

The Human Population and the Mind

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Introduction

This paper speaks to how we think about society and crowding. The main concern looked at in this paper is whether the Earth is overpopulated by looking at the effect of the population size on individual mental health. This article looks at overpopulation from a sociological and psychological perspective, in order to determine whether or not the size of the current or future population of the earth is damaging to the psyche. There is a need to better understand crowding, which can increase depression, emotional withdrawal, and aggression. Most of the scientific literature on overpopulation investigates use of natural resources, but has left out the human part of the equation. The information in this study can help in city planning, increase the trend of movement to the suburbs, and influence family decision-making in regards to moving.

Literature Review

There are many studies that have found serious negative consequences resulting from crowding.

While there are many studies on the effects of crowding, there are none that look at the earth as a whole in order to find out if our current population — seven billion — places a strain on the mental health of the individual exposed to high levels of crowding. Crowding causes stress and aggressive or deviant behavior. Stress has physiological responses that increase anxiety and self-defeating, competitive *Internal crowding* also tends to increase the likelihood of criminal behavior (Friedrichs, J., 1979). Lepore, Evans & Palsane (1991) demonstrated that crowding leads to stress, and that the effects of stress are cumulative. Sinha & Sinha (1991) discovered that a high-density area increases arousal, which interferes with complex task functioning, such as taking tests. Evans, Maxwell and Hart (1999) found that parents in high-density homes spoke to their children less and with reduced sophistication of word use— independent of socio-economic status or parent-to-children ratio. They also noted explicitly that the quality of parent-child interactions decreased dramatically at 0.71 people per room.

External crowding increases feelings of stress. Studies on external crowding were more difficult to find, possibly because of the difficulty of determining how many people in an area would affect the subject(s) of the study. A few studies have found that while culture certainly has an effect on people's view of personal space, it doesn't change the effects of crowding (Evans, Lepore, & Allen, 2000). Kovess-Masfety, Alonso, De Graaf and Demyttenaere (2005) found that people living in urban areas — over 10,000 people in a city — had a greater chance of having a depressive disorder.

Methods

This study looks at crowding and mental health based on a telephone survey conducted in 2006.

To find a threshold to external crowding, this study looked at data gathered from the Behavioral Risk Factor Surveillance System, a telephone survey conducted across the United States. (For more information, see the CDC at <http://www.cdc.gov/brfss>). There were 203,820 participants who correctly answered the questions, and all data was used from this group. Crowding was defined in five separate categories based on Metropolitan Statistical Area. MSA 1 means located in the center city of an MSA; MSA 2 means located outside the center city of an MSA but inside the county containing the MSA; MSA 3 means located in a suburban county of an MSA; MSA 4 means located in an MSA that has no city center; and MSA 5 means not located in an MSA. For this study, 'Mental Health' was defined by a self-report of 'days they felt emotional stress'.

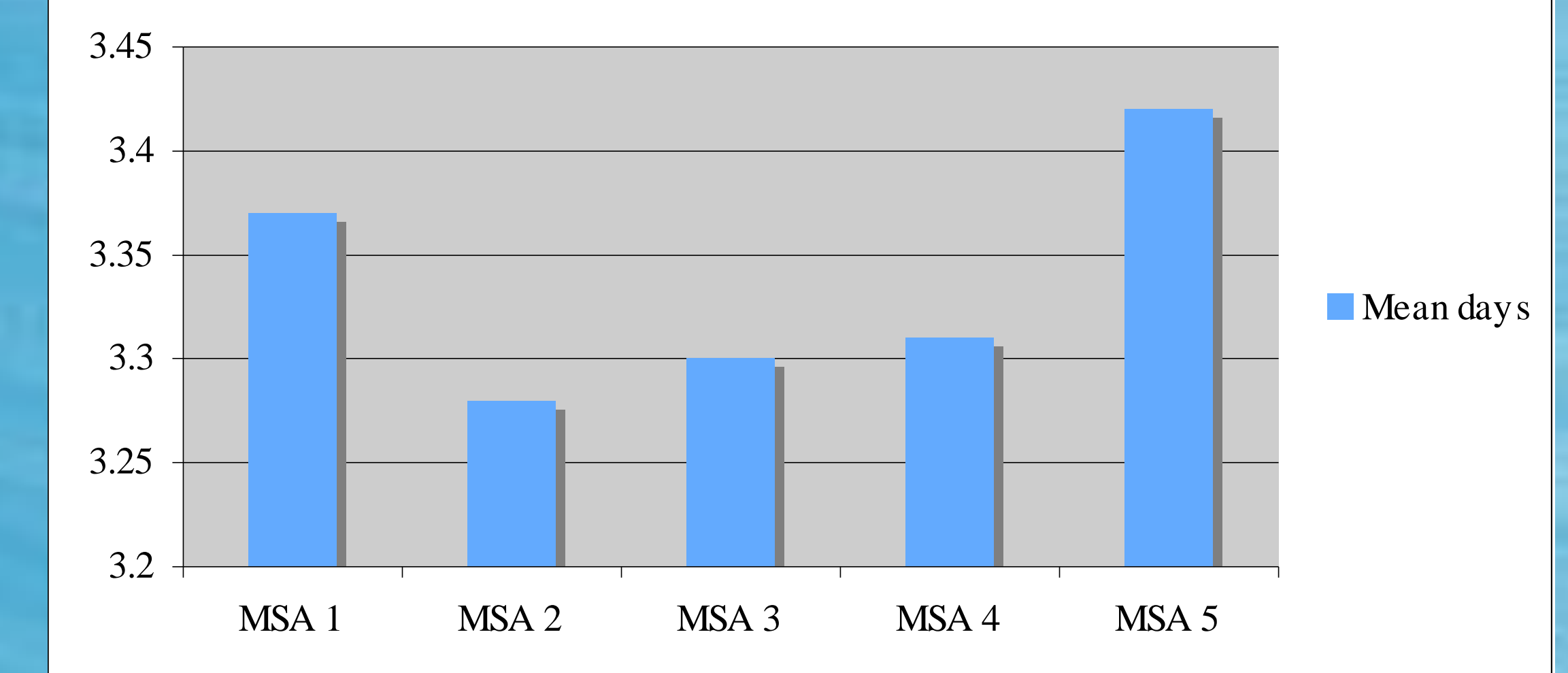
The research question is, "is there a correlation between number of self-reported mentally unhealthy days and Metropolitan Statistical Area?" The hypothesis to be tested is that someone living in an urban area (MSA 1, or 2) will report more mentally unhealthy days than people from other areas. In order to run a z-test, we divided the days mentally unhealthy into categories. People reporting 0-5 days mentally unhealthy were grouped into category 1, 'healthy' and people reporting more than 5 days mentally healthy were grouped into category 2, 'unhealthy'. A z-test was used to find the correlation across Metropolitan Status Areas.

Results

The result is a significance of 3.62 using a z-test.

The purpose of this study was to examine the effect of crowding on human mental health. The research question that we sought to answer was: do people in high-density areas report more days mentally unhealthy? To this end, we calculated the correlation between a self-report of days mentally unhealthy, and density, as defined by Metropolitan Status Area. We used a z-test to find the correlation. As predicted, people in urban areas ($M = 3.35$, $SD = 7.95$) reported more days mentally unhealthy than did people in other areas (z) $203,820 = 3.62$, $p < .01$.

'Days unhealthy' to MSA

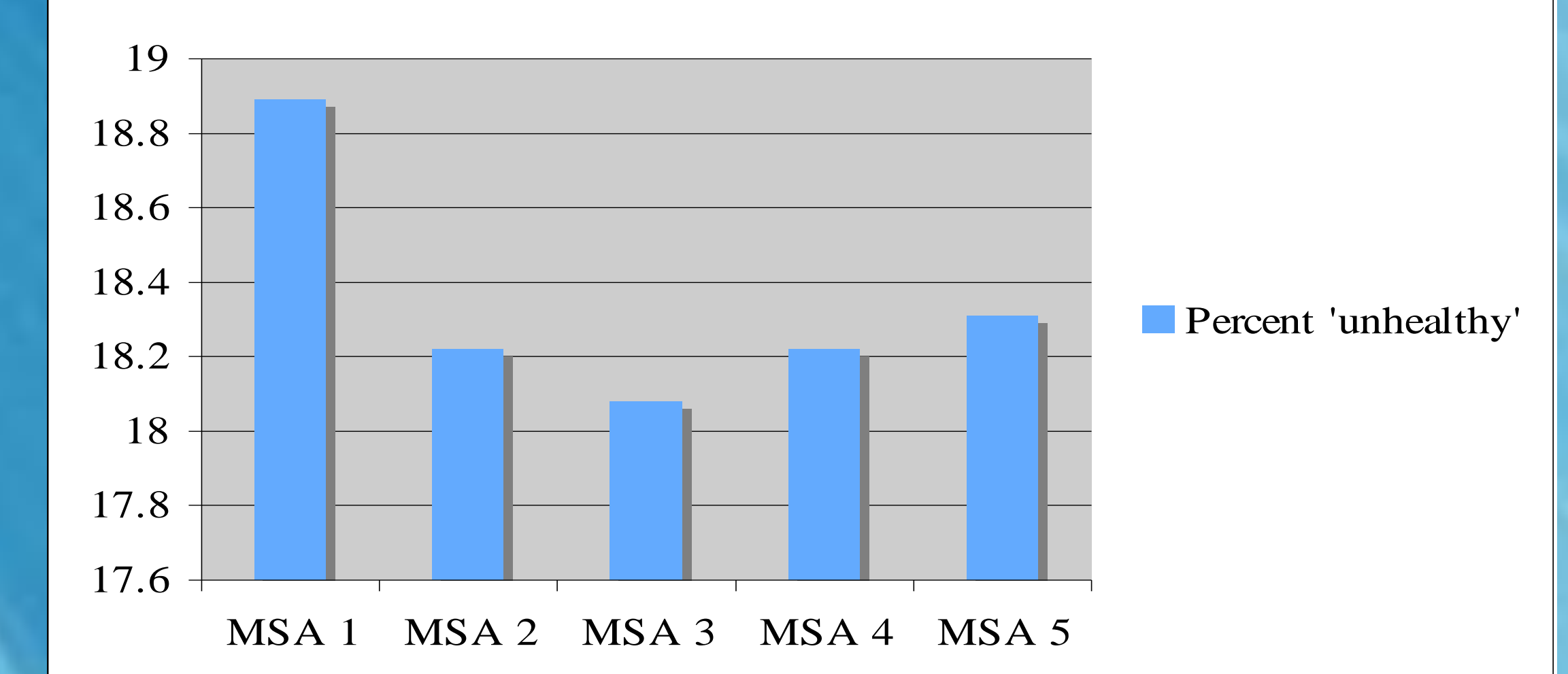


Conclusion

There is a significant correlation between crowding and mental and stress.

The purpose of this study was to examine the effect of crowding on mental health. The research question was, "is there a correlation between number of self-reported mentally unhealthy days and Metropolitan Statistical Area?" The answer, at this point in time, seems to be 'yes'. There is nothing yet in the literature to disagree with this assessment. As always, it is possible that this correlation exists because of extraneous variables, and more research will be needed before it can be said with any authority that the population density has a negative effect on mental health.

People with heightened stress to MS



Definitions

Crowding is defined as a negative judgment of population density, usually resulting in stress for the individual.

External crowding is defined as the number of people per square mile.

Internal crowding is defined as the number of people per room in a house.

Stress is defined as a self report answering the question:

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