

# **Mental Health and The Built Environment**

More Than Bricks And Mortar?

**David Halpern**



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David Halpern

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## Preface and Acknowledgments

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This book is about whether the environment can affect mental health. About eight years ago I was working in an architectural practice in anticipation of taking a second degree in urban planning and design. However, there was a question that bothered me: what made us so sure that what we were building was any 'better' than that which it replaced? The dominant perspective within architecture and design emphasised aesthetics, and while architectural students learned to produce beautiful collages and dramatic pastel drawings, they learned little or nothing of the potential social or behavioural consequences of design. Perhaps the over-confidence of planners in the fifties and sixties had made the next generation cautious, or perhaps the social and behavioural consequences of design were too small to matter and it was a mistake to think that the criteria for design should be anything other than aesthetic. Certainly, this was the position taken by many within the design professions.

I found it difficult to be entirely at ease with this conception of the world. Was it really true that we, as designers, only had to concern ourselves with aesthetics? It seemed like a wonderful freedom, but what if we were wrong? What of the people who had to live in our designs? Was it really so arbitrary if the building was for ten people or a thousand, if the road went straight or around, or if the city was built in one way or another? Was it really true that the built environment did not affect our social behaviour and well-being? I tried to answer these questions by reference to architectural, planning and psychology texts, but with little success. There were plenty of assertions (in both directions) about how the environment affected mental health and well-being, but very little evidence.

This book explores some of these questions. It is partly based on research conducted for my doctoral thesis at the Faculty of Social and Political Sciences, the University of Cambridge between 1988 and 1992, and partly on work conducted since then. I have tried to make the book accessible without compromising the detail and comprehensiveness of the analysis. The chapters are intended to be relatively self-contained such that the reader can jump between them or go straight to the sections of particular interest. I believe that the data and reviews that are drawn together in this book make significant progress towards answering the questions I started with.

There are many people who helped with the research behind this book. Before the research even began, there were frank discussions with architects, planners and designers. I am grateful to those who encouraged me to think that the project was



## *Preface and Acknowledgments*

worth pursuing such as David Good (who was to become my supervisor), Raymond Cochrane (Professor of Psychology at Birmingham University), and Ray Jobling (St. John's College, Cambridge). Other figures who were helpful sources of guidance and encouragement included Frazer Watts (MRC Applied Psychology Unit, Cambridge), John Parker (Greater London Consultants), Eugene Pakel (Department of Psychiatry, Cambridge), Tirril Harris (Royal Holloway and Bedford College, London) and Hugh Freeman (University of Manchester and British Journal of Psychiatry). I am also indebted to the large number of people who gave practical help and assistance including: with identifying suitable data for secondary analysis (parts of chapters 2, 3 and 4), to the staff of the ESRC data archive for help with identifying suitable data; with the Southgate study (chapter 6), to John Reid (Consultant in Public Health, Halton Health Authority), the doctors of the Brookvale and Weavervale practices and especially Drs Froid, Murphy, Zurek, and Richards, the practice administrators, Hugh Owen (Merseyside Improved Housing), Paul Sturgen and the Halton General Hospital Community Psychiatric Nurses, the Research and Intelligence Unit of Cheshire County Council, Margaret Davies and the representatives of the Southgate Residents' Association, and the staff of the local library; and with the Eastlake study (chapter 7), to Chris Wilkinson (City Council), John Barker (Architectural liaison officer, Police Headquarters), Joan Tibbs, Alan Pearson and the other staff at the local housing office, the County Council research unit, and most of all, to the many residents who gave of their time to make the study possible.

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Finally, I wish to thank my family, friends and colleagues who made the whole process a pleasure rather than a burden, and especially Dave Good, William Watson, David Smith, Avner Offer, and – of course – Jennifer Rubin. Occasionally it is tempting to wonder what answers I would have found if I had stuck with building buildings instead of regressions, but I hope that the present book makes some sense of the decision.

**DSH**

**August 1995**

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## Chapter 1

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# Introduction and Background

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‘What a dreadful room you have, Rodya, just like a coffin,’ said Pulkeria Alexandrovna, breaking the oppressive silence. ‘I’m sure it is responsible for at least half your depression.’

‘Room?’ said he absently. ‘Yes, the room has made a big contribution . . . I’ve thought of that too . . .’ (*Crime and Punishment*, Dostoevsky, 1865: 222.)

## Introduction

There is a widespread lay belief that the environment around us affects our mental health and well-being. In everyday speech, people often describe environments in terms of the moods that they evoke: ‘It’s such a relaxing environment’. ‘What a cheerful room’ or more negatively, ‘I do not like that building, it’s so depressing.’ In this book we shall be exploring whether this belief – that the environment can affect our mental health and well-being – is literally true. It is certainly true that people have strong views about the environment, and people will pay substantial amounts of money in order to live in pleasant surroundings. But is it also true that some environments are literally depressing while others are not? Can the design of a house, the length of a street or the form of a development affect our mental health? These are the types of questions that this book will try to answer.

### *What is Meant by ‘The Built Environment’?*

The research presented in the following chapters focuses on the effects of certain aspects of the environment. When psychologists use the term *environment*, they are often referring to a very wide range of phenomena including the child’s early experience and socialization, family dynamics, and life events, to name but a few, but here the term will be used more narrowly. The *built environment* refers to those aspects of the environment that urban planners, architects and urban geographers study. The built environment includes, but is not limited to the physical form of specific dwellings, developments, streets and cities. The term *planned environment* is sometimes used to indicate the broader, more social aspects of the built

## *Introduction and Background*

environment, but here the terms will be used interchangeably.

Physical and social planning are unavoidably enmeshed. Environments are typically constructed for social reasons, designs lead to social consequences whether intended or not, and even the humblest construction inevitably acquires a socially ascribed meaning. Consider, for example, the development of public housing projects or of suburbs; they have both a physical and a social manifestation. The public housing and private suburban housing tend to have distinctive physical forms, and the spatial divisions between these housing types has reflected and emphasized the spatial division between the social groups who live in them. The focus in this book is on the overlap between those aspects of the physical and social environment that have concerned urban planners, geographers and architects and those that may be linked to mental health.

### *Four Possible Channels of Influence*

A broad reading of the psychological and planning literatures suggests that if the planned environment has any influence on mental health, then it is likely to be through four inter-related channels of influence. These potential channels of influence of the environment over mental health are:

- as a source of stress;
- as an influence over social networks and support;
- through symbolic effects and social labelling;
- through the action of the planning process itself.

The evidence on the first of these issues – the role of the environment as a source of stress – is explored in Chapters 2 and 3. These chapters explore the influence on mental health of pollution, the weather, noise, crowding and environmentally related fear of crime. The influence of the environment on social networks, patterns of friendship, neighbouring behaviour and social support is examined in Chapter 4. Chapter 5 examines the effects of symbolic and social labelling aspects of the environment on mental health, and Chapter 6 examines the effect of the planning process itself on mental health. Finally, Chapter 7 presents a detailed case study to explore whether mental health can be improved through altering the environment.

However, before beginning on these detailed reviews, it is wise to ask ourselves, ‘what is mental health and mental illness?’ Also, it is helpful to contextualize the later chapters with a brief review of how earlier researchers have approached the topic of mental health and the environment and to draw out the major recurrent methodological difficulties that face researchers working on the topic.

### **What is Mental Illness?**

The term *mental illness* refers to a range of chronic, subjectively unpleasant psychological conditions, which may range from a cluster of mild symptoms such as

listlessness, bodily symptoms without organic causes, and feelings of depressed or anxious mood, to gross pathology, such as hearing voices that are not there, feeling that one's thoughts are being broadcast, or showing grossly disordered thought. In this book, the focus will be on the types of mild psychopathology and symptoms that are common in the community, though where the evidence is available, reference will be made to the occurrence of more severe disorders. The term *mental health* will be understood as referring to the condition of being free of psychiatric symptoms and having a subjective feeling of well-being.

American early community surveys suggested that as many 70 to 80 per cent of general population reported at least one psychiatric symptom (Srole *et al.*, 1962; Leighton, *et al.*, 1963). More recent estimates using stricter clinically grounded criteria have been substantially lower (Robins and Regier, 1991). Clearly, estimates vary according to the severity of the cut-off point used and to the time period covered, but most researchers report that, over a month, around 1 in 3 to 1 in 5 people suffer from some form of mental illness. A recent survey of 10,000 people in private households in the United Kingdom found that about 1 in 7 adults aged 16 to 64 had some sort of mental health problem in the week prior to interview (Meltzer *et al.*, 1994). However, many more people were found to be suffering from just one of the symptoms such as fatigue (27%), sleep problems (25%) or irritability (22%). Most of the symptoms reported are relatively mild, for example, headaches, sleeplessness, irritability, or feeling under strain, and less than a fifth (17 per cent) of these people go to see their doctor about the symptom (*General Household Survey*, 1980). These very common conditions, sometimes described as *sub-clinical* (Taylor and Chave, 1964) or *undifferentiated neuroses* (Gelder, Gath and Mayou, 1983) constitute the vast bulk of mental illness.

It is found that, to a very large extent, the different kinds of symptom cited above co-vary, that is, an individual who reports one kind of symptom is very likely to report another. Those people who report physical symptoms (headaches, stomach-aches, nausea) are very likely to report mood disturbance (feeling sad, hopeless, lonely). The covariance between physical and mental symptoms allowed early researchers to disguise questionnaires about mental health as questionnaires about physical health (Langner, 1962; Goldberg, 1972). This was done because researchers were afraid that survey respondents would not be prepared to answer questions about feelings as these were thought to be too personal. More recent scales have tended to exclude physical symptoms on the basis that these items could lead to the misclassification of genuine physical complaints as mental illness (especially in the elderly), but still, very similar estimates of prevalence (rates of occurrence) continue to be reported.

Most researchers agree that certain psychological symptoms tend to occur together, and this is the main basis of psychiatric nosologies (Kendall, 1975; Kaplan and Saddock, 1988). The significance of a cluster of simultaneously occurring symptoms is that they constitute a *syndrome*. The two most common clusters of symptoms in community surveys justify a distinction between depression and anxiety. The cluster of symptoms identified with depression include feelings of sadness, failure, low spirits, that things never turn out, and wishing you were dead. Physical symptoms found to co-vary include loss of appetite, trouble concentrating, trouble sleeping, reduced talking, and lethargy. Symptoms identified with anxiety include feeling tense, worried, afraid, irritable, and anxious. Physical symptoms found to co-vary include shortness of breath, dizziness, heart palpitations, cold sweats, and



trembling hands. However, a number of studies have shown that all the various measures of mental illness and clusters of symptoms, including anxiety and depression, are statistically closely related (Mirowsky and Ross, 1989), and for most purposes they can be taken as interchangeable indicators of *non-specific psychological distress* (Dohrenwend, *et al.*, 1980) or *demoralization* (Frank, 1973). More extreme disorders, both in the sense of their low prevalence and in the sense of how debilitating they are to the individual, tend to be relatively discrete, but even these co-vary to a surprisingly large extent.

What is this distress from which so many appear to suffer? Is mental illness the opposite of happiness? How does psychological distress relate to clinical disorder? Is the pattern of mental illness random, or does it have identifiable causes? These are some of the questions that we should briefly consider before beginning our exploration of the relationship between the environment and mental health.

### *Everyday Psychopathology and Clinical Disorder*

The most common way of estimating the level of mental illness in the community is by establishing a clinically validated cut-off score above which respondents are classified as *cases*. If a number of questions are asked of samples identified by clinicians as without pathology and another sample identified as psychiatric cases, then two things can be established. First, the questions that discriminated best between the two samples can be identified (this technique was used, for example, in the selection of items in the Langer-22 scale used by Srole *et al.*, 1962). Second, it can be established how well any given symptom score divides between those identified as cases or not by the clinicians. In principal, a cut-off point can be established above which 70, 80, 90 or whatever per cent of individuals could be expected to be classified as cases by clinicians – in other words – those who would be thought to need formal psychiatric care of some kind.

This technique gives rise to the figure of a point prevalence rate for all psychiatric illness in the general population of around 1 in 5 to 1 in 10 (Goldberg and Huxley, 1980). Similar proportions have been reported in Britain (Ingham, Rawsley and Hughes, 1972; Goldberg, 1972); Germany (Dilling, 1980); North America (Weissman *et al.*, 1978); Australia (Finlay-Jones and Burvill, 1977) and Africa (Orley and Wing, 1979).<sup>1</sup> However, it is important to note that no sharp dichotomy exists between cases and non-cases. Most researchers use a cut-off point at which the probability of being able to assign a diagnosis exceeds at least 0.5, but then many also use a category of *borderline, threshold, or sub-clinical disturbance* (Brown and Harris, 1978; Goldberg and Huxley, 1980).

The absence of a clear dichotomy between cases and non-cases has led to two types of critique. The first is that more sophisticated techniques should be used in the identification of cases. Epidemiologists have stressed the importance of establishing separate cut-off points for different groups in the population, such as the elderly, and for men and women. Some have emphasized the importance of using more sophisticated psychometric techniques, and especially the more critical use of Receiver Operating Characteristics (ROC) analysis depending upon the consequences of incorrect classifications and the distributions of scale scores among normal individuals and cases (Fombonne, 1991). This is a relatively conservative critique. The

second kind of critique is more radical. Some have argued that the absence of a clear dichotomy between cases and non-cases means that attempts to impose a cut-off point are artificial and result in the loss of a large amount of important information.

Diagnosis throws away information about the similarity of some cases and the dissimilarity of others . . . As an assessment becomes broader, it becomes less sensitive to meaningful changes or differences, and the ratio of information to random noise declines. When a full range of symptoms is split into only two categories, such as: enough symptoms for a diagnosis of depression; and not enough symptoms for a diagnosis of depression, most of the information is lost, but all of the random error remains. (Mirowsky and Ross, 1989: 30–1)

A similar critique can be made of many of the distinctions employed by psychiatrists; even in the most sophisticated psychiatric nosologies, many cases do not fit within a set of tidy and mutually exclusive categories. The evolution of diagnostic frameworks has therefore coincided with a massive proliferation of diagnostic categories to soak up the cases that are not clear-cut, such as *schizoaffective disorder*, *schizophreniform disorder*, or *depressive disorder not otherwise specified*.

Which of the two perspectives is most valid depends largely on what you want out of the data. If you are a clinician and must make judgments as to the appropriateness of treatment for a given individual, then the first perspective or critique is most valid: you need some kind of cut-off point, albeit one as sophisticated as possible. However, if you are a researcher investigating the causes of disorder then the use of cut-offs is generally unnecessary and obscures important information.

It is very likely that research into the aetiology (or causes) of mental illness would miss many significant associations if only categorical variables were used. The position taken here is that *mental illness* is a phenomena ranging from relatively mild everyday psychopathologies through to extremely severe and debilitating types of disorder as manifested in psychotic psychiatric patients, with the divisions between categories of severity being relatively arbitrary.

### *The Relationship between Mental Illness, Misery and Happiness*

#### *Psychological distress and happiness*

A number of writers have argued that contrary to popular understanding, psychological distress (manifested as misery or symptoms) is not the opposite of happiness (Argyle, 1987; 1992). Bradburn (1969) asked subjects which of a number of feelings had they felt over the past few weeks. Some of the items were positive, and some were negative. Bradburn found that there was no relationship between the reporting of positive and negative items; individuals who reported feeling bored were just as likely as others to report, for example, feeling pleased at having accomplished something. Further evidence for the independence of happiness and distress are findings that suggest that slightly different factors influence the two (Headey, Holmstrom and Wearing, 1984; Argyle, 1987). Also, it is clearly possible to think of certain disorders, such as in the manic phase of manic-depression, during which the

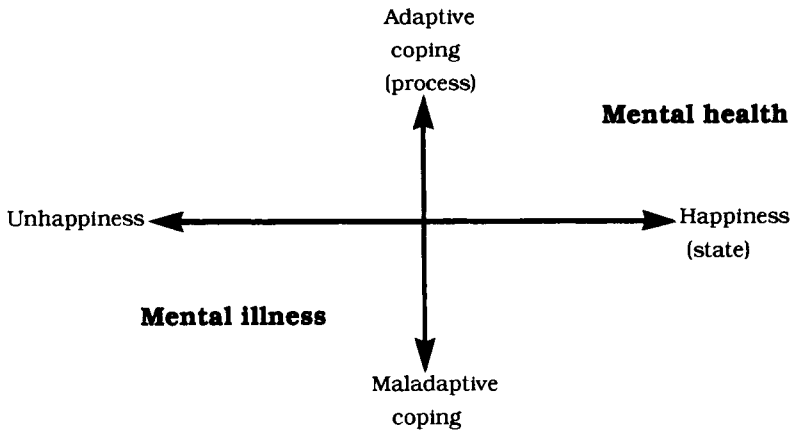
person can appear to be extremely happy (though such phases tend to be limited). Similarly, a person suffering from schizophrenia may often appear to show inappropriate affect rather than unhappiness *per se*. Argyle (1992) has argued that if distress, or at least depression, really was the opposite of happiness then this would imply that to make normal people happier we would just have to give them 'the same treatment that is used for depressives' – electric shocks, anti-depressives and so on' (p. 284).

However, electric shocks and anti-depressives are not normally given for the types of mild disorder found in the community, and the argument suggesting that happiness and distress are not opposites has probably been somewhat overstated. Similarly, disorders such as mania are relatively rare (lifetime prevalence rates certainly being less than 1 per cent) and the vast majority of people identified by community surveys as suffering from mental illness are suffering from *neuroses* such as anxiety or depression. When subjects are asked how they feel at a particular time as opposed to over a period of weeks, positive and negative feelings are strongly negatively associated (Kammann and Flett, 1983; Diener, 1984; Fordyce, 1985). Typical correlations between scales of happiness and scales of psychological distress are around  $-.4$  to  $-.7$ . Of these subjective well-being measures, the scales developed by Fordyce are particularly well respected (Larsen, Diener and Emmons, 1985). Fordyce (1985) reports strong negative correlations (in the range  $-.5$  to  $-.8$ ) between all forms of the Psychap Inventory (the happiness scale); and anxiety, depression, and hostility on the MAACL (Multiple Affect Adjective Check-list); tension, depression, and confusion on the POMS (Profile of Mood States); depression on the DACL (Depression Adjective Check-list); and depression, anxiety, psychopathy, psychasthenia, and schizophrenia subscales on the MMPI (Minnesota Multiphasic Personality Inventory). In terms of psychometrics these correlations are very high and strongly suggest that, at least to a large extent, psychological distress and happiness *are* opposites. Once account is taken of random measurement error, the degree of independence between global measures of distress and happiness must be quite small. Being unhappy is clearly a central, though not necessarily sufficient, aspect of the psychological distress as measured by psychometric scales.

### *Mental illness and misery*

Suffering from the type of mental illness that is common in the community typically involves being unhappy or miserable, but if a person is unhappy, are they necessarily suffering from mental illness? It is certainly true that according to psychiatric definitions, being unhappy – even if profoundly so – is not enough to automatically lead to a diagnostic label. If a person's spouse dies, then provided that the bereavement occurred within the previous two years, the diagnostic label of clinical depression is not normally applied, even though the symptoms may be identical. More straightforwardly, being unhappy or in a bad mood is not considered, in itself, enough to constitute mental illness. Periodic negative affective states are normal: if your car gets scratched by vandals or if you miss your train you feel irritated or annoyed, and if nothing ever happens you feel bored. Emotions are part of being alive, and we do not describe someone as suffering from mental illness every time they experience a bad mood. So what distinguishes mental illness from normal unhappiness?

Part of the answer is to do with the length of time involved – if a person's bad



**Figure 1.1:** Diagram showing the relationship between psychological distress and well-being

or depressed mood lasts for a period of months or even years, then we are more likely to describe this as mental illness rather than just unhappiness. However, mental illness is constituted not only by negative affect but also by characteristic mental processes. An individual who suffers from depression is not just feeling down, he or she also exhibits social, behavioural and cognitive patterns which act to reinforce and propagate the subjective experience of the negative mood. The depressed person is passive and withdrawn, reducing the possibility of positive experiences that might induce a more positive mood. His or her style of thought is characterized by negative, generalized and internally directed attributions which act to exaggerate the negative impact of any event; his or her affect and manner can make them less pleasant to be with and reduces the likelihood of positive social interaction. The central difference between unhappiness and mental illness lies in the distinction between *state* and *process*. The mental state which characterizes psychological distress can be fairly described as unhappiness, even misery, and as the opposite of happiness. The pathological coping mechanisms or process that act to maintain the state are what distinguish mental illness from normal unhappiness. These relationships are depicted in the diagram above, where the horizontal axis represents the mental state and the vertical axis represents the style of coping.

### *Satisfaction*

A further concept widely used in the literature is *satisfaction*. Satisfaction is more specific than happiness and refers to the positive appraisal of something or someone rather than a global internal state. It is possible to be satisfied with some aspects of life or a situation while simultaneously dissatisfied with others. A person can be happy in general but dissatisfied about something specific, and can be miserable in general but simultaneously satisfied about something specific. Clearly, the more important something is to a person, the more likely it is that dissatisfaction with that object or aspect of their life will lead to overall dissatisfaction and unhappiness. Campbell, Converse and Rogers (1976) attempted to predict overall ratings of satisfaction with

life from a range of specific domains. Overall satisfaction was most closely related to satisfaction with family life ( $r=.41$ ); followed by marriage ( $r=.36$ ); financial situation ( $r=.33$ ); housing ( $r=.30$ ); work ( $r=.27$ ); friendship ( $r=.26$ ); health ( $r=.22$ ); and leisure activities ( $r=.21$ ) [figures in brackets are correlations].

Both theoretical and empirical work shows that overall moods are not simple summations of satisfactions and dissatisfactions. Studies such as that of Campbell, *et al.*, show that some kind of weighting operates to determine overall levels of satisfaction. Detailed studies of more specific appraisals show that these involve complex combinations and the simplification of enormous numbers of micro-satisfactions and dissatisfactions. To take a simple example, Morton-Williams, *et al.* (1978) found that residents would often say that they were not bothered by road noise. Nonetheless, these same residents would often then go on to say, in response to more specific questions, that they were very bothered by *certain* road noises (for example, by motor bikes). Minsky (1987) has illustrated this kind of phenomenon with computational models which point to how overall subjective appraisals of satisfaction can conceal an enormous cognitive complexity and a large number of specific appraisals.

In summary, the presence of a negative internal state (the absence of happiness) is a necessary but not sufficient condition of most forms of mental illness, but mental illness also implies maladaptive patterns of coping. Specific satisfactions and dissatisfactions are important determinants of happiness and unhappiness, but the relative importance of any particular source of satisfaction and dissatisfaction varies. Sources of satisfaction and dissatisfaction have a correspondingly less direct impact on mental health and illness.

### *The Causes of Mental Illness*

A very large number of factors have been implicated in the aetiology of mental illness. Classical debates revolve around the relative importance of broadly *environmental* as opposed to *genetic* factors in the onset and course of mental illness, with both proving important. A multitude of environmental factors (in the broader sense) and genetic predispositions weave in and out to form complex, intertwined aetiologies, often difficult to untangle across a population, let alone within an individual patient. Even in schizophrenia, a disorder in which genetic factors have been strongly implicated, the concordance rate of MZ (genetically identical) twins is far from 100 per cent (50 to 60 per cent), emphasizing that generally, both environmental and genetic factors are involved in its aetiology (Gottesman and Shields, 1982).

Most forms of mental illness, including the minor neuroses and psychological distress common in the community, are strongly associated with a number of social variables including low socio-economic status, unemployment, and impoverished social networks. Psychological distress has also been found to be associated with certain dimensions of personality such as neuroticism and *low hardiness* (see later chapters for further details). However, it has become clear that many of the social variables associated with psychologically distressed individuals, such as poverty and poor social networks, are at least as much the result of mental illness as the cause. As in debates over the relative importance of genetic and environmental factors, debates over the relative importance of *selection* over *causation* have led to strong evidence

for the occurrence of *both* processes (Antunes *et al.*, 1974; Cochrane, 1983; Mirowsky and Ross, 1989; Halpern, 1993). The relationship between personality types and mental illness is a very strong one, but is greatly confused by the similarity of the items used in the scales to assess them and by the problematic distinction between the concept of the trait and the chronic mood state.

Nonetheless, a wide consensus exists that at least some non-constitutional factors causally relate to the occurrence of mental illness. For example, following the work of Holmes and Rahe (1967) and others, a large literature has developed on the association between *life-events* – significant occurrences in individuals' lives – and mental illness. A number of studies have shown that major life events increase the probability that an individual will develop depression or some other neurosis, and that they can (at least) trigger the occurrence of psychotic episodes (Brown and Harris, 1978; Paykel and Dowlatsahi, 1988). It has also been shown that life events increase the probability of physical illness and reduce the effectiveness of the immune system (Kennedy, Kiecolt-Glaser and Glaser, 1990). However, despite their significance, life events explain only a small part of the variance in the occurrence of mental illness. For example, Brown and Harris (1978) showed that in only 1 out of 5 women did a major life event or chronic stress lead to an episode of depression. Other risk factors included having several young children, the absence or failure of a close confiding relationship, and low self-esteem. Brown and Harris suggested that a further set of *symptom formation factors* influenced the form and severity of any subsequent disorder, including age and the experience of the early death of the individual's mother. Recent work has shown that daily hassles also predict levels of psychological symptoms, and sometimes do so better than major life events: the more hassles, the worse mood and the more symptoms (Kanner, *et al.*, 1981; Caspi, Bolger and Eckenrode, 1987).

Space is too restricted here for an exploration of the state of knowledge about the aetiologies of specific disorders, and this information can be found in standard texts (Gelder, *et al.*, 1983; Meyer and Salmon, 1984; Kaplan and Sadock, 1990). It will serve my purpose sufficiently just to emphasize a number of general points. First, non-constitutional (environmental) variables are implicated in the occurrence of all forms of mental illness, though to varying extents. Second, the clinical divisions that are made between disorders to facilitate and guide treatment do not exclude the possibility that many of the same factors are aetiologically relevant in these disorders. In fact, it is already known that many of the same factors do operate in differing disorders (for example, life events and the absence of supportive relationships), though their relative importance may differ. Secondary sets of factors (including constitutional, social and cultural variables) operate to determine the form and severity that the illness takes, and these variables are not necessarily the same as the initial causal agents. Third, aetiologies and various causal agents are not exclusive in their occurrence or effects. Although academic debates tend to juxtapose one possible aetiological route against another, there is little evidence to suggest that this juxtaposition reflects the actual relationships between causal routes. Many social and constitutional variables are relevant in the complex and various aetiologies of mental illness. This book is an exploration of the aetiological relevance of one particular, relatively narrow group of factors referred to as the *the planned or built environment*. Whatever is decided about the relevance of these factors, it should be clearly understood that these factors are being explored as *complementary* rather than as

*alternative* explanations of mental illness and psychological distress. The book explores the possibility that the planned environment may be able to soak up some of the sizeable amount of variability in who suffers from mental illness left unexplained by other, more conventional explanations.

In the chapters that follow, a wide range of literatures will be examined. Not all researchers have used the same terms or outcome measures, and terms such as *emotional disturbance*, *dissatisfaction*, *unhappiness* and *annoyance* have often been used interchangeably with the term *mental illness*. Where possible, I have tried to maintain a distinction between mental illness and other forms of distress (such as annoyance and dissatisfaction). In retrospect, perhaps a better way of describing this range of phenomenon would be through a term such as *mental ill-health* or *psychological distress*. It may be that the term *mental illness* is too medical in that it raises images of organic pathogens, bacteria and the like, and this distracts from the more social and environmental causes that are implicated in the aetiology of most psychological distress. Perhaps the best that we can do for now is to highlight the definitional problems in the literature and to try to avoid the use of terms that pre-judge the aetiology of phenomena under consideration. I can only hope that the current work will enable later scholars to be more precise.

### **Mental Illness and the Environment: Early Studies**

In the mid-nineteenth century, the idea forcefully emerged that poor quality environments were a major cause of the high levels of physical sickness and frequent epidemics that were common among the poor. Friedrich Engels in *The Condition of the Working Class in England* (1844–1845) was one of the first to state the link clearly:

There is ample proof that the dwellings of the workers who live in the slums, combined with other adverse factors, give rise to many illness. (p. 111) . . . The middle classes . . . have no grounds for complaint if I accuse them of social murder (p. 123).

On both sides of the Atlantic, continuing outbreaks of disease associated with the poor housing conditions of many working-class families eventually led to the development of reformist based slum clearance programmes, the enforcement of systems of health regulations and planning law, and other efforts to improve the quality of the housing stock (Jacobs and Stevenson, 1981). Through improvements to the housing stock, water supplies, sanitation, and the reduction of pollution, enormous reductions in the occurrence of many diseases have been achieved. The link between today's poor housing and physical health is much weaker, as even the poorest quality of housing tends to be of a much higher physical standard than that of poor housing in the previous century, though some links persist (Byrne, *et al.*, 1986; Lowry, 1991). For example, Martin (1990) was able to demonstrate that damp found in poor housing led to significant increases in the ill-health of children residents. The assessments of housing conditions were made separately and a few

days after the interview to assess health. Controls were also made for smoking, mothers' mental health (using the *General Health Questionnaire*; (Goldberg, 1972), unemployment and other socio-demographic variables.

The formal recognition of the influence of housing on health gave planners and politicians a mandate to clear substandard housing and unhealthy slums, and to replace them with modern and healthy alternatives. The success that planners achieved initially brought them considerable powers, not least being the power to order the demolition of large areas and organize their rebuilding. Ironically, the success of planners in reducing the link between housing and health in recent decades may have somewhat undermined the planners' *raison d'être*. Today the argument is frequently advanced that, whereas the main goal of the planner was once the creation of designs that were good for physical health, today the main aim of the planner is the creation of designs that are good for mental health (Parker, 1985). As one design textbook explains:

Most official housing standards, which originated in the nineteenth-century public health laws, emphasise physical health and safety and ignore both individual and community *mental* health ... But we have also learned that the design of environments affects people in a multitude of ways and that, in terms of their well-being, it matters deeply. (Cooper-Marcus and Sarkisian, 1986: 5–9, authors' italics.)

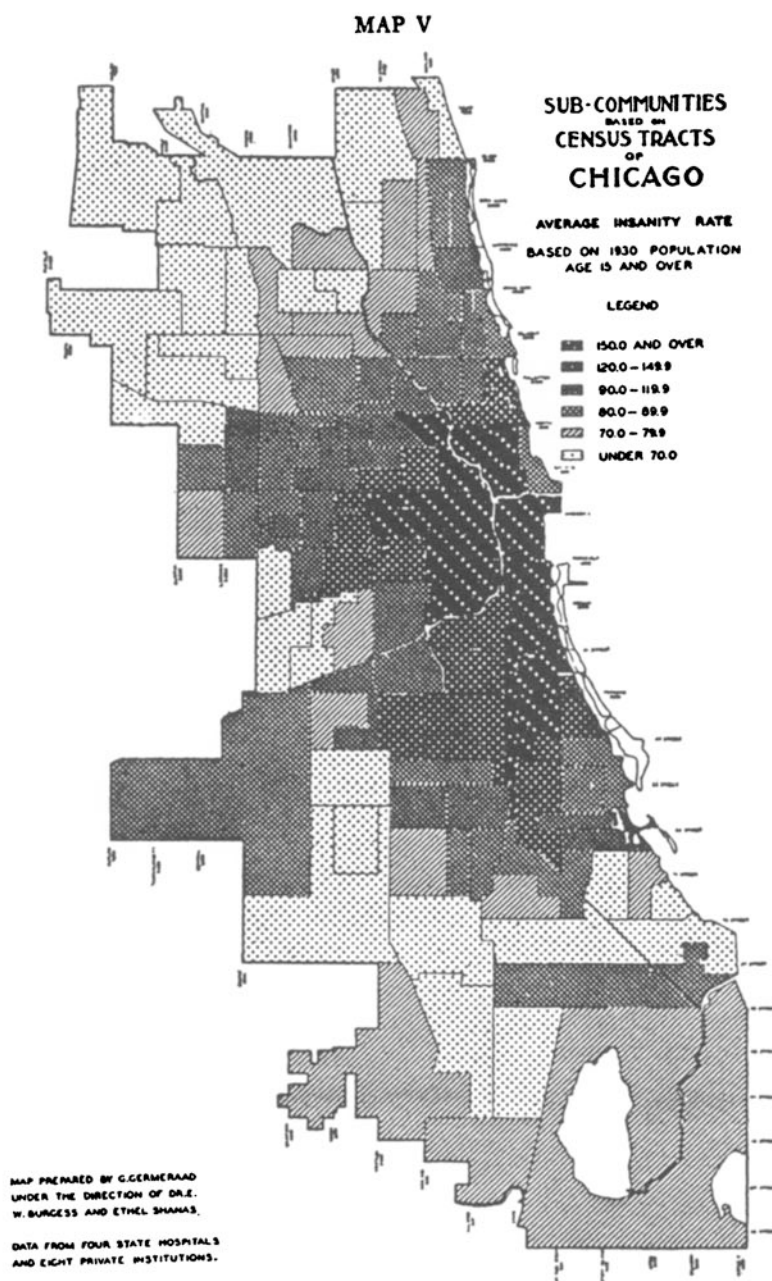
However, despite their claims, almost no references are made by planners to psychological literatures to support the assertion that mental health is affected by the planned environment. Sceptics might argue that the reason for the absence of these references is that very little evidence for a link between the built environment and mental health actually exists.

### *Psychiatric Geographies*

In 1939 Faris and Dunham published a study of the geographical distribution of the home addresses of persons admitted for psychiatric disorders in Chicago. They discovered that the pattern of psychiatric admissions across the city was far from even: the psychiatric admission rate was lowest in the outer suburbs and became steadily higher towards the inner-city core. Faris and Dunham argued that the isolation and disorganization of the inner-city rooming-house areas led to a social and mental disorganization of the individuals who lived in those areas, and hence to elevated levels of psychiatric disorder, and in particular, schizophrenia, (though not for mania which showed a more random pattern).

Later researchers have successfully replicated Faris and Dunham's findings in a number of places including Chicago (Levy and Rowitz, 1973) and a number of cities within Britain (Giggs, 1973; Taylor 1975; Dean and James, 1984). However, Faris and Dunham's original interpretation – that the disorganization and isolation of the environment *caused* the elevated rates of psychiatric admissions – has been strongly contested. An alternative explanation which is now widely accepted is that the dramatic maps of psychiatric admissions plotted by Faris and Dunham were the result of *social drift* rather than social causation (Cochrane, 1983). Theories of social drift





**Figure 1.2:** 'Average insanity rates' in Chicago.

Source: Faris and Dunham, 1939.

suggest that if an individual develops a serious psychiatric disorder they become less able to maintain stable social relationships or hold well-paid employment, and tend to drift to the cheaper and more anonymous parts of the city. Strong evidence for a theory of social drift can be seen in the finding that maps of first psychiatric admission

rates are considerably more random than maps of re-admissions. The slight patterns of concentration seen in first admission rates can also be explained by social drift on the basis that early pre-morbid aspects of disorder are similarly likely to lead to drift. Faris and Dunham originally argued against a theory of social drift on the basis that if social drift were the cause of the distribution for schizophrenia then it should also have led to a similar distribution for mania. However, most later researchers have argued that this difference would have been more plausibly interpreted as a reflection of the difference in the courses and prognoses of the disorders: schizophrenia is typically characterized by chronic decline while mania is often associated with a more positive prognosis and long periods of normal functioning.

So what has been learnt from more than fifty years of psychiatric geography? It has been clearly demonstrated that higher rates of psychiatric admissions are associated with areas that are poor, high in density, mixed in land use, and associated with other types of social disorder such as social delinquency, suicide and crime. Although there have been some methodological improvements, psychiatric geographies still rely on ecological correlations – though these are now often called *associative analyses* – and the central problem of inferring causal direction remains (Scobie, 1989). The widespread disappointment in the ability of psychiatric geographies to identify the cause of the patterns they reveal was summed up in a review by Kasl and Harburg (1975) who concluded, ‘so far, ecological analyses have not yet illuminated anything about the aetiology of mental illness.’ This has led many recent psychiatric geographers to shift their focus away from the study of aetiology towards the study of patterns of service use (Smith, 1984; Scobie, 1989). However, the conclusions of Kasl and Harburg are perhaps too severe in that psychiatric geographies provide researchers in other fields with a useful starting point in their studies, and sometimes with useful pointers for further research. Finally, there is evidence that if the ecological approach is combined with individual level data then extremely useful insights can follow (Bell, 1958). Daiches (1981) combined data from individually administered questionnaires with aggregate (ecological) level data and found that even after individual level characteristics had been accounted for, ecological level factors were still able to explain significant amounts of variance in individual level well-being. Unfortunately, Daiches’ study is unusual, and overall, psychiatric geography has raised more questions than provided answers.

### *The New Town Studies*

In 1938, a paper was published in the *Lancet* by Taylor documenting a phenomenon he called *suburban neurosis*. Taylor reported that the stresses experienced by the residents of new out-of-town housing estates, such as distance from employment, loss of familiar surroundings, and social isolation led to a higher incidence of neuroses, particularly in women. This paper marked the beginning of a protracted debate which has remained controversial for over 50 years (Freeman, 1984b).

Support for the occurrence of the phenomenon of suburban neurosis was provided by an extensive study of a new housing estate by Martin, Brotherston and Chave (1957). Martin, *et al.*, examined four different measures of the mental health of a London County Council housing estate with a population of around 17,000: mental hospital admissions, referrals to psychiatric out-patient clinics, general