

Community Dynamics and the Physical and Emotional Health of Residents

West Virginia Social Survey Report

WVSS-20-11

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Background

Community dynamics refers to the psychodynamic processes in local communities that generate a social atmosphere. Previous studies have found the *community atmosphere* linked to varying rates of crime, violence, and other [social problems](#).¹

With data from the 2020 West Virginia Social Survey (WVSS), we shift the focus away from social problems and examine the relationship between a community's social environment and the general health of local residents, including their experiences with physical and emotional pain.

Highlights

- 40% of respondents reported being in fair or poor health. 60% report being in good or excellent health.
- Respondents from households earning less than \$50,000 per year reported poorer health than those earning more than \$50,000 per year.
- More than 60% of respondents reported recent lower back and joint pain lasting a day or more.
- More than 25% of respondents reported being seriously depressed in the past 30 days.
- Perceptions of the local community atmosphere was significantly associated with respondents' perceptions of general health and physical and emotional pain. These findings have significant implications for both public safety and public health policy.

¹ Nolan & Hinkle (2021).

General Health

The 2020 WVSS asked respondents to evaluate their general health on a linear scale from poor to excellent. As depicted in Figure 1, 9.4% of respondents recorded their general health as excellent and about half (50.6%) recorded their health as good. Another 31.4% described their health as fair, while 8.6% said their health was poor.

In Figure 2, we show the relationship between age and general health. As one might expect, respondents from younger age groups, such as 18-24, were more likely to report excellent health-- and less likely to report poor health-- than older age groups, such as those over 70.

In Figure 3, we show the relationship between household income and general health. As a group, respondents from households earning less than \$50,000 per year were less likely to describe their general health as excellent and more likely to say it was poor than respondents in households earning more than \$50,000 per year.

Physical Pain

The 2020 WVSS asked respondents if in the previous 3 months they had experienced severe headaches, neck, lower back, joint, or facial pain that lasted a day or more. In Table 1 we show the most frequent types of physical pain are joint and lower back pain. More than a third of respondents had prolonged neck pain and about 1 in 4 respondents said they experienced severe headaches or migraines.

Figure 1. "In general, how would you rate your own health?"

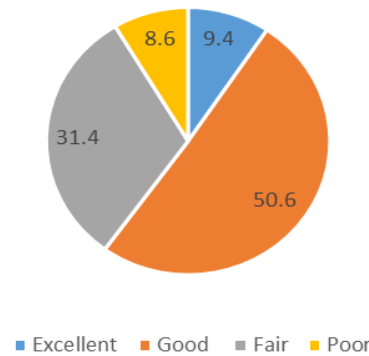


Figure 2. General Health by Age Group

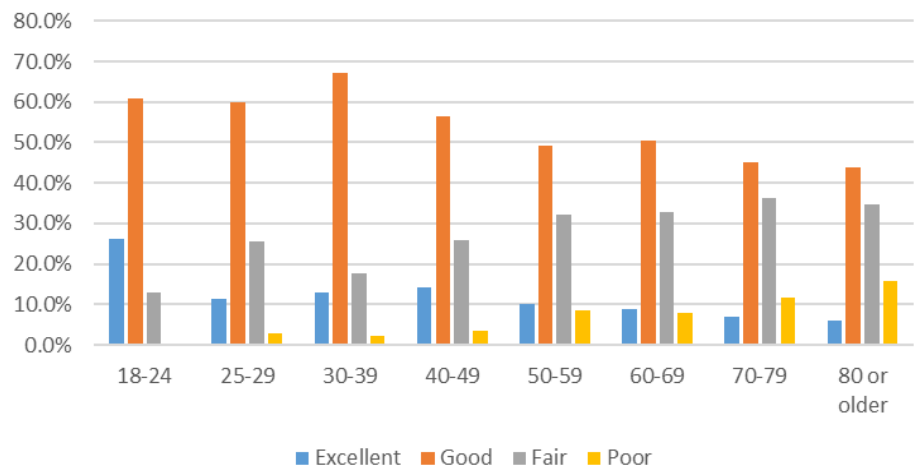


Figure 3. General Health by Household Income

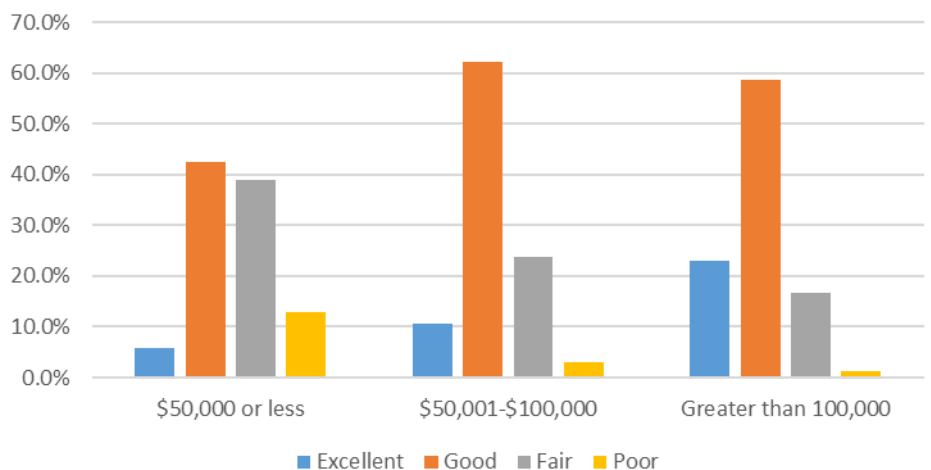


Table 1. Physical Pain in Past 3 Months

Type of physical pain	Percentage
Neck pain	38.0%
Lower back pain	62.2%
Facial ache/pain	10.3%
Severe headache or migraine	24.4%
Joint pain	65.9%

Data: 2020 West Virginia Social Survey (WVSS)

Emotional Pain

WVSS respondents were asked “During the past 30 days, about how often did you feel nervous, hopeless, so depressed that nothing could cheer you up, and worthless?”

As depicted in Table 2, about 67% said they experienced some degree of nervousness. About 34% reported feeling hopeless at least a little or some of the time. About 27% reported feeling seriously depressed during the last 3 months and 23% reported feeling worthless.

COMMUNITY DYNAMICS

The 2020 WVSS added measures of perceived community dynamics and the community atmosphere. These concepts capture the social contexts in which the respondents experienced life in West Virginia.

Community dynamics, like group dynamics, simply happen when individuals come together with a common purpose. Living near others and desiring a safe and healthy environment is what launches these [dynamic processes](#). See Figure 4. The dynamic process begins with the expectations

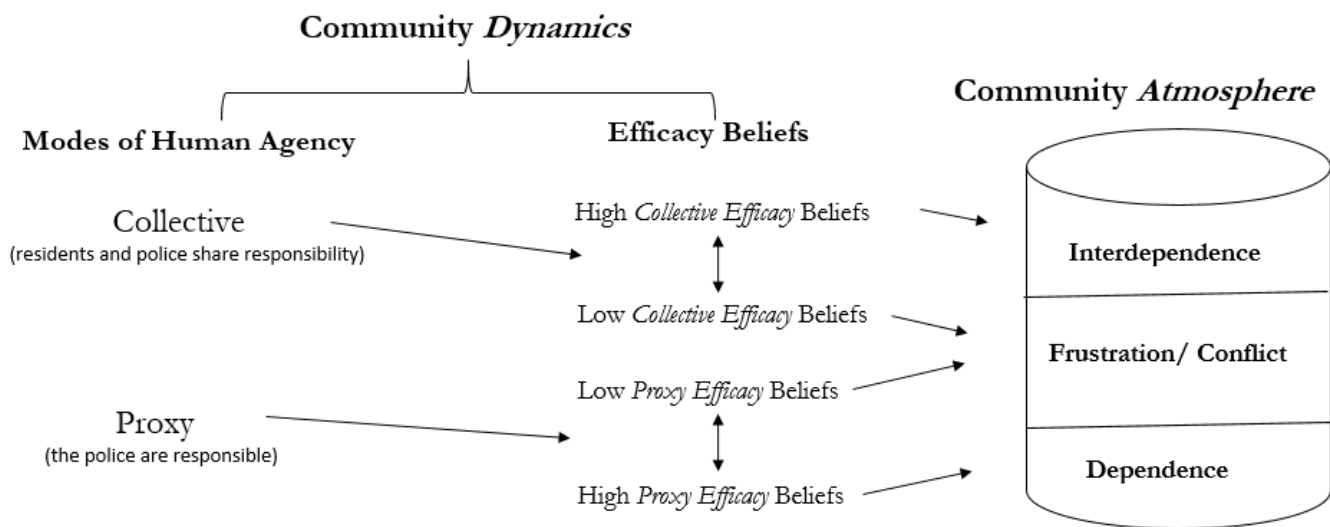
that the police, public health officials, and residents have of each other with regard to particular outcomes. Collective agency (left side of Figure 4) means everyone recognizes and shares responsibility for public safety and public health outcomes. Proxy agency means the police and health officials are viewed as specialists, working on behalf of residents who are not personally involved. When the mode of human agency is collective, then high or low levels of collective efficacy beliefs become possible (middle column of Figure 4)

Table 2. Emotional Pain During Past 30 Days

During the past 30 days, about how often did you feel... ?				
	Nervous	Hopeless	Seriously Depressed	Worthless
All of the time	3.0%	2.2%	1.6%	1.8%
Most of the time	6.5%	3.9%	2.8%	2.3%
Some of the time	27.6%	12.6%	9.3%	7.5%
A little of the time	29.7%	14.9%	13.2%	11.3%
None of the time	33.2%	66.4%	73.1%	77%

Data: 2020 West Virginia Social Survey (WVSS)

Figure 4. Community Dynamics and the Community Atmosphere



High collective efficacy beliefs means that everyone expects to be involved and believes their combined efforts to keep the community safe and healthy will be successful. Low collective efficacy beliefs means that residents think their combined efforts will be unsuccessful. Proxy efficacy beliefs refer to the extent to which residents think that success or failure center on the police and public health officials. High proxy efficacy beliefs indicate that residents believe the police and public health officials alone are capable of creating safe and healthy neighborhoods. Low proxy efficacy beliefs indicate that residents do not believe these authorities will be successful.

These dynamic processes create the *community*

atmosphere (depicted as a receptacle on right side of Figure 4), the context in which crime, violence, and other social problems occur. High levels of collective efficacy create greater levels of *interdependence* in the neighborhood atmosphere. Low levels of collective or proxy efficacy lead to high levels of *frustration and conflict* in the neighborhood atmosphere. High proxy efficacy creates neighborhood-level *dependence*.

Previously, we have found that the variation in the community atmosphere (levels of interdependence, frustration/conflict, and dependence) are related to [crime, violence, fear of crime, and drug abuse](#).

In this current report, we examine the relationship between the community atmosphere and an individual’s general health, including their experience with emotional and physical pain.

Measuring Community Atmosphere

The elements of perceived community atmosphere—interdependence, frustration/conflict, and dependence—were computed via factor analysis on 12 items in the WVSS. Each of these 12 items began with the phrase “Generally speaking, people in my community....” Then, different conditions relating to relationships with the police and among residents were listed. Table 3 identifies which of these items were associated with each of the 3 factors comprising the community atmosphere.

Table 3. Generally speaking, the people in my community...

Factor 1 <i>Interdependence</i>	Factor 2 <i>Frustration/ conflict</i>	Factor 3 <i>Dependence</i>
...are willing to help each other	...do not get along with one another	...trust the police to do the right thing
...watch out for each other's property	...thing the police do not seem to care	...assume the police know what is going on
...tell each other what is going on	...are frustrated with the police	...rely heavily on the police
...trust each other		...have confidence the police alone can prevent crime
...rely heavily on each other		

Data: 2020 West Virginia Social Survey (WVSS)

The Local Community Atmosphere and Resident Health

We used bivariate logistic regression to assess the relationship between the perceived community atmosphere and health of individual respondents.

The general health, emotional pain, and physical pain variables were recoded as 0 or 1 for analysis. For general health, 0 means fair or poor health and 1 indicates good or excellent health. For emotional pain (in last 30 days), 0 means no pain and 1 means the respondent felt nervous,

hopeless, seriously depressed, or worthless some, most, or all of the time. For physical pain, 0 means no recent severe headaches, neck, back, face, or joint pain lasting a day or more.

A score of 1 means the respondent did experience at least one form of prolonged physical pain.

We included household income, age group, and sex of respondents to control for effects not attributed to the community atmosphere. See Table 4 for the findings. Under each of the headings (General Health, Emotional Pain, and

Physical Pain) we list odds ratios. These indicate the change in odds for reporting a 1 rather than 0 for each increase in interdependence, frustration/conflict, or dependence, while holding the other variables constant. Odds ratios above 1 indicate an increase in the odds of the outcomes, whereas odds ratios below 1 indicate a decrease in the odds of the outcomes. For example, in Table 4 under the heading General Health, the 1.9 means that as interdependence increases in a community, the odds of reporting excellent or good general health increases by 90%. In the same column

Table 4. Community Atmosphere and General Health, Emotional Pain, and Physical Pain

	General Health 0= fair or poor 1= good or excellent	Emotional Pain 0= little or none of the time 1= Some, most, or all of the time	Physical Pain 0= no prolonged pain 1= prolonged pain
	Odds Ratio	Odds Ratio	Odds Ratio
Interdependence	1.9**	0.82**	0.96
Frustration/Conflict	0.78**	1.25**	1.35**
Dependence	1.15**	.85**	0.87
Household income	2.29**	0.69**	0.77**
Sex (1= female)	1.3*	1.42**	1.3
Age	0.84**	0.82**	1.09

Data: 2020 West Virginia Social Survey (WVSS)

under General Health, the odds ratio 0.78 means that as frustration/conflict increases in a community, the odds of reporting excellent or good health decreases by 22%. Figure 5 provides more detail on how to interpret the odds ratios in Table 4.

Figure 5. Interpreting Odds Ratios

The odds ratios in Table 4 can be converted to percent change in the following way:

$(1 - \text{odds ratio}) \times 100 = \text{percent change}$

$(1 - 1.9) = 0.9 \times 100 = 90\%$
increase in odds of good or excellent health.

$(1 - 0.78) = -0.22 \times 100 = 22\%$
decrease in odds of good or excellent health

Implications of Changing the Community Atmosphere

Based on the analysis presented in Table 4, we calculated the probability of reporting good or excellent general health, emotional pain in the last 30 days, and prolonged physical pain in the past 3 months. These probabilities are presented in Figure 6 under two conditions. The first condition is a community atmosphere where frustration and conflict are high, while interdependence and dependence are low. The second condition is where the level of interdependence in the community is very high and

levels of frustration/conflict and dependence are very low.

In the first condition, the probability of reporting good or excellent general health is very low while the probability of reporting emotional and physical pain are very high. In the second condition, the probability of reporting general health as good or excellent is very high, while the probability of reporting emotional and physical pain is much lower.

Summary

Many residents of West Virginia struggle with general health concerns. The WVSS data helps us to see the impact of perceived community context on the physical and emotional health of residents.

Community dynamics occur simply when people reside near others and desire a safe and healthy place to live. These dynamic processes create a social atmosphere in local places that is often outside of our consciousness. The community atmosphere is not only connected to [crime and violence](#), but also to the general health of individuals living in local places, including their experiences with physical and emotional pain.

These findings have important implications for both public safety and public health policy and practice.

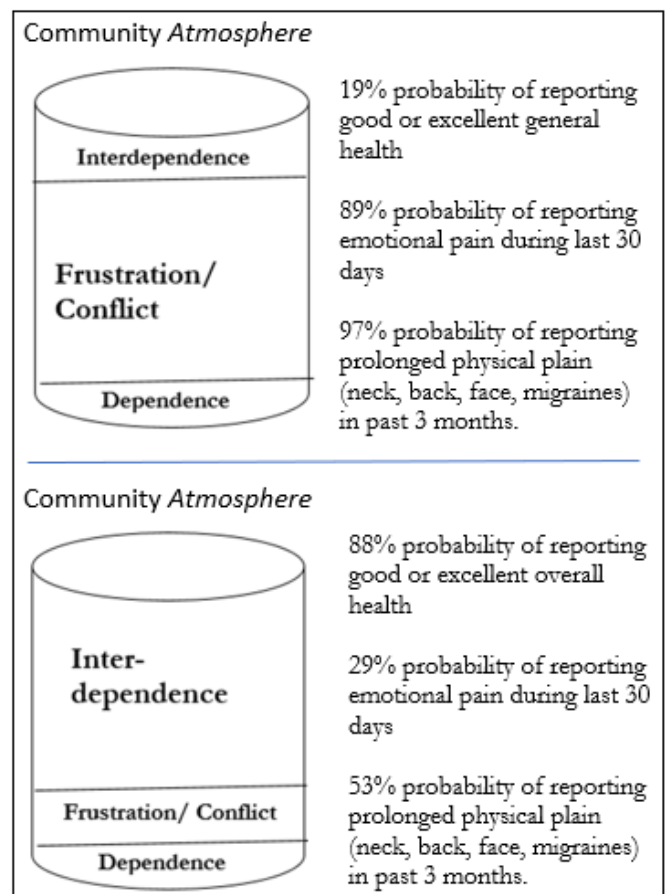
References

Nolan, J.J. & Hinkle, J.C. (2021). Community dynamics, collective efficacy, and police reform. In Nolan, J.J., Crispino, F., and Parsons, T. (Eds.) *Policing in an age of reform: An agenda for research and practice*. London: Palgrave Macmillan

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Figure 6. Community Atmosphere and Pain



and Health in West Virginia”
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Social Survey Reports*. Survey
Research Center at West
Virginia University.
Morgantown, West Virginia.

Data Source

The WVSS is produced by the
Survey Research Center at
West Virginia University. The

purpose of the WVSS is to
gather information on the
attitudes, concerns, and
challenges facing WV residents.

The WVSS is a mail survey
utilizing an address-based
sample of nearly 5,000
households across the state.

The 2020 WVSS received nearly
1,900 responses for a response
rate of 38.1% (American
Association of Public Opinion
Research Definition #3). Data
are weighted to be
representative of the West
Virginia adult population.