

EFFECT OF PERCEIVED CROWDING ON THE MENTAL HEALTH OF ADOLESCENCE

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ABSTRACT

Ninety-six adults participated in a study of the joint effects of interpersonal density and an additional stressor. Experiential reports, psycho physiological indices, and task performance were assessed. Subjects seated either close together or far apart worked on a series of tasks while either expecting a stressful event or not expecting the stressful event. Perceptions of crowding were influenced only by interpersonal distance; those seated close together reported feeling more crowded than those seated far apart. However, if subjects were both crowded and expected a stressful event they reported feeling more stressed and evidenced psycho physiological signs of anxiety. Relevance of these results for an additive stress model is discussed but the model is rejected and an interactional model of crowding and stress effects is proposed. Evidence for processes of social comparison fear reduction was found in some crowded subjects.

Key Word : Crowding, Mental Health, Adolescence

One potential source of stress is crowding. Environmental psychologists distinguish between the physical measurement of density and the psychological feeling of crowding. Density is defined as the physical area which is available to the given number of individuals present, while crowding is the psychological feeling of not having enough of space available. Paulus (1980) concluded that while high density (a large number of individuals per the unit of space) is usually necessary for crowding, it does not always produce the negative feeling of crowding. On the other hand, if we are on a deserted beach and someone else comes within view, we might feel crowded, even though density is not high. Crowding is a psychological phenomenon. It is usually assumed that crowding leads to aggression, violence, and crime. A number of studies have reported positive relations between high density and negative social conditions, like crime. Schmitt (1966) found that as the density of the population in Honolulu increased, the crime rate, death rate, and mental-disorder rate too increased. Freedman (1975) argued that when social factors like economic level, educational level, and ethnicity are taken into account, the relationships between crowding and crime disappears. Thus, it seems that the issue of crowding is more complex than we first believed it to be. In research studies it is found that performance decreases as density increases. But we feel less crowded with friends than with strangers.

In his 1975 book *Crowding and Behavior*, Jonathan Freedman argued that crowding is neither good nor bad. Instead, in his density-intensity theory of crowding he suggests that as density increases, the intensity of our moods and behavior increases. Baum and colleagues (1981) argued that when people are aware of the density level beforehand they could feel less crowded than those who do not know what to expect. In an urban setting, if crime is a dominant behavior, crowding can increase the crime level. If positive social behaviors predominate, crowding will produce beneficial effects. Freedman argues that it is important to make sure that positive social environments exist in high-density areas.

CROWDING: A CONCEPTUAL ANALYSIS

Crowding is a personal, perceived state of mind that may occur due to conditions of high population density (Baron and Richardson, 2004). Crowding refers to the feeling of others being too close versus them actually being too close (Stenstrom, 2010). There is a difference in these terms and in the sense that crowding is subjective and density objective. Researchers place confusion on the two when they do not distinguish them from one another, and yet use them interchangeably (Stokols, 1972). Research shows that crowding gets positive and negative reactions out of people. Freedman (1975) states that crowding will intensify the normal

reaction that individuals have to any situation. Crowding typically occurs because the population increases continually (Lawrence and Andrews, 2004).

Conceptual Dimensions of Crowding Reconsidered

Taylor (1980) has stated that a noteworthy fact has been the exploration of the perception of high density/crowding experiences. There is considerable variation across studies on the dimensions of stimulus domain and selection, attention to inter subject differences, and approaches to interpreting results. The raising of these issues will result in more careful and fruitful research in this area. Links between conceptual crowding, situational variables, intrapersonal variables, and behavioral responses to high density/crowding are discussed. Theoretically, one or more of these underlying mechanisms is activated by high density. The operation of the mechanism(s), in turn, then functions as a mediator accounting for the ill effects of high density. Unfortunately, crowding researchers have often incompletely tested these hypothetical models. Frequent tests of the respective models have entailed orthogonally crossing the hypothetical, explanatory variable (e.g. control) representing the intervening mechanisms with density (Evans, Lepore and Stephen, 1992).

Effects of Crowding Social Life

When thinking of high density, one of the most important issues is how we perceive it and the way it affects us, the users of high density environments. The built environment affects directly personal relationships and relation with others, while spatial configuration is an important factor in determining satisfaction of residents. Also, the experience of living in high density environments is much more complex than living in lower density environments. Understanding the relation between people and the built environment and the way in which high density affects human behaviour and social relations is particularly important for designing and constructing new high-density residential environments.

In the human interaction with the built environment and its influence on us, its effects are mediated by a number of variables with a high degree

of complexity, which are involved within the framework in which the exchange between the individual and its environment takes place. The effects of certain spatial configurations are manifested through complex interactions with other physical, social or psychological dynamics.

CROWDING AND FAMILY RELATIONS

Fuller, Edwards, Vorakitphokatorn and Sermsri (1993) examined the effect of household crowding on multiple measures of family relations. The argument is that subjective crowding is an effect, rather than a cause, of marital and family relations. Beeghley and Donnelly (1989) review the literature on crowding in non-family and family settings, identify flaws in past research, present a model for the study of crowding, and outline a theory of crowding.

The focus of this analysis is on crowding within the family, the model and theory are applicable, in principle, to any context in which too many people live in too little space. Researchers, however, have been unable to agree on the empirical consequences of family crowding. Gove, Hughes and Galle (1979), Gove and Hughes (1983), linked family crowding to such problems as withdrawal, poor mental health, poor physical health, marital dissatisfaction, and poor child care. In contrast, Booth and his associates (Booth and Johnson, 1975; Booth, 1976; Edwards and Booth, 1977; Edwards, Booth and Edwards, 1982) found that crowded living conditions resulted in few negative effects. Their article offers an explanation for these disparate findings and, in so doing, presents a theoretical synthesis for further research.

Crowding Effects on Children's Well Being

The degree to which children grow up in crowded housing is a neglected but important aspect of social inequality. Poor living conditions can serve as a mechanism of social stratification, affecting children's well being and resulting in the intergenerational transmission of social inequality (Solari and Mare, 2012).

Crowding: Impact on Physical and Psychological Health

Adegoke and Awolowo (2014) examined the physical and psychological health effects of overcrowding among students in university hostels. It

also explored the influence of age and gender on perceived effects of overcrowding. The experience of overcrowding, loss of privacy, number allocated to the room and the total number of room occupants had significant joint effects on physical and psychological health status of the hostel occupants. It was also revealed that the room type had influence and contributed to the level of exposure to the disease causing agents. Results also showed a significant influence of gender and age on perception of crowding effect.

Lepore, Evans, Irvine and Palsane (1991) found the interactive effects of an enduring environmental stressor with acute social stressors on psychological distress. In India, social hassles in the home showed psychological symptoms only among residents of crowded homes, after statistically adjusting for income. The interaction between social hassles and crowding was replicated in analyses adjusting for prior psychological symptoms, prior social acquaintanceship with house mates, and income. A six-month follow-up study with the American sample showed the same result. In all three analyses of the social hassle-crowding interaction, there was an effect of crowding but no effect of social hassles on psychological symptoms. These findings do suggest that some chronic environmental stressors may increase impact of acute social stressors, and highlight the importance of examining the contextual factors in the stress and health process (Tripathi and Vidya, 2002; Pandey, 1999).

Experiential Crowding: Conceptual Framework

Two measures of perceived crowding were used interchangeably by crowding researchers: one assessed how crowded people feel and one assessed how crowded people rate a setting. Two such measures were embedded in questionnaires that were identical except for the crowding measure and were distributed in a dense field setting. Factor analyses showed that the two crowding measures are conceptually distinct, since the feel crowded item loaded with perceived density, constraint, distraction, and stress, whereas the environmental rating item loaded with perceived density and general negative affect. The former was also found to be more sensitive to changes in physical density (Kalb and Keating 1981).

Being in close social proximity to a stranger is generally perceived to be an uncomfortable experience, which people seek to avoid. In circumstances where crowding is unavoidable, people may seek to withdraw their attention from the other person. This study examined whether social discomfort, as indexed by electro dermal activity, is related to a withdrawal of attention in university students. Correlational analyses showed that individuals who displayed physiological discomfort when together showed a withdrawal of the perceived midpoint of the line towards them (and away from the stranger). Conversely, individuals who showed no discomfort exhibited an expansion of the perceived midpoint away from them (Szpak, Loetscher, Churches, Thomas, Spence, Michael and Nicholls 2015).

Schmidt (1983) gave theoretical explanations of crowding stress and has suggested that personal control may be an important psychological determinant of reactions to the physical environment. Two field surveys were conducted to test the relationship of environment stress and crowding annoyance with personal control to examine whether this conception of crowding may have cross-cultural generality. In a study, 282 patrons in a bookstore varying between low and high density were surveyed in regard to perceived control, self-reported stress, and crowding annoyance. Simple correlations and multiple regression analysis supported the hypothesized relationship for most elements of personal control. Two experiments investigated the effect of crowding on human aggressiveness by placing groups of subjects in small or large rooms for several hours. In both experiments there was no main effect of crowding but there was an interaction between sex of subject in one sex group and the size of the room. (Freedman, Levy, Buchanan and Price, 1972).

Fleming, Baum and Weiss (1987) examined the relation of social density and perceptions of control with stress symptomology in high-density urban environments. We hypothesized that social density and perceived control would account for most of the stress associated with densely populated urban environments. Differences in social density were obtained by comparing the residents of blocks with commercial establishments with residents of the blocks with no commercial establishments.

Questionnaires were used to measure perceived control and neighborhood characteristics including social density. A multidimensional stress-measurement strategy was used that included self-report, behavioral, and biochemical indices. Relative to residents on blocks without stores, residents of blocks with stores reported more crowding, reduced ability to regulate social interactions, and lower perceptions of control. In addition, they evidenced higher stress levels across domains of measurement, including more somatic and emotional distress and less persistence on a behavioral task, and they showed elevations in urinary catecholamines. Social density and perceived control accounted for a significant amount of variance in each stress measure. These findings underscore the important role of psychological factors, perceived control, in mediating stress associated with high-density environments.

Crowding is an ecologic and psychological aspect of population density which produces significant impact upon the behavior and physiology both of individuals and of social groups. In animal populations, a desired level of crowding is often necessary for favorable social interactions, reproduction, and normal group organization. Beyond optimal levels, however, crowding may become a detrimental influence on the well-being of individuals within the population. A range of stress related diseases and mortality patterns may ensue. The human populations of the world are rapidly becoming crowded through excessive rates of population growth, urbanization, and increased social and communicative contact. Most urban areas throughout the world are showing classic symptoms of crowded animal populations. In viewing complex problems of urban ecology and social behavior, it is important to maintain ecologic perspective and to work towards understanding the interactional relationships between man's physical, social, and biologic environments (Southwick, 1971).

Experiential Crowding and Psychological Health: A Model

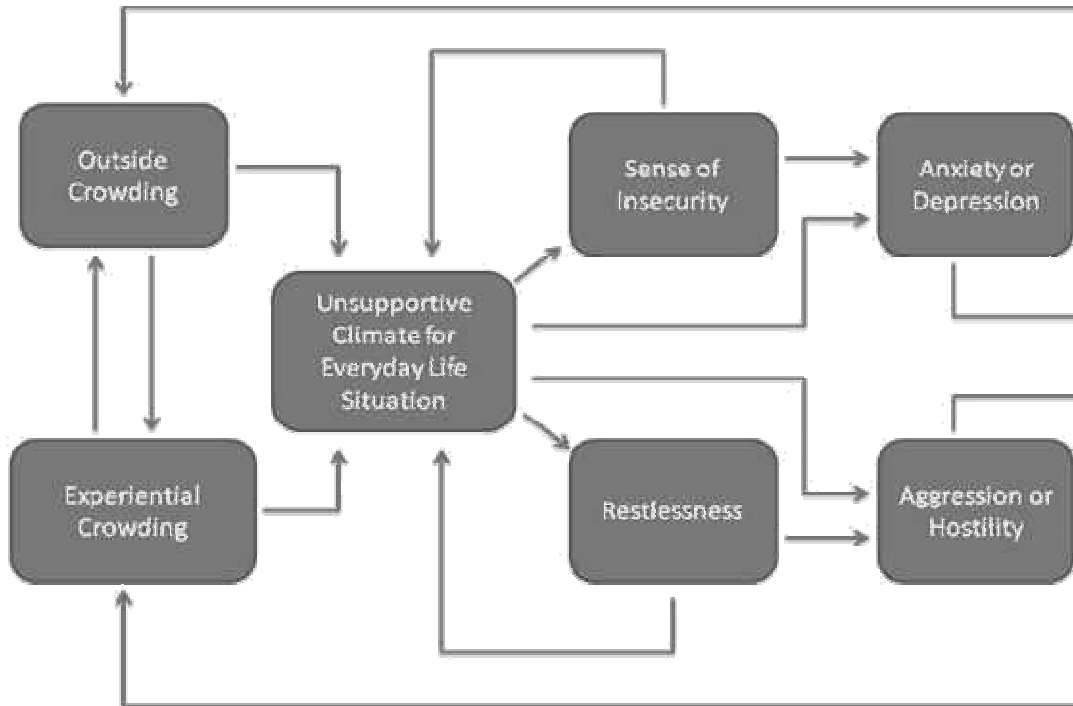


Figure 1: Experiential Crowding and Psychological Health: A Dynamic Model

The research in the field of crowding and mental health demonstrated clear cut relationships between exposure to crowding and emergence of

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psychological problems among people surrounded by outside and inside density. Studies have already discussed that crowded environments affect the

psychological makeup of human beings. Major concern of the present attempt is to show that the exposure to intense crowding can be detrimental to mental health. Figure 1 presents a model to explain the emergence of psychological problems as a consequent reaction to crowded living and experience of crowding empirically.

This model has been conceptualized as a dynamic model. It proposes that external crowding creates an unsupportive climate that results from high amount of density and feeling of being crowded at an abstract level. Needless to say it jointly creates a sense of insecurity which gets converted into psychological health hazards such as anxiety, depression as well as aggression and hostility in some cases. These psychological problems being a partial part of self concept makes a child negatively motivated.

The emergence of anxiety related disorder or aggression generated by the sense of insecurity and restlessness is the direct impact of experiential crowding. It can be caused by outside density or it can be an individual's attributed reaction to crowding. This may lead to an unsupportive climate and reduce the enthusiasm of the individual to meet their day to day tasks.

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