003. The built environment and mental health. *Journal of Urban Health: Bulletin of the New York Academy of Medicine,* 80 (4), pp. 536-555.

Farrall, S., Gray, E., and Jones, P.M. 2021. Worrying times: The fear of crime and nostalgia. *Current Issues in Criminal Justice,* pp.1-19.

Hanson, R.F, Sawyer, G.K., Begle, A.M, and Hubel, G.S. 2010. The impact of crime victimization on quality of life. *Journal of Traumatic Stress,* 23(2), pp.189-197.

Jackson, J., and Gouseti, I. 2013. Fear of crime: An entry to the encyclopedia of theoretical criminology. *Encyclopedia of Theoretical Criminology,* pp. 1-6.

Jackson, J. 2011. Revisiting risk sensitivity in the fear of crime. *Journal of Research in Crime and Delinquency,* 48(4), pp.513-537.

Jackson, J. 2009. A psychological perspective on vulnerability in the fear of crime.

Psychology Crime and Law, 15(4).

Knack, J.M., Iyer, P.A., and Jensen-Campbell, L.A. 2012. Not simply "in their heads": Individual differences associated with victimization and health. *Journal of Applied Social Psychology*, 42(7), pp.1625-1650.

Kort-Butler, L. 2010. Experienced and vicarious victimization: Do social support and self-esteem prevent delinquent responses? *Journal of Criminal Justice*, 38, pp.496-505.

Kruger, D., Reischl, T. and Gee, G., 2007. Neighborhood Social Conditions Mediate the Association Between Physical Deterioration and Mental Health. *American Journal of Community Psychology*, 40(3-4), pp.261-271.

Lorenc, T., Clayton, S., Neary, C., Whitehead, M., Petticrew, M., Thomson, H., Cummins, S., Sowden, A., and Renton, A. 2012. Crime, fear of crime, environment, and mental health and wellbeing: Mapping review of theories and causal pathways. *Health and Place*, 18, pp. 757-765.

Lytle, D., Intravia, J., and Randa, R. 2020. An understudied population? Exploring the factors associated with fear of crime in a semi-rural environment. *Journal of Deviant Behavior*.

Ramey, D. and Harrington, N., 2019. Early exposure to neighborhood crime and child internalizing and externalizing behaviors. *Health & Place*, 57, pp.228-237.

Ray, C. and Kort-Butler, L. 2019. What you see is what you get? investigating how survey context shapes the association between media consumption and attitudes about crime. *American Journal of Criminal Justice*, 45(5), pp.914-932.

Reisig, M.D., Holtfreter, K., and Turanovic, J.J. 2017. Criminal victimization, depressive symptoms, and behavioral avoidance coping in late adulthood: The conditioning role of strong familial ties. *Journal of Adult Development*, 25, pp. 13-24.

Rosenfeld, L., Richman, J., Bowen, G. and Wynns, S., 2006. In the Face of a Dangerous Community: The Effects of Social Support and Neighborhood Danger on High School Students' School Outcomes. *Southern Communication Journal*, 71(3), pp.273-289.

Sharma, S., Mustanski, B., Dick, D., Bolland, J., and Kertes, D.A. 2019. Protective factors buffer life stress and behavioral health outcomes among high-risk Youth. *Journal of Abnormal Child Psychology*, 47, pp. 1289-1301.

Smyth, J., Witt-Swanson, L., Hull, R., Black, J., Meiergerg, K., Zhou, Q., Larson, J., and Predmore, D. (2015*). Nebraska Annual Social Indicators Survey* (NASIS). BOSR

Stafford, M., Marmot, M.G., and Chandola, T. 2007. Association between fear of crime and mental health and physical functioning. *American Journal of Public Health*, 97(11), pp.2076-2081.

Steele, S.A., Garman, J.D., Toto, S.N., Drozd, D.J., and Sample, L.L. 2021. Linking fear of violent crime for oneself and loved ones to satisfaction with local area characteristics. *American Journal of Criminal Justice.*

Stockdale, S., Wells, K., Tang, L., Belin, T., Zhang, L. and Sherbourne, C., 2007. The importance of social context: Neighborhood stressors, stress-buffering mechanisms, and alcohol, drug, and mental health disorders. *Social Science & Medicine*, 65(9), pp.1867- 1881

Thoits, P.A. 2010. Stress and health: Major findings and policy implication. *Journal of Health and Social Behavior,* 51(2), pp.41-53.

Your Source for Criminal Justice Statistics. Bureau of Justice Statistics. (n.d.). Retrieved March 31, 2022, from https://bjs.ojp.gov/

Wheaton, B., Young, M., Montazer, S., and Stuart-Lahman, K. Social Stress in the twenty-first century. 2013. *Handbook of the Sociology of Mental Health,* 2, pp.299-323.