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Psychological and Psychiatric Aspects of Population Problems

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Introduction

In 1615, the population of the world was half a billion. In 1930, it had reached two billion. In 1970, it was three and one-half billion, and, in slightly more than one generation, at the beginning of the twenty-first century, the world population will have reached close to seven billion. The same kind of escalation of population growth has taken place in the United States. In 1790, at the time of the first census, the population was less than four million. By 1860, it was 31 million; by 1900, it was 76 million; and by 1950, it was more than 150 million. Projecting into the future, it is estimated that our population will reach 300 million shortly after the start of the twenty-first century, and, one hundred years from now, depending in large part upon whether American families maintain a two- or three-child average, the population will number between 340 million and almost one billion. These figures certainly justify the current wide-spread public concern with population growth, and the problems of bringing it under control. It seems timely, therefore, to discuss in some depth the psychological aspects of current population phenomena, particularly as these have a bearing for the psychologically and behaviorally oriented clinician.

The systematic consideration of the relationship between psychological

and demographic variables is a generally new but important endeavor. In the past, demographers implicitly used psychological-level concepts in the process of data collection, or when giving explanation and substance to their broad, normative statements. Psychologists and psychiatrists, on the other hand, used demographic variables to define and describe the degree of heterogeneity of their clinical population. With but a few notable exceptions, there has been comparatively little interdisciplinary work. This chapter will attempt to bridge the gap between these two levels of discourse through a consideration of both psychodemography, the study of the effect of individual decision-making and other psychological processes on population variables, and demopsychology, the study of the effect of population variables on individual behavior. Because these two areas are so broad, the focus of discussion will be primarily, sometimes even exclusively, on clinically relevant variables. It is hoped that such an approach will serve to bring together the basic concepts relevant to both psychological clinicians and demographers, and to outline the current issues and boundaries of knowledge of mutual concern. It should also delineate the modes of action which are available to the clinician and through which he may have an effect on current population problems.

Demography is the study of population phenomena. Historically, it grew out of the very practical need of governments to know some elementary facts about their people. It was based on such data-gathering procedures as the

periodic census and the regular registration of vital (life and death) events. Petersen distinguishes between formal demography, or "a gathering, collating, statistical analysis, and technical presentation of population data," and population analysis, which is the "study of population trends and phenomena in relation to their social setting."

This chapter is devoted to the psychological and psychiatric aspects of population analysis. Traditionally, demographers have utilized the basic triad of fertility, mortality, and age composition in the analysis of changes in a given population. In this chapter, an expanded, more psychologically oriented approach will be used to organize discussion. We will distinguish between two types of population variables: structural and dynamic. The structural variables of size, distribution, and composition are inherent aspects of any population. Directly and indirectly, they affect the psychology of each individual member. The dynamic variables of fertility, mortality, and geographic mobility result from, or are affected by, individual decisions and behavior through which they have an aggregate effect on the population. Because it seems to be a completing link in the overall system of variables, we will also consider status mobility among the dynamic properties.

Because of the current focus on fertility and population growth, it is tempting to confine our discussion to this area. However, fertility is greatly affected by the other dynamic and structural elements of the population

system defined above and, in turn, has important influences on them. In fact, all of the major elements of demographic analysis are mutually interactive to a significant degree. Since this has been well illustrated by others, a single, hypothetical example will serve our purpose here. Let us assume that a small nation, with a stable population, has a crude birth rate of 45 per 1000, and a crude death rate of 25 per 1000 each year, and thus a stable growth rate of 2 percent (close to the average for the world at present). Let us assume that the net migration in and out of this nation is close to zero, and that there is a typical pyramidal social-class structure, with the social mobility rates of individuals from the lower classes upward being matched by the corresponding rates downward from the upper and middle classes. Finally, let us imagine that the nation is largely rural in terms of land area (approximately 85 percent), but that about half the population lives in urban and suburban areas.

Given this situation, it is possible to illustrate how each demographic variable affects the other. For example, if, through the introduction of modern medical techniques, the crude death rate is decreased to 15 per 1000, then the population size will increase more rapidly at the rate of 3 percent per year (close to the average for the developing nations of the world). Since a reduction in infant mortality will be the first and major mortality change, more babies will survive into and through childhood, changing the age composition in the direction of a more youthful population. Initially, this will

increase opportunities for work as a result of the expansion of farming and industry in order to meet the growing needs of the young. These work opportunities, in turn, may increase certain types of immigration. However, in fifteen to twenty years, when the greater numbers surviving infancy and childhood reach working ages, job competition will increase. The economic effects of this may itself depress fertility levels, and it may produce an increase in migration out of the country to areas of greater work opportunity. Finally, since improved mortality would almost certainly favor the lower class, and thus its greater differential growth, there would quite probably be a net increase in upward social mobility as a result of the tendency to maintain similar social-class proportions.

Let us further suppose that, along with the introduction of modern medical technology, there was the successful establishment of a widespread contraceptive-service delivery system and the development of a favorable attitude toward birth control. Let us say this resulted in the reduction of the crude birth rate from 45 to 25 per 1000. This reduction in fertility would have a number of effects. The growth rate of the nation would come down to 1 percent (close to that of the United States at present). There would be a decrease in maternal mortality and a smaller average family size. These, together with a later age at marriage (a probable outcome of increased use of contraception), would increase the availability of women to the labor force. This itself would probably have the ultimate effect of further decreasing

fertility. It would also, together with other social forces leading toward urbanization, tend toward the urban migration and upward social mobility of individuals and couples unencumbered by many children. These latter movements would, in turn, undoubtedly have a major impact upon the spatial and social-class distribution of individuals within the nation.

This brief illustration should provide the reader with a sense of the many, potentially important interconnections between demographic variables. It is for this reason that the following discussion is designed to embrace the whole field of population analysis, rather than focus exclusively on the subject of most obvious, current interest, namely, fertility and fertility control. Such a broad discussion lends itself well to a general systems approach, one which explicitly acknowledges the interconnections on each level of analysis (psychological and demographic) and between levels of analysis. It is the interlevel connections which will be the main topic of this chapter, organized according to the seven fundamental structural and dynamic variables of demography. These variables have themselves been sub-grouped into three prominent subsystems, which form the subject for the three main sections which follow. Within the sections, each variable will be discussed with respect to: (1) demographic and psychological concepts which are relevant to it; (2) current issues which bear upon it; and (3) modes of professional action through which psychologically oriented clinicians may affect it. In order to limit the field, and because of the author's greater

familiarity with the American scene, the focus of discussion will be on the United States.

Fertility, Mortality, and Size

The fertility-mortality-size triad forms a natural population subsystem. To be sure, geographic mobility (in the form of migration) often has an important effect upon the size of a particular population, and, in some cases, such as in economically depressed areas, is the most significant determinant of change of population size with time. Nevertheless, geographic mobility interacts more specifically with population distribution, and as may be seen in Figure 44-1, which represents the overall population data for the last forty years for the United States, may have a relatively smaller effect on size than fertility and mortality.

The theory of demographic transition has special relevance to the fertility-mortality-size subsystem. This demographic theory postulates that all societies move from an initial phase of high birth and death rates, through a transitional phase of high birth and low death rates, to a final phase of low birth and death rates. It will be recognized that this sequence roughly parallels the steps through which the hypothetical illustration was carried in the previous section. It is during the transitional phase that the population expands most significantly. Theoretically, at least, during the initial and final

phases, the size is more nearly stationary, due to a relatively close balance between births and deaths. Although there are many significant exceptions to this theory, it is one of the best established theories in social science, and still sufficiently useful to find continued application. For our purposes here, it provides a special illustration of the dynamic connectedness of size, fertility, and mortality.

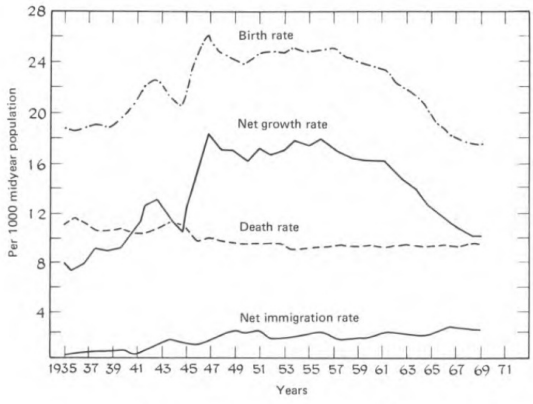


Figure 44-1.
Annual rates of births, deaths, net immigration, and net growth in the United States from 1935 to 1969.
Source: United States Department of Commerce, Bureau of the census, Population Estimates and Projections, Series P-25, No. 442, March 20, 1970.

Fertility

Relevant Concepts

Because of differences between demographers and biologists in traditional use, there is some general confusion about the meaning of such concepts as fertility and fecundity. For the demographer, fecundity is the biological capacity to have children, while fertility refers to the number of children actually had by an individual or a population. Biologists, on the other hand, often use these concepts in exactly the opposite way. In this discussion, we shall follow the demographic usage. Furthermore, we shall refer to the decreased biological capacity to have children as subfecundity, and to the biological inability to have children (the extreme form of subfecundity) as sterility.

There are a number of important concepts which demarcate the area of fertility behavior at the demographic and psychological levels. We have already made use of an important demographic concept, i.e., the crude birth rate. This expression refers to the ratio of total births to total population during a specific period of time, usually one year. Conventionally, crude birth rate is stated in terms of births per one thousand population. Because the crude birth rate is based on data which include all ages and both sexes in the population, it does not always accurately reflect a population's reproductive behavior. A more refined concept is the general fertility rate, or the number of births per 1000 women in the fecund ages, generally assumed to be between fifteen and forty-five years. A further refinement of this concept, important in that it allows computation of the extent to which a population is replacing

itself, is achieved by calculating age-specific fertility rates, often based upon five-year age groupings.

Demographers are interested not only in rates, but also in social norms. With respect to fertility, they are particularly interested in the norms which govern reproduction, especially those concerning family size and birth intervals. In order to measure these norms, demographers look at actual family sizes and birth intervals, and ask people about their ideal, desired, and expected family sizes and birth intervals. These data are gathered through general survey techniques by what must be considered by individually oriented clinicians as somewhat superficial methods. Nevertheless, this kind of approach produces interesting and potentially useful data.

Because of the great social importance of controlling fertility, demographers in their surveys and theoretical work have made distinctions between wanted and unwanted conceptions (also, pregnancies or children). Pohlman has reviewed some of the theoretical and methodological problems inherent in the concept of an unwanted pregnancy by examining such questions as: “Unwanted to whom?,” “Unwanted at what psychological level?,” and, “Unwanted at what point in time?” His analysis highlights the complexity of the concept of “unwantedness,” a complexity which is only confounded by the gathering of data through a survey method. In spite of these problems, Bumpas and Westoff, in a widely quoted article, reported data which they

believe indicate the degrees of child-wantedness in the married United States population as a whole. Their method provides what is perhaps best seen as a measure of the "intendedness" or "planfulness" of a conception.

At the psychological level, there is a whole set of behaviors which relate to fertility. These are most readily discussed if they are divided into the following four categories: (1) sexual behavior, or behavior which has sexual stimulation or gratification as part or all of its goal; (2) conceptive behavior, or behavior which has the achievement (proceptive behavior) or the prevention (contraceptive behavior) of conception as its goal; (3) abortion-seeking behavior, or behavior which has the termination of pregnancy as its goal; and, (4) procreational behavior, or behavior which has the bearing and raising of children as its goal.

The author has discussed these categories in some detail in another context. It is noteworthy that sexual, conceptive, and procreational behavior have not always been readily separable in practice. It was only after knowledge of the ovulatory cycle was acquired and effective contraception was developed that sexual and procreative behavior could be separated. It was only with perfection of a coitus-independent method of contraception (for example, the Pill or the IUD) that contraceptive behavior could be separated from sexual behavior. (The same may be said for a coitus-independent method of insemination and proceptive behavior.) Now that

these distinctions can be made at a practical level, it is apparent that each set of behaviors is subject to its own social norms and affected by its own group of psychological antecedents.

Social norms regarding these behaviors are undergoing rapid change. For example, sexual norms are becoming less restrictive; contraception is gaining wide acceptance; and family-size norms appear to be becoming significantly smaller. It is likely that such changes will alter the importance of personality variables in the expression of these behaviors; thus, where norms become less restrictive, as they are with regard to premarital sexual behavior, individual factors may assume more importance; where norms become more restrictive, as seems to be happening with family size, they may assume less importance. Changes in the restrictiveness of norms will also alter the type of personality variables which affect fertility behavior; thus, with the relaxation of premarital sexual norms, one might expect a shift away from traits of rebellion and alienation as significant factors in premarital pregnancies, with a shift toward traits perhaps of immaturity and dependency.

In addition to social norms, access to information and to technological means serve to moderate the importance of personality variables in fertility behavior. Without knowledge about sexual and conceptive processes, and without the mechanical and chemical means of contraception, psychological factors which affect decision-making probably have a smaller influence on

fertility. For example, in certain lower-income populations, social constraints on access to contraceptive information and contraceptive means appear to play a greater role than motivational factors in the occurrence of out-of-wedlock conceptions. On the other hand, in a community and social-class group where social constraints were much less a factor, a study by the author showed that a group of effective contraceptors and a matched group with unwanted pregnancies were not distinguished by their level of sexual knowledge or their previous use of contraception, although there were significant personality and coping variable differences between them.

What are some of the psychological variables which influence fertility behavior under relatively unrestricted conditions? For sexual behavior, they seem to be, most importantly, feelings about the sexual experience and its associated psychological elements, such as intimacy, trust, and pleasure. For contraceptive behavior, they include attitudes toward the physical effects of particular contraceptive methods (e.g., blood clots or "body pollution" from the pill, decreased genital sensation with the condom) and feelings about the psychological effects of particular methods (e.g., distaste for self-manipulation with the diaphragm, or feeling a lack of personal control with the IUD). Finally, for procreational behavior, they include aspirations regarding family life and feelings about family involvement. These and other relevant psychological dimensions will be discussed more specifically in the next section.

Many of the same considerations apply to the psychological antecedents of abortion-seeking behavior. Lee has discussed the importance of knowledge about abortion and access to it. Her data were generated at a time when illegal abortions were virtually the only type of induced abortion available in this country. However, because of continued societal ambivalence toward induced abortion, social constraints through limitation of access to information about abortion and to the means of achieving it are still major factors affecting abortion-seeking behavior.

Abortion-seeking is also influenced by social norms and personal feelings about having an abortion. As will be discussed in the next section, the social norms are currently undergoing a major change in the United States. Since the decision to obtain an abortion is generally made after consideration of the alternative courses of action, specifically, early marriage, adoption, out-of-wedlock childrearing, abortion-seeking behavior is also influenced by the social norms and personal feelings which govern these other behaviors. Whether personality traits or coping styles, or other psychological factors play an important part in abortion-seeking behavior is still an open question. Some preliminary work has been done in this area, but adequate exploration is only just beginning.

Current Issues

Let us begin this section by considering some psychological aspects of subfecundity. Whelpton et ah, have calculated from a national survey that 31 percent of married couples between the ages of eighteen and thirty-nine are subfecund and that about one third of these (11 percent of all couples) are definitely sterile. About one half of the definitely sterile group have had contraceptive operations (vasectomy or tubal ligation), and about one-third of these (i.e., about 2 percent of the entire sample) had undergone the surgery for other than health reasons. Thus, the psychological antecedents to nonhealth-motivated contraceptive surgery are important for a small but significant proportion of the married population in this country, especially since recently there are definite trends toward an increased use of vasectomy for the purpose of birth control and family-size limitation. These trends appear to be greater in the western United States, where some local communities have reported as much as 16 percent of the married, male population having had vasectomy.

While there is little data to indicate which psychological variables influence the selection or avoidance of surgical contraception, the main motive is to terminate fertility at the end of the procreational career. What psychological consequences does such surgery have on individuals and couples? Although there are many enthusiastic reports and testimonials, the best evidence suggests that some men and women may react to such surgery with feelings of demasculinization or defeminization and some degree of

rigid, hyper-masculine (or hyper-feminine) behavior. However, the severity and prevalence of this type of reaction is not known and it seems quite likely that, as with abortion, with the change of societal norms toward increased acceptance, this negative psychological reaction will tend to subside.

For those subfecund couples who do not fall in the "definitely sterile" class, there is an important two-directional relationship between subfecundity and contraceptive use. On the one hand, the individuals least likely to use contraception are those who doubt their own ability to conceive for medical reasons, for reasons related to their own experience with conception exposure, or for reasons related primarily to self-image and fantasy. On the other hand, those who use contraception the least are most likely to discover their own subfecundity. For these reasons, there are higher rates of nonuse of contraception among the relatively subfecund. This has special importance during adolescence and menopause. It has been calculated that the percentage of fully fecund adolescents increases from about 5 percent at age thirteen to about 95 percent at age eighteen. Similarly, it has been demonstrated that subfecundity increases from around 5 percent at ages eighteen to nineteen, to about 25 percent around age twenty-nine, to almost 50 percent by age forty. Although not reported in Whelpton's study, it is well recognized that fecundity drops to virtually zero during the fifth decade. These periods of high subfecundity (below about age sixteen and above age forty) are associated with changing patterns of contraceptive use

and a relatively higher rate of overall nonuse of contraception. Thus, these are times of higher risk for unwanted pregnancies.

Turning from the psychological aspects of fecundity to those of fertility, an important contemporary focus has been the running debate among demographers and family planners as to what constitutes the best way to achieve fertility limitation in the United States. An important issue in that debate has been the question of whether the prevention of unwanted pregnancies alone would suffice to end population growth. Those who say it would, argue that the provision of effective family planning and birth-limitation services, and the efficient use of these by the population, would bring the United States down to a zero rate of growth. Their opponents argue that large numbers of unwanted children is only part of the problem, and that the other part lies in the fact that American couples want too many children. In order to shed some light on this debate and because the distinction between wantedness and unwantedness has obvious relevance to mental health, the discussion in the remainder of this section will focus, first, on unwanted and, second, on wanted pregnancies.

Bumpass' and Westoff's findings leave little doubt that the incidence of unplanned and unwanted pregnancies within marriage in this country is substantial. They analyze and present their data in terms of number failures (i.e., births occurring after a family has had all the children it wants), and

timing failures (i.e., births unplanned but not causing a family to exceed its desired family size). They found that approximately 20 percent of all births between 1960 and 1965 were number failures. As might be expected, the percentage varied with birth order, being 5 percent and 8 percent with the first two children respectively, and 44 and 50 percent with the fifth and sixth child. The number-failure percentages were found to be significantly higher for the black population, and for the poor and the near-poor. These investigators further found that of the remaining births (the 80 percent which did not represent number failures), 43 percent were timing failures. In their conclusion, they discuss the importance of their findings for the family-planning debate. The usual way of measuring a population's "desired family size" is by asking married women how many children they desire. In 1965, the answers led to an average figure of 3.4 children. Bumpass and Westoff, on the other hand, calculated "desired family size" by subtracting the number of unwanted births (number failures) from the total number of actual births, and arrived at an average figure of 2.5 children. They argue that, since their method tends to underestimate unwantedness, the 2.5 figure is falsely elevated, and the real figure is probably very close to the mean family size of 2.1 which is necessary to achieve zero growth.

Bumpass' and Westoff's data bear only on legitimate childbearing. Unwantedness is of much greater importance with conceptions occurring outside of marriage. Illegitimate births already constituted almost 10 percent

of the total fertility in the late 1960s and recently the rate of illegitimacy has been increasing. These trends are, in part a consequence from relaxation of premarital sexual standards and behavior, which result in greater premarital exposure to the chance of conception. They may also reflect, to some degree, relaxation of the social and economic sanctions which work against out-of-wedlock births and child-rearing.

What are some of the psychological antecedents to an unwanted pregnancy? Both within and without marriage, sexual behavior and the individual's feelings about it are of major importance. There is evidence that young, unmarried women who hold values running counter to premarital sexual activity or who experience conflicts in this area of behavior are more likely to have an unwanted pregnancy when they become sexually active. It is as though their values and conflicts prevent them from perceiving themselves as sexual beings and thinking about themselves in adult sexual terms. Sexual behavior within marriage is related to unwantedness in a similar way. Rainwater describes how women who find sex gratifying in marriage are better able to cooperate and communicate with their husbands to achieve effective contraception.

As this last observation suggests, an individual's or couple's actual contraceptive behavior has a great bearing upon the occurrence of unwanted pregnancy. Although the pill, the IUD, and foam have added greatly to our

contraceptive armamentarium since the mid-1960s, we are a long way from finding methods that can and will be used effectively by all couples. Each contraceptive method is reacted to differently by individuals, and each method requires a different combination of psychological sets and behavioral skills on the part of the individual for effective use. The author has suggested a group of behavioral dimensions which are essential for the effective use of a particular contraceptive method. These are shown in Table 44-1, where the methods are grouped according to the behavioral prerequisites for effective use which they share. In terms of more traditional personality traits and their effect on contraceptive behavior, there is a growing body of knowledge. Today, the evidence suggests that effective use of contraception is associated with the following kinds of personality traits: future orientation; internal control, independence, and autonomy; flexibility; and achievement orientation. These findings are very preliminary, especially considering that the investigations have been done almost exclusively with women.

Turning next to procreative behavior and unwanted pregnancy, a major issue is the frequent assertion that unwanted pregnancies often occur as a result of covert motivations for them. The motivational basis has been discussed in terms of the wish for power, dependency, revenge, and a host of other personal meanings' which were viewed as deviant and/or unconscious in origin. Recently, the research literature on this subject has included better controls and more prospective design, along with a change in basic

assumptions. For example, in a prospective study of pregnant, unmarried teenagers, the question was posed: “Are these girls pregnant because they are different, or different because they are pregnant?” The results of this and other studies have lent general support to the latter point of view. There is probably the truth in both positions. We should realize, on the one hand, that all pregnancies are preceded by a complex set of subtle procreational motivations and, on the other hand, that “unwanted” pregnancies result primarily from an interplay of chance, situational factors, and nonprocreational motivations.

TABLE 44–1. **Contraceptive Methods, Grouped According to the Common Behavioral Elements on Which Their Effective Use Depends**[104]

CATEGORY OF CONTRACEPTIVE METHOD	METHODS INCLUDED IN CATEGORY	RELEVANT BEHAVIOR DIMENSION	PSYCHOLOGICAL FACTORS WHICH INTERFERE WITH EFFECTIVE USE
Coitus-dependent methods	Diaphragm Foam Condom	Delay of complete sexual response	Poor impulse control Tendency toward rationalization or denial
Abstinence methods	Abstinence Rhythm Withdrawal	Inhibition of complete sexual response	Difficulty coping with partner's sexual demands
Vaginal insertion methods	Diaphragm Foam	Genital manipulation	Distaste for touching own genitals
Methods which invade body integrity	Pill IUD	Attention to body image	Anxiety about bodily function and "side effects"
Methods which involve complex habits and cognitive processes (reasoning and memory)	Pill Rhythm	Use of habit, memory, and independent reasoning	Tendency to perform inconsistently on repetitive tasks Poor memory, reasoning ability Unstable living pattern
Male methods	Condom Withdrawal	Reliance on male partner	Low motivation to protect partner* Tendency to misjudge partner's motivation and reliability†
Coitus-independent methods	Pill IUD	Acquiring new behavior sequences‡	Present orientation Slowness in learning new contraceptive routines

* For men.
† For women.
‡ When one of these methods is discontinued.

The author has developed a method for classifying the degree to which a pregnancy is intended. Such a classification provides a way of determining the extent to which procreational (and other) motivations are involved in a particular pregnancy. Using this method, considerable data have been collected from a large heterogeneous population through clinical interviews. All pregnancies of these women were rated on the following scale: Intendedness 1, conception resulted from sustained, active striving; Intendedness 2, conception resulted from ambivalent striving, as demonstrated by intermittent or incomplete efforts; Intendedness 3, conception resulted from the regular nonuse or ineffective use of contraception, with no significant intent to conceive; Intendedness 4, conception resulted from the nonuse or ineffective use of contraception on one occasion or for a brief period, with no significant intent to conceive; Intendedness 5, conception resulted during the effective use of contraception without intent to conceive. Table 44-2 presents selected data from this study, chosen to illustrate several points relevant to this discussion.

If we assume that procreational motives are located predominantly in the Intendedness 1 and 2 categories, and that they are the dominant motives in these categories (assumptions borne out by the content of the clinical interviews), the data in Table 44-2 support the following conclusions: The majority of pregnancies conceived within marriage and wanted sufficiently to be carried to term (column 4) result primarily from procreational motives; on

the other hand, over 90 percent of the pregnancies conceived outside of marriage, whether carried to term or terminated (columns 1 and 2), were relatively uninfluenced by procreational motives; the subgroup of pregnancies conceived within marriage which were sufficiently unwanted as to be terminated (column 3) were less the result of procreational motives than any other group. Stated in another way, the data support the notion that procreational motives play a relatively small part in unwanted pregnancies, when unwantedness is determined by surgical termination and/or premarital conception.

How psychiatric patients compare with the general population on the issues of unwantedness remains to be determined. There is at least one report that psychopathology affects motivations for pregnancy in a major way, and that the occurrence of unwanted pregnancy is more frequent in mentally ill women. However, virtually all of the work on this subject is anecdotal, retrospective, and without appropriate comparison groups. The overall question of the antecedent effect of psychopathology on the occurrence of unwanted pregnancies needs careful exploration.

The psychological consequences of unwanted pregnancy have been the subject of many published observations and impressions, but, again, little has been done in the way of careful research. Pohlman has reviewed much of the general literature on the consequences of unwantedness. Several authors

have discussed the same issue from the point of view of the consequences of refused abortion. It is clear that unwanted conceptions have potentially important psychosomatic effects during pregnancy, labor, and after delivery. Even more important are the potential psychological effects on the child himself of being unwanted and consequently experiencing the gamut of hostile treatment from subtle rejection to outright physical abuse. There are also important effects upon the mother, ranging from postpartum reactions to the "tired-house-wife" syndrome. Finally, unwantedness has important consequences for other aspects of family life, including the long-term, cumulative effects on the marital relationship and upon the other children.

Table 44-2. The Intendedness of Conception by Marital Status at Time of Conception, and Outcome of Pregnancy

	UNMARRIED AT TIME OF CONCEPTION		MARRIED AT TIME OF CONCEPTION	
INTENDEDNESS	TERMINATED BY THERAPEUTIC ABORTION, PERCENT N = 105	CHILD BORN WITHIN MARRIAGE, PERCENT N = 32	TERMINATED BY THERAPEUTIC ABORTION, PERCENT N = 31	CHILD BORN WITHIN MARRIAGE, PERCENT N = 2l6
1	1	6	0	58
2	6	3	0	5
3	41	59	19	15
4	28	13	26	13
5	24	19	55	9
	100	100	100	100

Abortion is an increasingly available option for dealing with an unwanted pregnancy. Since the 1960s, revolutionary changes in the public attitude toward abortion have taken place. Gallup polls during the 1960s revealed an overwhelming majority of Americans disapproving of abortion on request, but two polls in the early 1970s have shown a striking reversal of these figures to the extent that the majority now favors abortion on request. The same period has also seen major changes in abortion-seeking behavior. At present, four states have generally unrestricted abortion laws (Alaska, Hawaii, New York, and Washington); eleven others have laws based on the American Law Institute model, or an equivalent, which allows a liberal interpretation of the conditions for induced abortion. As a result, almost 100,000 legal abortions were performed in the first quarter of 1971 in the United States. This compares with an estimated 2000 legal abortions for the same length of time during the 1963-1965 period. It seems very likely that induced abortion will be used increasingly to solve the problem of unwanted pregnancy by those who become pregnant because of contraceptive inefficiency or procreational ambivalence.

The societal trend toward the greater use of induced abortion is generally justified by the behavioral science research regarding the psychological consequences of abortion. In addition to the earlier Scandinavian studies, which showed that many women who were refused

abortions had serious psychological problems after carrying an unwanted pregnancy to term, and that children born after refused abortion had more psychological and behavioral difficulties than their controls, the predominant evidence of recent reports is that the psychological effects of abortion are mild and usually include considerable relief, hopefulness, and positive coping. In considering the relatively small proportion of untoward reactions following abortion, three conclusions stand out: (1) Those who are psychologically at risk for an abortion because of their psychopathology, are equally at risk as a result of an unwanted pregnancy and child; (2) the amount of depression, guilt, and anxiety experienced by the individual woman during and after her abortion is directly related to the attitudes toward her and her actions which are expressed by her family, friends, and medical caretakers; and (3) there is a relatively small but definite proportion of women for whom induced abortion is either contraindicated or highly problematic because of the specific meaning of the particular pregnancy and the resultant ambivalence which they hold regarding the procedure.

Turning to a consideration of wanted fertility, there are a great many different reasons parents offer for their having a child. Pohlman has listed and discussed these at great length. Motivations for a child are closely related to the prospective parent's wishes and feelings in relation to his own parents and childhood, his spouse, his friends and peers, and his aspirations for the prospective child itself. These motivations may be heavily influenced by

financial or religious considerations. They also may be influenced by the anticipated effect of a child on the prospective parent's familial role with respect to the spouse and the other children in the family. There are a number of special procreational motivations, such as desiring a child of particular sex, or concern with the maintenance of the family line. There are also a number of idiosyncratic motives which are not well defined by social norms. In many instances, these are highly situational and may be ways of coping with family demands or personal stresses. These kinds of motives border on the neurotic reasons for wanting a child, where the desire springs from an infantile wish or an unresolved conflict.

In contemporary urban society, the constellation of motives for childbearing tends to be quite different from the constellation seen in more traditional societies. In the latter, the infant mortality rate is generally high, and the child replacement motive is important. In addition, children provide economic security, both by working during childhood and by providing security for the parents in their old age. Thus, there is a strong emphasis on children as a way of preserving and perpetuating self and family. The more modern view is that children are to be enjoyed for themselves, and that parenthood provides self-fulfillment and the enrichment of marriage.

Before proceeding to a discussion of family size and child-spacing preference, we will consider proceptive behavior and the extent to which

couples actually control the time sequences in their childbearing. It is surprising how little scientific information has been gathered on this subject. There may never have been any effective demand for knowledge in this area because of the ease of achieving conception relative to the need for preventing it. Whatever the reason, we know relatively little about the psychological antecedents of effective proceptive behavior or the psychological consequences of such behavior when it is ineffective. In this connection, Westoff et al., found that most couples were unable to speed up conception by orienting their sexual activity to the fertile periods. Only 20 percent of their large, nationally representative sample reported ever even trying to do this, and, of these, only one half had information about the ovulatory cycle which was sufficiently accurate as to give them some chance of success. The increasing complexity of American life, the high degree of geographic mobility of all segments of the population, and the definite ideas which Americans hold regarding birth intervals and child rearing (discussed below), all suggest that mastery over the process of conception through ego control over the psychological and behavioral antecedents to conception are becoming increasingly important in this country. In spite of this, it appears that the American population is a long way from effective mastery.

Demographic research has defined some of the norms of family size and birth intervals within this country and some of the trends within these norms. For example, Ryder and Westoff have demonstrated a bimodality of desired

family size, with two children being the most frequently preferred number, followed closely by four. Some of this demographic bimodality is related to differences between subpopulations. Thus, white non-Catholics and blacks show a strong preference for two, while white Catholics show a strong preference for four children. These investigators hypothesize that some of the bimodality is also a result of the American preference for two and four children over three, and may be related to a desire to keep the offspring balanced for sex or to avoid the problem of coalitions of two children against one by raising children in pairs. They further suggest that the relative unpopularity of a third child may have the same psychological roots as the wish to avoid an only child.

Studies have also been done on desired birth intervals. It appears that a broad range of intervals between marriage and first birth is acceptable, provided the interval allows time for couples to become adjusted to marriage and financially ready for children, and enjoy each other's company for a time before turning to parental responsibilities. There is also a wide range of acceptable second birth intervals (the interval between the first and second child), and some agreement that spacing children more than four years apart significantly reduces the likelihood of their becoming close companions. The most salient rational consideration in determining the length of the third birth interval (the interval between the second and third child) is allowing the oldest child enough time to develop sufficient independence, so that the

mother is not overburdened with dependent demands from three small children at once. In a later interpretation of their data, Westoff and his colleagues suggest that the desired total family size and the desired span of fertility (the period from the first to the last child) are the most important considerations for a couple in determining individual birth intervals. Thus, women who want five, rather than two, children (other things being equal, especially age at marriage), tend to have much shorter birth intervals. These authors also point out that education is negatively related to a woman's span of fertility, suggesting that the more educated woman wishes to complete her childbearing sooner in order to be free for other types of role activities.

These decisions regarding child-spacing and family size have important psychological consequences for the growth and development of all children in the family. In the coming decades, social pressure to control population growth will significantly alter the pattern of these decisions. As a consequence, the average size of the American family will change from three to about two. There will be more childless couples and, probably, more one-child families; there will be far fewer large families of five, six, and seven children. These changes will have direct effects upon the family milieu, particularly upon female roles, and child rearing and development. There will be more first and fewer third and fourth children. So little is known about the effect of ordinal position on personality development that the psychological consequences of this change in family composition cannot be foreseen.

However, considering the importance of social learning in most theories about personality development and the genesis of psychopathology, such variables as a child's ordinal position, the size of his family, and density of his sibship may be assumed to have considerable mental-health relevance. Clearly, much investigative work remains to be done in this important area.

A feature of American life which profoundly affects voluntary fertility and which currently seems to be undergoing considerable change is the nature of feminine roles. For example, since World War II, there has been a significant increase in the labor-force participation of American women. While all the implications of this are not certain, the evidence suggests that female labor-force participation and fertility are simultaneously related in at least the following three ways: (1) subfecund women, after a certain period of time, turn to labor for an alternative to family building as a focus of their time and energies; (2) women who have a large number of children relative to the number they can afford, tend to work in order to supplement their family income; and (3) women limit their fertility so that they can go to work in order to supplement their family income or devote themselves to another sphere of creativity. In relation to these three possibilities, Whelpton et al., found that women who worked because they wanted to had fewer children than those working out of necessity, and that the latter, in turn, had fewer children than those who did not work at all. This demographic finding has been extended at the psychological level by the work of Clarkson et al. They

found that women who perceived themselves as being high on a cluster of competency traits had fewer children than women who perceived themselves as low on this cluster. Furthermore, only the high self-esteem group was able to work or not work, independently of the number of children they had. The low self-esteem group showed a negative relationship between the number of work years and number of children. These findings suggest that low self-esteem and low general competency may interfere with the processes described under numbers (2) and (3) above. Of course, part of the observed relationship may also be explained by the especially poor self-image associated with depression and withdrawal which may occur in some women as a result of having too many children.

It seems that American women are combining marriage, child-rearing, and work more than ever before, and it may be that recent declines in fertility are directly related to this. These findings may also presage the beginning of a more profound change in the female role and self-image which will significantly alter the corresponding male roles and American family life in general. In that case, not only can we expect more childless or "couple" families, but we can also expect to see increasing periods of nonfamily living during the life cycle (both before and after marriage), increasing use of day centers for infant and child care, and increasing involvement of men in the expressive aspects of family life. Again, the implications that all of these changes have for personality development and the shaping of

psychopathology in the child deserve considerable investigation.

Modes of Professional Action

Direct psychological services to women and couples with unwanted pregnancies take a variety of forms and occur in a number of institutions. The majority of such services are designed for the unmarried woman, but, with the recent increase in legal therapeutic abortions, married women with unwanted pregnancies have become an important segment of the population needing such services. Psychological clinicians can provide treatment themselves, especially when they work in an appropriate setting, such as a psychiatric clinic, or with a high-risk population, such as delinquent girls. In addition, they can provide indirect services by consulting with physicians involved with family-planning clinics and abortion services, and with other professionals and paraprofessionals working in schools and colleges, welfare and probation agencies, problem-pregnancy clinics, organizations for unwed mothers, and adoption agencies.

There is also a great need for preventive services. In another context, the author has outlined a series of recurrent hazard points in the sexual and procreational careers of women, at which times they have an increased risk of an unwanted pregnancy. These hazard points are listed below.

1. During early adolescence

a. When fecundity is absent or low but increasing, and, as a consequence, contraceptive vigilance is incompletely developed.

2. At the start of the sexual career

a. At the time of the first few intercourses, for which there is typically no contraceptive preparation.

b. b. During the following three to six months, until the individual recognizes and acknowledges the beginning of her sexual career.

3. In relation to a stable sexual partner

c. While the relationship is in the stage of development, before a stable sexual and contraceptive pattern has been established.

d. During conflict and/or separation, when patterns of communication and cooperation are disrupted.

e. After breakup with a partner with whom a particular sexual and contraceptive pattern has been established.

1) When situationally re-exposed to the old partner but without access to the previous contraceptive method.

2) When exposed to new partners with different sexual and contraceptive styles.

4. After geographic mobility

a. a. When there are major changes in the social field such that sexual and contraceptive norms and opportunities change.

1) After moving away from home and nuclear family.

2) After moving to a new sociocultural area.

5. In relation to marriage

a. Just before or just after, when contraceptive vigilance is commonly relaxed.

b. During conflict and/or separation (same as 3b).

c. After separation or divorce (same as 3c).

6. After each pregnancy

a. During the postpartum period, when there is subfecundity, altered sexual activity, and, often, the use of interim contraceptive methods.

b. When a new level of contraceptive vigilance is required as a result of the demands brought about by a new baby.

7. In relation to the end of childbearing

a. When the decision to stop having children is being dealt with.

8. During menopause

    a. When fecundity is decreasing and, as a consequence, contraceptive vigilance is waning.

By identifying women with respect to life-cycle stage, these hazard points suggest institutions and help-giving agencies with which the woman is most likely to be in contact, and where preventive counseling and anticipatory guidance may be practiced. As an example, let us consider the hazards which occur at the beginning of a sexual career. In the United States, in spite of the widespread acceptance and use of contraception, it is the exception rather than the rule when an unmarried woman plans and uses contraception on the occasion of her first intercourse. Presumably, this is because of the strong affective meanings attached to this particular act and because of the widely held prohibitive norm regarding premarital intercourse. Thus, by chance alone, one would expect a certain number of unwanted pregnancies occurring around the time of first intercourse. In fact, this is borne out by experience. The author, in a survey of over 1300 women receiving therapeutic abortions at a large, general hospital, found that a small but consistent proportion of the unmarried, adolescent patients reported that they had become pregnant on their first, second, or third intercourse.

After the first few intercourses, a second risk factor becomes important. Most of those who continue sexual activity after their first few experiences

with intercourse experience a growing concern with the risks they are taking. Some of these young women are precipitated into taking action by the high anxiety generated by a perceived near miss, that is when there is a slight delay in the onset of one of their menstrual periods during the first few months after the initiation of sexual activity. Others respond to an increasing amount of peer-group advice. Still others act simply as a result of the growing realization that they have, in fact, begun an active sexual life. However, there are some women who disregard these social, psychological, and physiological warnings. Encouraged by their failure to become pregnant after a few unprotected exposures (often a result of adolescent subfecundity), they become less and less anxious during the next few months of unprotected intercourse.

The first type of risk-taking behavior results from conflicted feelings about sexual activity and poorly defined self-expectations. The second type is a result of the way some adolescents cope with threat and anxiety through denial and suppression, thus failing to progress to the normal stage of taking precautionary action. Since a large proportion of these two kinds of risk-taking will occur among women who are in high school or college, it should be possible to launch preventive counseling and educational programs geared to deal with these specific hazard points.

Preventive work can also be done through health and educational

outreach programs in the communities where poverty and social disorganization retard the development of adequate sources of information regarding sex, contraception, and pregnancy planning, and prevent the effective delivery of related services. For the psychological clinician, such work may involve the training and supervision of paraprofessionals regarding the emotional and interpersonal aspects of fertility behavior, helping in the development of meaningful programs designed to influence that behavior, and actively participating in concept development, research, and program evaluation.

In addition to work in the area of unwanted pregnancies, the psychological clinician can affect decision-making and planning of wanted pregnancies. This can be accomplished by helping individuals with decisions regarding a particular pregnancy or regarding "background" decisions which lead to marriage or significantly affect sex roles. These same choice points can be affected if the clinician works to provide indirect services and at the level of program development and evaluation. In these ways, he can help to maximize the wantedness of pregnancies in a given community.

This section is summarized in Table 44-3, indicating the many different kinds of counseling which can affect fertility, and placing them in a rational framework based upon the kinds of decisions being made. Such a framework, organized according to dominant lifecycle processes and focal issues,

suggests the most appropriate timing and focus of intervention.

Table 44-3. Typology of Counseling

Types of Counseling	Focus of Concern
Sexual	Decisions and problems related to sexual behavior
Virginal	The decision to initiate sexual activity and the associated problems
Nonmarital	Decisions and problems related to nonmarital sexual behavior, especially for adolescent and postmarital individuals
Marital	Decisions and problems related to marital sexual behavior
Contraceptive	Decisions and problems related to contraceptive behavior
Marriage	Decisions and problems related to marriage, the marriage partner, and family life
Premarital	The decision to marry and the associated problems
Marital	Problems and conflicts within marriage
Divorce	The decision to divorce and the associated problems
Procreational	Decisions and problems related to planning for childbearing
Genetic	Decisions and problems associated with the prevention of genetically determined undesirable characteristics and the selection of genetically determined desirable characteristics
Birth-planning	Decisions and problems related to planning for the number and timing of children
Proceptive	Decisions and problems associated with efforts to conceive
Pregnancy	Processes and problems associated with pregnancy
Infertility	Problems leading to and resulting from infertility
Adoption	Decisions and problems associated with adoption
Sterilization	Decisions and problems associated with permanent termination of the

	procreational period through sterilization
Problem-pregnancy	Decisions and problems related to an unwanted or ambivalently regarded pregnancy
Abortion	Decisions and problems associated with seeking and having an induced abortion
Child-placement	Decisions and problems associated with the placement of an unwanted child

Mortality

Relevant Concepts

The most elementary mortality concept is that of the crude death rate, or the number of deaths per year per 1000 persons in the population. This measure is analogous to the fertility measure of crude birth rate, and, as with the latter, there are more refined kinds of mortality rates which are specific for age and sex. These are useful to demographers because they allow more accurate comparisons between populations with different age compositions. Another useful way of conceptualizing mortality is in terms of life expectancy, most commonly expressed as the average expectation of life at birth. The figures for the United States in 1966 were 66.7 years for males, and 73.8 years for females. Life expectancies at all ages are calculated from statistical tables known as "life tables."

There are other ways of making death rates more specific and thus more useful. For example, the United Nations has classified the causes of

death into five major types, according to their responsiveness to public-health and medical-care programs. This makes it possible to compare death rates for these five groups and draw conclusions about societal needs for health programs. For psychodemographic purposes, it may be useful to develop a more behaviorally oriented classification, where categories would be determined by similar psychological antecedents. For example, without substantial modification of the present system for the collection of data on causes of death, such a classification might be as follows: death resulting from (1) nonpreventable illness, adequately treated; (2) nonpreventable illness, inadequately treated; (3) preventable illness, adequately treated; (4) preventable illness, inadequately treated; (5) accident; (6) suicide; (7) homicide; and (8) war. While the psychological and psychiatric relevance of such a scheme is apparent, the concepts developed below should make it even clearer.

The following are some of the broad areas of behavior relevant to mortality. Because of limitation of space, these will not be discussed in detail, and consideration will be limited to the psychological antecedents of mortality.

1. *Health-maintenance and health-compromising behavior.* These two aspects of behavior may be distinguished conceptually. However, they are here discussed together because of considerable overlap in the practical

application. In health-maintenance behavior health is a positive goal, and the individual acts to maximize his physical fitness and subjective well-being by such activities as appropriate exercise and rest, appropriate feeding, and pursuit of preventive health care. In health-compromising behavior, on the other hand, physical health is risked for the sake of some competing goal. Examples of such behavior include smoking, eating a high-fat diet, driving at high speeds, certain high-risk sports, working under sustained high-pressure conditions, etc. These two subcategories of behaviors are influenced by the relative salience for the individual of competing health and nonhealth goals, and the ways that these are integrated by him, as determined especially by his coping and life styles.

2. *Illness behavior.* This category includes an individual's behavior in reaction to an illness, in seeking help for it, in readjusting during recovery, and in adapting to a residual disability or chronic illness. These types of behavior have been discussed at some length by Mechanic." He hypothesizes a set of psychological characteristics which influence illness behavior. Somewhat modified for our purposes here, these include: (1) the individual's perception of deviant physical signs and symptoms; (2) his knowledge of or assumptions about their meaning; (3) the extent to which these signs and symptoms pose a psychological threat or disrupt ongoing functions; (4) the individual's coping or defensive style in the face of physical threat or disability; and (5) the relative psychological benefits and costs of seeking help

and (in the case of chronic illness) continuing to use it.

3. *Accident behavior.* This category includes behavior which tends to involve an individual in an accident in a specific situation or in accidents generally. Some behaviors included here, such as certain kinds of risk-taking, are special instances of health-compromising behavior. However, because of the high accident mortality in this country and because of the importance of formulating a behavioral approach to this subject, accident behavior is included here under a separate category.

4. and 5. *Suicide and homicide behavior.* These are the behaviors disposing individuals to suicide and homicide and preceding such actions. Both of these, especially suicide behavior, have long been of special interest to psychological clinicians. Homicide behavior includes the behavior of both the victim and the perpetrator of the homicidal act. It is noteworthy that both of these individuals are well-known to each other in the majority of murders and both seem to participate in the homicide process. In many cases, the victim's behavior seems to be a type of suicide equivalent. Many behavioral scientists have devoted their attention to suicide and homicide behavior, and recent reviews discuss the various theoretical approaches and the complex psychological antecedents to these two types of violent death.''

In this brief discussion of the behavioral concepts relevant to mortality,

we have focused on individual psychological antecedents and have not commented upon interpersonal or dyadic factors. Such an exclusion is most obviously deficient in connection with homicide, where, in a fashion parallel to fertility, there is a "doer" and a "done to," and, in many instances, dyadic psychology is essential to an understanding of the process. Dyadic psychology has some importance in other categories of mortality as well. Many suicide deaths closely involve the psychology of a significant other person and many preventable medical deaths are contributed to by family members or physicians who participate with a patient in his denial of illness or the mismanagement of his medical condition.

Current Issues

A major issue with respect to population growth is the question of what will happen to the death rate in the United States in the future. Petersen has calculated that the average life expectancy doubled from prehistoric times to the Middle Ages, then remained more or less the same until the nineteenth century. In the last 100 years, it has doubled again. In the United States, the crude death rate per 1000 has dropped from about 17 in 1900 to between 9 and 10 in the 1960s. This decrease occurred before 1950. Subsequently, the death rate has been level or even slightly increasing. These trends suggest that the death rate in the United States will not significantly decrease in the future, barring some unforeseen medical developments, even though it has

not reached the low points achieved in other nations (7.6 and 7.2 per 1000 in Canada and Russia, respectively, in 1964). Whereas in 1900, the leading causes of death were influenza, pneumonia, tuberculosis, and gastroenteritis, these diseases have been replaced by heart disease, cancer, and stroke. These are all diseases of late life or secondary to degenerative processes. Even though these diseases appear to be less influenced by psychological and behavioral antecedents than some of the causes of death dominant earlier in the century, there is still ample room for the development of knowledge regarding the role of health-maintenance, health-compromising, and illness behavior in the mortality of these diseases. This knowledge will become increasingly important as our population ages.

An examination of the causes of death in specific age groups suggests one group in which the psychological antecedents to death play an unusually prominent role. Accidents are the leading cause of death from age one to thirty-four, and account for more than one half of all deaths in the age group fifteen to twenty-four. In this latter group, homicide and suicide are the fourth and, fifth leading causes of death. Were there to be a major societal effort at death control through an investigation of the psychological antecedents to death, this late adolescent to early adult age group would very likely be a primary target.

Another important issue for mortality behavior is the lack of a

comprehensive approach to death control. One way of conceptually unifying the psychological antecedents to mortality is through consideration along the wanted-unwanted continuum, as was done above with fertility. Shneidman has pioneered discussion of the roles that individuals play in their own demise and has offered a schema for classification. Such a schema can be used to classify the degree and type of individual intention, thus providing some measure of the extent and character of psychological antecedents. The following categories, which parallel the ones used in the discussion of fertility, classify death according to the intendedness of the antecedent behavior: Intendedness 1, where death was sought and brought about with definite conscious intent; Intendedness 2, where death was sought and brought about with clear ambivalence, as demonstrated by considerable vacillation in deciding or by an impulsive decision; Intendedness 3, where there was a regular exposure to a significant possibility of death with little or no adequate protection against that possibility but no conscious intent; Intendedness 4, where there was a situational exposure to a significant possibility of death without adequate precaution and no conscious intent; and Intendedness 5, where death resulted from factors totally outside the control of the individual.

In this schema, suicides would generally be included in categories 1 and 2. The same would be true of homicides with respect to the perpetrator. “Manslaughter,” commonly conceptualized as an accident, would be included in categories 3 and 4. With respect to victims, homicidal deaths would

generally be included in categories 3 through 5. Many accidental deaths would fall into category 5, but those which represent self-exposure to unusual risk would be included in categories 3 and

Of course, when a death should be considered accidental is not always clear, and a certain number of accidental deaths are, in fact, consciously intended suicides, putting them in categories 1 and 2. Finally, deaths which result from a delay of help-seeking in response to the development of threatening physical signs and symptoms, or from mismanagement on the part of the patient of his chronic medical condition represent a form of category 3 and 4; as with accidents, some of these cases may actually fall into categories 1 and 2.

Modes of Professional Action

Psychological clinicians provide a number of direct and indirect services in connection with mortality behavior. In the general hospital and in medical clinics, much work is done with medically ill patients through the mode of psychiatric or psychological consultation and psychotherapy in an effort to intervene against self-destructive illness behavior. While there is a great deal of indirect (consultative) work done with suicidal and homicidal individuals in nonpsychiatric facilities, a large number of cases, especially of suicidal patients, are handled in direct care. Often, accident victims receive

consultation and therapy for help with psychological consequences of an accident. In some instances, this work is expanded when, after his injury, the patient recognizes his own role in the "accident."

Preventive action to help in death control is another aspect of the psychological clinician's role. Through informational and educational programs, the public can be made more aware of the concept of self-destructive behavior and of its social-communicational features (i.e., as "a cry for help"). Then they may be made aware of the community services which are available to provide such help. There are also preventive health programs which emphasize positive health goals, some of which deal with health risks, such as those associated with smoking, poor diet, or promiscuous sexual activity, and some of which focus on the early detection and treatment of serious disease. Finally, with respect to accident prevention, there are numerous informational and educational programs in industry and the community in general.

The psychological clinician is also essential in the study of mortality behavior. He may participate in the development of concepts for research and the evaluation of programs which help with death control. However, professional action in this area is consuming of resources, and, at this point in time, the psychological clinician must weigh the relative personal and demographic merit of commitment to behavioral research in the area of death

control rather than birth control.

Population Size

In this section, we shall consider briefly the effect of population size upon individual psychology. For discussion purposes, we shall distinguish between direct effects, where the individual is aware of population size and is affected through his perception, and indirect effects, where the individual is affected by aspects of the social environment which are themselves influenced by population size.

Considering first the indirect effects, there are two aspects of the social environment which seem to be influenced by population size: the size and types of social institutions and the number and types of interpersonal contacts. Although much has been written which touches on these two areas, we shall limit ourselves by drawing only upon a few recent publications. Barker has reviewed the literature on the effect of institutional size upon individual psychology. On the basis of this review and his own research, he found that there was a negative relationship between group and organizational size and the amount of participation, involvement, and satisfaction which the individual developed during his activities within that group or organization. If we assume that larger populations generate larger and more complex social institutions, then it may be concluded that, as a

population grows, individuals tend to experience these decreased amounts of participation, involvement, and satisfaction.

With respect to the effect of population size upon interpersonal relations, Milgram has discussed three aspects of a city's population which affect interpersonal experience: the number, density, and heterogeneity of people. He suggests that all three of these variables affect the city dweller, producing, when they are pronounced, a tendency toward noninvolvement, impersonality and competitiveness, and a functional approach to interpersonal relationships. He explains this effect in terms of adaptation to a stimulus overload, suggesting that city dwellers adjust their personal relations to high social-field input by various interpersonal screening and inhibitory processes.

Such indirect effects of population size almost certainly have mental-health implications. For example, Cassel has pointed out that most cross-cultural blood-pressure studies show that individuals living in small, cohesive societies tend to have blood pressures which are low and not positively correlated with age. He hypothesizes that, in part, this is because people living in such small societies have been subjected to less stress. However, convincing studies are lacking, and whether there is a positive relationship between population size and stress remains to be established.

The direct effects of population size upon individual psychology have not been widely studied. One way to conceptualize this relationship is to consider the largest social or demographic unit with which an individual identifies himself. Over fifty years ago, before the development of modern means of communication and transportation, it was not unusual for individuals to identify themselves primarily with relatively small demographic units, namely, the family, the clan, or the town. The nation itself was an upper limit of reference for most and often a relatively weak one. Today, identification at the level of smaller units continues to be important, but many people also identify themselves readily with regional, national, and international units. For some, there is even a somewhat urgently felt identification with the whole human race, vividly suggested by the "spaceship earth" concept. Much of this broadening of the population base of identification, self-reference, and community feeling has been augmented by technological advances, especially in the areas of communication and transportation. Nevertheless, it is clear that individuals have concerns and fantasies about the population of which they feel a part, and that the size of that population will affect these psychological states together with the level and nature of involvement in their community.

Distribution and Geographic Mobility

In this section, we shall be concerned with the structural and dynamic

aspects of the way a population is located in space. The two main variables, population distribution and geographic mobility, constitute a second population subsystem. Because population distribution is a structural variable and has some demopsychological properties in common with the topic of population size, we shall maintain continuity with the preceding section by considering distribution first before turning to the dynamic variable, geographic mobility.

Some aspects of the recent relationships between the geographical distribution of the American population and its geographical movement are illustrated in Figure 44-2, which shows the relative growth and decline of the three basic community types in the United States during the last three decades. Much of this changing pattern of population distribution has been accomplished through geographic mobility. Since rural, urban, and suburban areas have different characteristic densities, the pattern also represents relative changes in population density.

Distribution

The population density in the United States varies greatly. This is well demonstrated in Table 44-4, which shows data illustrating the continuum between the average national population density and one of the most densely populated areas in the world, residential Manhattan. In order to consider the

other end of the density spectrum, one need only recall that there remain a number of very large wilderness areas within the United States, and that many states contain hundreds of square miles which are totally uninhabited.

At present, the public is concerned with overpopulated areas and crowding, and we shall emphasize these problems in our discussion. However, in keeping with the systems theme of this chapter, it should be kept in mind that large sections of our country are becoming depopulated and perhaps underpopulated. Thus, during the discussion of the relationship between high population density, on the one hand, and such psychological variables as personal values, subjective states, and psychological stress, on the other, it is important to keep in mind that there are important, corresponding relationships between low population density and similar psychological variables.

There are both positive and negative aspects of either increasing or high population density. As Winsborough has discussed, the advantages and disadvantages are epitomized by the historically opposed theoretical positions of two sociological groups—the behaviorally oriented group associated with Georg Simmel, and the structuralist group associated with Emile Durkheim. The behaviorists, on the one hand, have argued that high density leads to high psychological and physiological strain. The structuralists, on the other hand, have argued that high density leads to a

refined development of the division of labor, thus allowing greater expression of each individual's aptitudes and needs. These opposing points of view serve to illustrate, at the beginning of our discussion, that a particular population density, or the movement of a population with time from one density to another, cannot be adequately measured or evaluated along one or even a few simple dimensions.

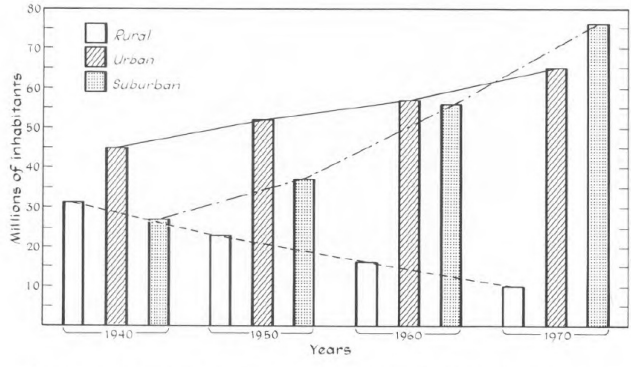


Figure 44-2.
The population in rural, urban, and suburban areas for each decade, 1940 to 1970.
Source: Population Bulletin 27 (October 1971), 2.

Table 44-4. The portion of the United States population density spectrum lying between the middle range (the U.S. average) and the upper limit (one of the most compacted cities in the country).

	UNITED STATES	NEW YORK METROPOLITAN AREA	NEW YORK CITY	MANHATTAN	RESIDENTIAL MANHATTAN
Population density, in	50	3,000	25,000	90,000	380,000

persons per
square mile

Relevant Concepts

There are several demographic measures or expressions of density: (1) persons per unit space (e.g., people per square mile); (2) persons per functional unit (e.g., people per room or per household); (3) functional units per unit space (e.g., housing units per acre); and (4) functional units per functional unit (e.g., housing units per building structure). Each of these ratios measures a different facet of population density and has a different demopsychological meaning. This is substantiated by the work of Galle et al., who demonstrated that, in the Chicago area, measures of social pathology, such as juvenile delinquency or public assistance rates, were best correlated, first with persons per room, and second with housing units per structure, while mental hospitalization rates were best correlated with rooms per housing unit. We can understand this finding if we assume that a high number of persons per room promotes intra-family stress, that a high number of housing units per structure promotes interfamily stress, and that a low number of rooms per housing unit promotes a situation where there are many people living alone.

A somewhat distinct population density measure is that of population potential. This is a summed, person-to-distance ratio which takes into

account the number of people not only in the particular area under study but in all contiguous areas. This sort of concept may be helpful in exploring the role that open areas in and around highly populated areas play in relieving the distressful aspects of high density.

Factors other than spatial density may be important in relating population distribution to individual psychology. Although we will not consider them in detail, some of the following may be important parallel measures to spatial density: (1) temporal density, measured in terms of the number of persons per unit time to whom individuals are exposed; (2) privacy, measured in terms of the total available private space or the private-to-public space ratio per individual); (3) social isolation, measured in terms of the total number of close relationships or the ratio of close-to-superficial relationships per individual; and (4) use-intensity, measured in terms of the amount of interpersonal contact per individual per subarea of space.

It is probable that a number of social-ecological aspects of the community buffer or accentuate the effect of population density upon individual psychology. A list of such variables would include, at the very least, some of the physical properties of the environment, such as noise, light, visual qualities, and the architectural use of space. It would also include social institutions, together with certain important dimensions along which they vary. Important among these institutions might be the family, especially as it

varies along the nuclear extended dimension; work institutions, especially as they vary along the role-development dimension; political-governmental institutions, especially as they vary along the dimension of individual involvement alienation; and, ultimately, the overall culture or subculture, especially as it varies along the dimensions of homogeneity and cohesion of norms and values. Another set of ecological variables which may moderate density effects deals with the interaction between environment potential and individual or group needs. These are important because it appears likely that density effects are greater where the environment constrains, inhibits, or is, in other ways, incongruent with behavior. Barker's concepts of a behavior setting, and the degree to which it is over- or undermanned is an example of this type of moderating variable. Finally, since increased density is frequently associated with the increased complexity of role behavior, some of the concepts of social-role theory, such as role differentiation, role complexity, and role strain may provide moderating variables which are useful in studying how density affects individual psychology.

Among the most fundamental psychological concepts relevant to the study of population distribution are the concepts of personal space. Horowitz has developed the concept of the body-buffer zone, a small area extending from the surface of an individual's body which is perceived as an extension of his body into the space around him and which affects the way he spaces himself with respect to other people and objects. The anthropologist, Hall, has

discussed personal space in terms of four types of distances that people maintain between themselves and other peole, depending upon the situation. He has called these distances intimate, personal, social, and public. They vary from close, i.e., with body contact, to distant, i.e., with 25 feet or more between persons, and each has a definite function. Another aspect of personal space is dealt with in the concept of territory.' While this concept was originally developed from observations of animal behavior, humans also develop a sense of territory, both spatially (e.g., at home or at work) and symbolically (e.g., in fields of competence), and there is little doubt that the concept has some useful application to man as well.

The psychological concepts of importance to density effects are not limited to the area of space. Also important are the effects upon arousal and related behavior of other people's presence, including social facilitation and social-stimulus overload. Additional kinds of concepts of some relevance are those which refer to interpersonal traits, such as Murray's need affiliation and autonomy, and those which bear on individual-institution and individual-culture interaction, such as internal versus external control, modernity, and inner-directedness versus other-directedness. Finally, because it appears that high density can be stressful, the gamut of psychological concepts of coping and adaptation are relevant.

The concepts of crowding and overcrowding are commonly used in

discussions of density. At the psychological level, these represent subjective states in response to social and physical conditions. Exactly which conditions are perceived as crowded depends greatly on cultural values and conventions regarding interpersonal transactions, customary stimulation levels, and the duration, location, and purposes of density exposure. The Great Plains farmer probably feels crowded in Manhattan. Many Americans do not feel crowded in a tightly packed sports stadium until it is time to go home. The exact relationship between stress and feeling crowded, or between the latter and pathological behavior, is an unresolved question.

Current Issues

The major current issue, a direct outgrowth of rapid population growth and the concentration of peoples in subareas of the nation, is the question of the extent to which high density has a detrimental effect upon the quality of life. This is an extremely difficult issue to resolve. First of all, it is hard to separate out density as a variable from other social, economic, and political factors. Secondly, the "quality of life" is itself complex, including some elements which, because they depend upon personal values, are unanswerable by scientific method, and including others which depend upon answers from a wide spectrum of social and behavioral science research. In fact, relatively little careful research has been done in this area. In spite of these difficulties, the following discussion will approach the quality-of-life

issue by an examination of how high density may affect psychological stress and adaptation.

Some important animal studies have probed the relationships between population density and behavior. Calhoun allowed a population of wild Norway rats to increase in a confined space with unlimited food and water. After the density had reached a very high level (much higher than ordinarily experienced by man), the population stabilized. Under these conditions, he found marked disturbances in feeding and social behaviors, including territoriality, dominance, and aggression. He also found numerous sexual aberrations and frequent disturbances of pregnancy and maternal behavior which resulted in high maternal and infant mortality. Other investigators have observed similar behavioral changes in other animals under more normal conditions and have also noted disturbances at the physiological level, particularly involving the endocrine systems.

There have also been important contributions regarding the effects of density from sociological studies of human communities. In a study of the community areas of Chicago, Winsborough showed strong statistical associations between density and a group of social pathology variables which were suggested by Calhoun's animal work. However, these relationships disappeared for adults when socioeconomic status, quality of housing, and migration were statistically controlled. Other investigators have found strong

relationships between population density and social breakdown variables which did not disappear when levels of education and income were controlled. Galle, studying the same areas in Chicago as Winsborough but using other measures of density, found significant correlations which also did not disappear when controlled for social structural variables. Other evidence on these questions comes from experience with slum clearance and studies of the effects of housing on stress, physical and mental health, life satisfactions, values, family activities, and friendship patterns. In general, the findings suggest that crowding may, indeed, cause stress, but that people can adapt to a wide variety of density conditions, depending upon environmental conditions and their own behavior and value systems.

There have been some recent experimental studies of people under relatively controlled laboratory conditions to determine the effects of density. One series of investigations involved placing groups of various sizes in the same room and observing their behavior over a period of several hours. These studies suggest that room density does not affect individual or group-task performance, although it does seem to affect interpersonal processes and affective responses.' Griffitt found that subjects evaluated themselves, others, and the room more negatively in a high-density room. Ehrlich. reports that men in all-male groups became significantly more competitive, severe, and unfriendly in high-density rooms, whereas women became more cooperative, lenient, and friendly. There was no differential effect of density with mixed

groups. In a different type of investigation, where subjects placed human figures in a small-scale room with different assumed social contexts, Desor was able to support the hypothesis that the sense of "being crowded" was more related to space. Finally, in a third type of investigation, pairs of subjects were isolated for nine days in a 12-foot by 12-foot room, and their territorial behavior was studied. Among other observations, it was noted that dyad incompatibility on the personality dimensions of dominance and affiliation, but not on achievement and dogmatism, led to an increased rigidity and possessiveness of territorial behavior.

Cassel summarized what is known about the effects of population density upon health. He reiterated a familiar theme, namely, that the effects of density on health depended, in some cases, on the association of density with other variables, such as poverty, poor nutrition, and poor housing. He further stated that density effects are apparent only during the period of adjustment following an individual's or a subpopulation's change in living conditions and density exposure. He also noted that the effect of density on health varies according to the degree to which an individual has membership in a supportive social group (i.e., high density is more detrimental for "marginal" people) and according to his particular status within the hierarchy of that group.

Certain themes emerge from the above observations and research on

density. These themes are summarized in the general statements listed below and illustrated in Figure 44-3. (It is assumed that stress and personal distress appear at the low end of the density continuum as well as at the high end. The evidence for this has not been discussed but some of it appears in the references cited above.)

1. For each individual, there is an optimum range of population density beyond which, in either direction, he begins to

2. experience stress, represented by the set of U-shaped curves in Figure 44-3.

3. This range varies according to the type of activity in which the individual is participating, the duration of the activity, some personal characteristics of the individual, some cultural or subcultural characteristics of his group, the nature of his relationship to the group, and some social-ecological characteristics of his environment.

4. The disruptive effects of density extremes occur within a narrower range for some psychological-behavioral dimensions (for example, affective interpersonal behavior) than for other dimensions (for example, task performance).

5. In a large population, the range of population densities to which different individuals can adjust is wide, as represented by the solid U-shaped curve in Figure 44-3.

6. For a given individual, or subpopulation, as represented by the

dotted lines A and B in Figure 44—3, the range of nonstressful densities is more restrictive. Figure 44-3. Hypothetical curves representing the postulated curvilinear relationship between population density and psychological stress. Moving an individual or subpopulation along the density dimension to a point outside his usual experience, such as from A to B in Figure 44—3, creates stress which is relieved with time with adaptation to the new conditions.

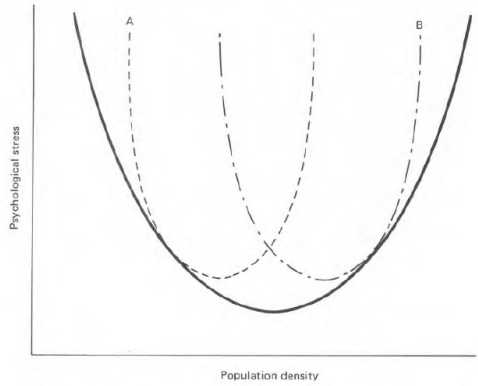


Figure 44-3.
Hypothetical curves representing the postulated curvilinear relationship between population density and psychological stress.

There are many density issues which have been left untouched in this discussion, in part because of their relative unimportance for clinical matters, and in part because of the absence of data regarding them. For example, we know relatively little about what Americans' density preferences are, how these may have changed during this century, and how they change during the life cycle. We know little about the importance for the relief of density stress

of the public-to-private space ratio, about how large homes or single-family dwellings compensate for crowded communities, or about how the provision of wilderness areas is psychologically important to a crowded population.

As mentioned earlier, we know relatively little about the psychological impact and mental-health relevance of low and decreasing population density. The extent of such depopulation is not insignificant. During the 1960s, over half of the counties in the nation actually lost population. It is reasonable to assume that areas undergoing this process suffer a form of demoralization, especially in view of our cultural emphasis upon a growth psychology. Since depopulation affects the population of an area differentially, such as through the relatively greater loss of youth, there may be other important changes in psychosocial climate associated with this process. Clearly, a great deal of work deserves to be done on the psychological impact of these trends.

Modes of Professional Action

Psychological clinicians have an obvious role to play in the treatment of distress and interpersonal disturbance associated with the two extreme ends of the population density continuum. On the preventive and public-health side, psychological clinicians can work with community planners and others who are involved in the redesign of old communities and the creation of new

ones. If the continued growth of the three megapolitan areas is to be arrested, the increase in the United States' population over the next fifty years must be absorbed into small cities, secondary growth centers, and new towns. It seems entirely reasonable that psychological clinicians should take part in the design of these communities, including the use of public and private space. Lemkau gives an interesting account of a psychiatrist's role in the construction of an entirely new city.

Psychological clinicians are sufficiently sensitized to the various uses of space in individual and group psychotherapy, and are familiar with the effects of space arrangements on lives and communities from their experiences with therapeutic milieus. Expanding these impressions through investigation, it has been possible to demonstrate how schizophrenic patients have enlarged and distorted body-buffer zones and to confirm that a patient's behavior in an inpatient unit is significantly affected by territorial considerations. A growing appreciation of the important connection between self-esteem and territory has led to new treatment considerations. As a result of these kinds of experiences with spatial issues, the psychological clinician is especially suited to help with the investigation and evaluation of population-density and distribution problems.

Geographic Mobility

Geographic mobility is a major feature of American life. It has been estimated that one out of five Americans changes residence every year and, during the same time period, one out of sixteen migrates to another county or region of the country. Considering the same phenomena longitudinally, it is estimated that the average American will migrate between three and four times in a lifetime and may change his residence as much as thirteen times. As is suggested by Figure 44-3, rural, urban, and suburban shifts represent an important segment of such geographic mobility. The three major directions of such shifts are from rural to urban, from urban to suburban, and from suburban to suburban areas.

Relevant Concepts

There are numerous types of geographic mobility, such as the wandering and ranging of primitive people, the impelled or forced movement of groups of slaves, refugees, or disaster victims, and the pioneer migration of individuals and small groups to frontier areas. In this discussion, we shall consider the three important types of geographic mobility in the United States, i.e. local moving, intra-national migration, and international migration. The former refers to a local change of residence, while the two latter refer to the crossing of some geographical, legal, or cultural boundary. Intra-national migration includes moving to another county, state, or region within the United States.

Motivation for geographic mobility has traditionally been discussed in terms of the “push” factors which make an individual want to get away from his present location, the “pull” factors which attract him to another location, and the intervening factors. Demographers have considered the “push” and “pull” factors in socioeconomic, sociopolitical, occupational, and life-cycle terms and they have viewed the intervening factors as determined by physical, cultural, and financial barriers. This approach has had refinements but has essentially remained in the form of a simple hydraulic model.

Psychological and personality factors in migration have been largely unexplored. There is some reference in the migration literature to motives and attempts to seek significance in such primitive personality qualities as wanderlust and sedentary preference (sitzlust) . A more refined approach to the psychological aspects of mobility behavior would have to deal with both the psychological antecedents and consequences of geographic mobility. The psychological antecedents include the factors which lead up to the decision to move, and on when, how, and where to move. In studying these decision processes, it would be important to consider an individual’s intrapsychic and interpersonal methods of reaching a decision, including his perception and evaluation of his present living situation, his information-gathering and evaluation processes concerning the various alternative situations, distress-relieving and resource-mobilization techniques, and ways of planning his course of action. The psychological consequences of geographic mobility

proceed from the individual's separation from his present living situation, continue with the impact of the physical move itself, and conclude with the problems of adaptation to the new setting. Here, again, information-gathering, evaluational, tension-reducing, resource-mobilizing, and planning processes are important variables. This outline for understanding mobility behavior is essentially a coping model.' It underscores that geographic mobility is "a process, not an event," in which the psychological antecedents and consequences are largely adaptational.

A concept of importance for mobility behavior is that of migratory selection, i.e., the tendency for individuals with certain traits to be more or less migratory than others. This concept frequently applies demographically, as is demonstrated by the tendency for migrants to be young, unmarried men. However, psychological and personality traits, as well as demographic ones, may also be assumed to affect migratory selection. As an example, it would be interesting to see how mobility behavior is related to Kelly's four types of coping behavior: anticipation, exploration, locus of control, and social effectiveness. Some other personality traits which might differentially affect mobility behavior are need achievement, tolerance of ambiguity, and sensation-seeking.

While these and other psychological variables may be helpful in explaining both variability within the norm of geographic mobility and

behavior which deviates from that norm, the interaction of psychological traits with other variables must be taken into account in attempting more adequate explanation. For example, persons with high need for achievement will tend to stay in one location or move to another, depending upon the relative opportunity structure of the two places. Unless the individual's perception of the opportunity structure is taken into account, the relationship between the need for achievement and mobility behavior may be obscured. Variable interaction is also crucial when psychological variables are themselves strongly linked to demographic variables. For example, since geographic mobility in the early adult years is strongly work-related, and in the late adult years is more health- and retirement-related, it is likely that need for achievement would be predictive of mobility only in the early adult years.

Current Issues

Geographic mobility in industrially developed countries such as the United States is believed to be motivated most commonly by economic and vocational considerations (search for work, changing jobs, promotions), and next most commonly by family life considerations (marriage, family expansion, divorce). In the last several decades, as demonstrated by migration streams into Florida and the Southwestern United States, health and retirement considerations have gained in importance. From the point of

view of the distance moved, the mobility motivations for most local moves are related to family, house, and neighborhood; for most migrations they are related to work.

Virtually no studies of these phenomena have made use of psychological assessment tools beyond general survey techniques. While it is understandable that work and economic motives have accounted for a large part of the variance in mobility behavior, the relative importance of personality traits, especially as facilitatory and inhibitory factors, cannot be stated at this time.

What are the mental-health implications of geographic mobility? While moving represents for many people an opportunity and not a problem, in order to discuss the mental-health relevance of mobility behavior, it will be helpful to approach it using a stress model. There are four main stress points in the process of moving: (1) the experience of life events antecedent to and influencing the decision to move; (2) separation from one's family, one's social network, and one's home; (3) moving itself, i.e., the process of travel, temporary lodging, transport of one's family and possessions, and contact with unfamiliar social groups and norms; and (4) establishment in a new area, including finding a new home and achieving economic and social assimilation into a new social system. These four stress points have had differential treatment in the psychological and psychiatric literature.

1. The kinds of stressful events which are antecedent to geographic mobility are numerous. They include all the events which mark the major transitions in family life, education, and work. To the author's knowledge, there has not been any significant psychological study of the impact of life events upon geographic mobility and the decision to move.

2. It has been reasonably well demonstrated that forced relocation can cause considerable stress and grieving for the lost home. When the relocation is not forced, however, there may be relatively few serious psychosocial sequellae, provided the mover is not prevented from replacing his lost social organization. When the individual's family remains behind, some migrant groups rely appreciably upon that "stem family" as a source of support via the mechanism of return migration.

3. The stress of the actual move has the greatest importance when the migratory period is long. However, in this country, as a result of the norm of geographic mobility, the moving and motel industries have standardized the moving process and made it relatively tolerable. Therefore, this type of stress is probably greatest with international migration.

4. Establishment in a new area is stressful in proportion to the differences of the new community from the home community; its distance from the home community (thus affecting return migration); the extent to which the migrant has family or friends in the new community; the amount of family burden the migrant brings with him; the extent to

which the move is associated with social mobility (according to Gutman, either upward or downward social mobility makes geographic mobility more stressful); the new community's attitude toward the migrant and its resources for him; the availability of work; and the migrant's health.

While the above material helps to clarify the psychological stresses upon geographically mobile individuals, apart from very general factors, such as ego-strength, we have little information about what specific personality traits and coping styles may help migrants to cope with such stress.

Another way of exploring the stressfulness of migration is through its association with mental illness. Following the development in this country of the "melting-pot" philosophy and coincident with the growing financial rewards to workers for international and intra-national migration, it was noted by some state officials that mental hospitalization rates for foreign-born immigrants and native-born migrants from other states were higher than the rates for the native-born, non-migrant population. Two general hypotheses have been suggested to explain these findings, namely, a social-causation hypothesis which was based on the assumption that migration was more stressful than non-migration and thus resulted in a greater incidence of mental illness, and a social-selection hypothesis which assumed that the mentally ill were affected by migratory selection and migrated in greater numbers than the non-mentally ill. Neither one of these hypotheses has been

well substantiated. In a long and careful review of the literature, Sanua demonstrated that the observed relationships between migration and mental illness disappear or hold only for a very specific and limited subpopulation when the study includes adequate controls. It is important to control the following variables: demographic, such as sex, age, race, occupation, and social class; origin-destination differences, such as occur in rural-urban or cross-cultural migration; individual motivations, such as occur along the forced-voluntary move dimension; and social-system supports, such as the type of family life of the migrant, the dominant attitudes toward him, and the services available in the host community. There are other serious reasons for questioning the meaning of the association between mental hospitalization rates and migration. In the first place, most investigations are limited because they compare a migrant group with a non-migrant group in the place of destination and not simultaneously with a non-migrant group in the place of origin. In the second place, for a variety of reasons, the tendency for a migrant group to use psychiatric services or to be labeled as psychiatric patients may vary substantially with respect to the comparison group.

At its best, the relationship between psychiatric disease and mobility behavior is a complex one, and the two main hypotheses appear much too simplistic. In some situations, geographic mobility results from the avoidance of responsibility, and, in others, from the avoidance of undue stress. Certain types of mental disturbance may incline people toward moving, while other

types may incline them away from moving. Migrants who move into an area may be more stressed than people already there, but they may be less stressed than they were before they came and better able to cope than the population already at hand.

Modes of Professional Action

Psychological clinicians may become involved with geographically mobile individuals and families at three different points in the movement process, namely, in the communities of origin, transition, and destination. In the latter two, if his area has significant numbers of geographically mobile individuals, the psychological clinician can provide direct service within his own practice or as a staff member of a mental-health center or some equivalent institution. The mental-health center offers a better organized and more extensive service, which is especially important in those high-movement areas where impoverishment and social disorganization prevent the establishment of an effective social and economic network for transient and incoming migrants. Brody discusses various interventions which may be aimed at the migrant and the "host" society. Such activity varies from the provision of direct mental-health services through the training of migrant counselors, to consultation with community leaders, gate-keeping agencies, and the dominant institutions in the "host" society. In general, because there is such a lack of clinically relevant knowledge, psychiatric and psychological

insights need considerable further development, and a great deal of overall clinical investigation of this subject is warranted.

In the community of origin, psychological clinicians can work preventively, especially through anticipatory guidance for those about to move. To aid in this work, a life-cycle chart should be developed similar to that presented earlier for unwanted pregnancy, outlining mobility-prone points and suggesting those life events and personal characteristics which are likely to make geographic mobility hazardous. On the basis of extensive study of migration within the United States, several authors' have identified specific subpopulations who are especially disposed to migrate. These include the following: men and women just beginning or just ending college; men beginning and ending military service; women at the time of marriage; men, and often their dependent families, in relation to career development or unemployment; couples at the time of family expansion; men and women following separation and divorce; men and women following death of an important family member; aged men and women with failing health. Such life-cycle patterns are different for different subcultures. The identification of mobility- and hazard-prone individuals and families would allow different types of preventive intervention through educational and counseling services aimed at helping such people to anticipate and cope with problems of their projected move.

Status Mobility and Composition

The composition of a population is determined by the distribution of a variety of demographic and social statuses or traits within it. The statuses of greatest interest to demographers are age, sex, marital status, religion, education, occupation, race, and social class. Composition, a structural or cross-sectional aspect of a population, changes with time as a result of the four dynamic aspects of population mentioned in the introduction. The most important of these for our present consideration is status mobility, which, together with composition, will be treated as forming a third demographic subsystem.

Status mobility refers to the movement of individuals through social and psychological space, from one status to another. Status mobility, like fertility, mortality, and geographic mobility, is a descriptive and not a capacity concept, i.e., it refers to actual and not to potential movement across social statuses. Thus defined, status mobility denotes what some writers call "social mobility" in its general sense. To avoid confusion in this chapter, the more specific and limited meaning of social mobility will be adhered to, namely, movement across social strata, typically the class strata, and it will be considered to represent one type of status mobility. Because of the natural and potentially useful parallels between status and geographic mobility, we shall maintain continuity with the previous section by treating status and

social mobility first, moving then to a discussion of composition.

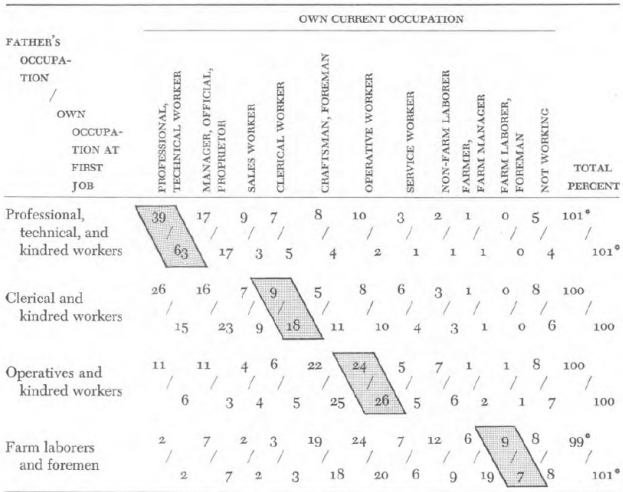
Status Mobility

This large subject area includes movement across such statuses as marital, educational, occupational, religious, and social-class statuses. Although of minor demographic significance, it has recently even become possible for movement to occur across sex statuses. All such movement—as a result of intention and decision-making—has important psychological antecedents. Together with the movement across age statuses, these kinds of movements have equally important psychological consequences. Any one of these status movements can be analyzed and investigated with much the same approach as geographic movement.

Occupational mobility provides a concrete example. Table 44-5 presents selected data in percentage form which show the work force composition of four occupational categories of American men, cross-tabulated with the workforce participation of (1) these same men at the time of their first jobs; and (2) their fathers when these same men were sixteen years old. Thus, the table presents information regarding the intra-generational and the intergenerational occupational mobility of a group of American men. Such movement could be studied with reference to a psychological "push-pull" theory by exploring those factors which made the individual want to leave his

old occupation and those which attracted him to his new one. Here again, however, the hydraulic model is too simplistic, and it would be more useful to employ an adaptational-coping model which utilizes (1) a life-cycle approach, including an elucidation of mobile- and hazard-prone points; (2) a description of relevant motivational clusters; (3) a determination of those personality factors which influenced the adaptive or maladaptive expression of motivation; and (4) an account of the coping styles and tactics used in response to the stresses of occupational transition. Hopefully, some of the more detailed discussion of earlier sections will help the reader to picture the potential behind this brief sketch.

Table. 44-5. Data Showing the Intergenerational and Intra-generational Occupational Mobility of American Men



FATHER'S OCCUPATION / OWN OCCUPATION AT FIRST JOB	OWN CURRENT OCCUPATION: PROFESSIONAL, TECHNICAL WORKER	MANAGER, OFFICIAL, PROPRIETOR	SALES WORKER	CLERICAL WORKER	CRAFTSMAN, FOREMAN	OPERATIVE WORKER	SERVICE WORKER	NON-FARM LABORER	FARMER, FARM MANAGER	FARM LABORER, FOREMAN	NOT WORKING	TOTAL PERCENT
Professional, technical, and kindred workers	39 / 63	17 / 17	9 / 3	7 / 5	8 / 4	10 / 2	3 / 1	2 / 1	1 / 1	0 / 0	5 / 4	101* / 101*
Clerical and kindred workers	26 / 15	16 / 23	7 / 9	9 / 18	5 / 11	8 / 10	6 / 4	3 / 3	1 / 1	0 / 0	8 / 6	100 / 100
Operatives and kindred workers	11 / 6	11 / 3	4 / 4	6 / 5	22 / 25	24 / 26	5 / 5	7 / 6	1 / 2	1 / 1	8 / 7	100 / 100
Farm laborers and foremen	2 / 2	7 / 7	2 / 2	3 / 3	19 / 18	24 / 20	7 / 6	12 / 9	6 / 19	9 / 7	8 / 8	99* / 101*

LEGEND: Data from a large sample of American men showing the types and percentages of change in four occupation categories from (1) father's occupation to own current occupation (intergenerational occupational mobility) and (2) own initial occupation to own current occupation (intragenerational occupational mobility). Shaded boxes are those which represent no occupational mobility. Boxes to the left of these generally indicate upward mobility, and to the right, downward mobility.

* Total percentages in some cases are not equal to 100 due to rounding.

Source: P. M. Blau, and O. D. Duncan. *The American Occupational Structure*, New York: Wiley, 1967.

The same adaptational model could be applied equally to most of the other major status movements with a likelihood of high yield for demography and psychological clinicians. Because of the extent and complexity of these topics, we will confine further illustration of this subject area to a focused and limited discussion of social mobility and its association with psychiatric conditions.

Social Mobility

Relevant Concepts

As previously discussed, social mobility refers principally to movement up and down the social-class strata. Unfortunately, there are no clearly established criteria for measuring social-class stratification, and several different measurement methods have arisen, including determination by occupation, education, housing, or income, all taken alone or in some combination. As an example, the occupations in Table 44-5 are generally arranged—moving from left to right—along a continuum from high to low social status. Thus, they provide one type of measure of social mobility. The table also illustrates the conceptual difference between intra- and intergenerational mobility, a difference which is probably of considerable importance with regard to both the psychological antecedents and consequences of mobility.

The methodological problems posed by the absence of clear criteria for social class are major and may account, in part, for the conflicting and limited findings of psychological and psychiatric investigations. Unlike occupational or marital mobility, it is not clear to what extent social mobility even exists as an independent and significant psychological phenomenon in American society. Nonetheless, several authors have reviewed the literature on the psychological aspects of the subject and more work continues.'' The psychological dimensions most frequently mentioned as having important

antecedents to social mobility behavior are intelligence, need for achievement, and the ability to defer gratification. Both inner-directed, self-reliant individuals and other-directed, affiliative individuals tend to be upwardly mobile, suggesting that Gough's personality dimensions of achievement-via-conformance and achievement-via-independence may have important bearings upon social-mobility behavior. With regard to the consequences of social mobility, the psychological factors most frequently mentioned are those of personal fulfillment and intrapsychic strain.

Current Issues

There are two ways in which psychiatric illness may be associated with social-mobility behavior. On the one hand, specific kinds of psychiatric illness may predispose toward upward or downward social mobility (social selection); on the other hand, social mobility, in either direction, may result in stress and specific kinds of psychiatric illness (social causation). In either of these cases, a pooling of specific psychiatric illnesses in certain social classes would be expected. In fact, the frequent discovery of such pooling has been explained not only by the social-selection or -causation hypotheses just mentioned, but also by the particular stress effects of life in those social classes (independent of social mobility). Thus, the finding of schizophrenic individuals pooled in the lowest social stratum of a population can be understood only by determining to what extent this pooling was the result of

selective downward mobility, to what extent it was caused by the stress of downward mobility, and to what extent it was the result of the relatively greater stress of life in the lowest stratum. A fourth process must be considered in the assessment of such pooling, i.e., the differential societal reaction to mental illness. Thus, more schizophrenic individuals may be identified in the lowest stratum because of a relatively poorer family-support system for the psychotic individual in that class or because of a qualitatively different medical care system, with quicker hospitalization for psychotic illness. In a study by Rushing, in which he summarizes most of these considerations, the distribution of mental-hospitalization rates across social classes was found to have at least two discrete but superimposed patterns, presumably resulting from two different processes and suggesting that the pooling of types of psychiatric illness in certain social classes is a multi-determined process. The relative importance of social mobility in this pooling is, as yet, unclarified. In general, what we know about the psychiatric antecedents to social mobility suggests that neuroticism is an antecedent to upward movement, while psychotic conditions predispose to both intergenerational downward movement and intra-generational downward "drift," although the evidence for the downward consequences of psychoticism is not uniform.

The stress effects and psychiatric consequences of social mobility are of equal interest, although only a few studies present actual data on the subject.''

In general, stress is believed to be associated with both upward and downward social mobility, although the evidence is conflicting. Kleiner and Parker have reviewed much of the research in this area and concluded that results will not be more meaningful until investigators (1) standardize the measure of social mobility (they point out that the relationships between occupational, educational, and income mobility, on the one hand, and mental disorder, on the other, are each different); (2) examine the direction, speed, and degree of social mobility independently; and (3) consider the differential effects of social mobility for different subpopulations through such moderating variables as social class, racial or ethnic group, diagnostic category, etc.

Modes of Professional Action

With respect to social mobility, psychological clinicians are probably most involved in working to prevent the downward drift of their most disturbed patients through their engagement in therapy and broad, community-based treatment programs. However, clinicians can also take a preventive approach by helping in the identification of those who are at risk for social-mobility hazards, and by consulting to institutions and organizations who can significantly influence the social-mobility process.

Composition

In the study of composition, a population is broken into subpopulations, based on the way individuals are distributed across status categories. One of the most fundamental categories for demographers is age. It is important because of its biological base and because of the major relationship that the age structure of a population inevitably bears to the dynamic processes of fertility and mortality. Figure 44-4 depicts the age distribution for the United States for each decade between 1930 and 1970.

The half-pyramids clearly reflect the changes in the American age structure which resulted from the decrease of fertility during the depression years of the thirties, the increase in fertility as a result of the marriage and baby "boom" of the late forties and fifties, and the declining fertility of the sixties. As Bogue has said, this represents one of the most extraordinary transformations of a population's age structure ever to have occurred, apart from the devastation of a population by war or large-scale migration. Such change can occur only when there is widespread knowledge and use of methods of fertility control in a population.

Relevant Concepts

It is possible to determine the composition of a population with respect to any of the statuses already mentioned in this chapter. This allows an examination of the differential effect of each status category upon behavior,

especially that behavior which is important demographically. To illustrate, it is possible to examine how religious status affects fertility, how marital status affects mortality, how occupational status affects geographic mobility, and how racial status affects status mobility. Of parallel interest is the determination of how demographic behavior affects status distributions in the population.

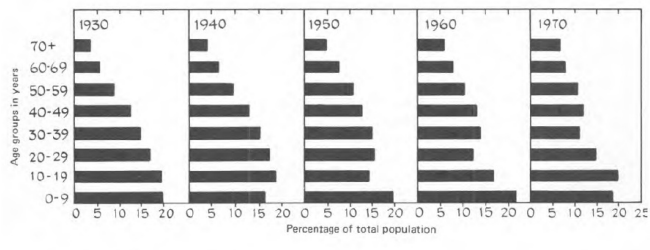


Figure 44-4.
The age structure of the United States for each decade 1930 to 1970.
Source: United States Department of Commerce, Bureau of the Census, General Population Characteristics, 1970 Census, United States Summary, PC(1)-B1.

At the psychological level, both the antecedents and consequences of population composition and its change are of interest. A complete discussion of this subject would obviously be impossible in this chapter. Therefore, in the following section, we will confine our attention to two areas of current interest which illustrate the interaction of psychological variables and population composition through the common factor of fertility behavior.

The distribution in a population of psychological traits or statuses is

another aspect of composition. Any of the psychological variables discussed earlier in this chapter, which have an important relationship to one or more of the demographically significant behavior areas, may be used for this type of analysis. Thus, we could select such traits as intelligence, modernism, or need for achievement and study the way these are distributed through a population, and then the way subpopulations, grouped according to these dimensions, behave demographically. Of particular interest to psychological clinicians is the psychiatric status composition of a population and the way psychiatric statuses differentially affect demographic behavior. We shall also consider some examples of this in the next section.

Current Issues

Man's growing ability to influence the phenotypal characteristics of his offspring through gamete selection and modification illustrates how psychological factors can affect population composition. The most imminent and potentially significant example of this type of influence lies in sex preselection. Should this become technologically feasible within the next decade, evidence regarding the current attitudes toward sex selection suggests that a significant portion of the American population would immediately accept and even use this procedure, and that eventually, with public dissemination of information, it could gain widespread acceptance and use. Considering the significant preference for male offspring, the option for

parents to choose the sex of their children would have major consequences for family planning and composition. Markle estimates that the sex ratio would change from 105 to 122 males born for every 100 females, a change which would have an obvious cumulative effect upon the sex composition of the United States' population. Etzioni has discussed the societal consequences of such a sex composition change, noting the potential effect of excess males upon such activities as church attendance, criminal behavior, voting patterns, marital behavior, and sexual behavior. Furthermore, it is quite possible that there would be dynamic, compensatory changes in sex preferences which would fluctuate with time as a result of the changing sex composition. This process might result in fluctuations in the sex structure matching in magnitude and significance the changes for age structure illustrated in Figure 44-4.

The effect of population composition on individual psychology can be illustrated by the changes which will result from the current societal press for zero-population growth. The achievement by this country of a stationary population, with little or no change in size, will be accompanied by a significant change in age structure. The mean age will change from twenty-eight to forty, the proportion of those under fifteen years from 30 to 20 percent and of those over sixty-five from xo to 20 percent. In short, the population will be older. This will mean a shift in aggregate values, beliefs, and behavioral traits away from those associated with youth toward those

dominant in mid- and late life. Individual behavior will be affected, generally by modification of the predominant value system, and specifically by alterations in the tempo of life, the rate of social change, the process of job advancement, the importance of seniority, the nature of education, the types of available recreation, etc.

A third and final compositional issue, of special significance to psychological clinicians, involves the differential effects upon demographic behavior of psychiatric status. It has been suggested that the community mental-health centers and other psychiatric agencies have some responsibility for the fertility behavior of the psychiatric subpopulations which they serve. It was argued that the center should provide case finding, education, referral, and, in some cases, direct contraceptive aid as a form of preventive psychiatric service. This argument may be extended for psychiatric subpopulations to other forms of demographic behavior, underscoring the importance of knowing more about the effect of psychiatric status on all of these behaviors. Unfortunately, relatively little systematic work has been done in this area, and what has been done is difficult to synthesize because of the different definitions of psychiatric status which have been used. For example, some studies focus exclusively on that subpopulation which has had a psychiatric hospitalization; others focus on one which has had some form of psychiatric treatment; and others focus on one which has a certain level of psychiatric impairment or symptomatology

irrespective of whether or not there has been a treatment contact.

In some of the earlier studies on the fertility of hospitalized mental patients, this subpopulation was observed to have a lower overall fertility than the general population. This relationship, however, may have been confounded by the effects of marital status, since married women have greater fertility but also have a lower rate of hospitalization for psychiatric illness. Slater investigated the fertility of a large sample of male and female psychiatric-clinic patients and inpatients in England. In this investigation, the subpopulation was divided into diagnostic groups, i.e., those with schizophrenia, manic depression, personality disorders, obsessional neurosis, and other neuroses. For all diagnostic categories, the number ever married was lower, and the number separated and divorced was greater than for the general population. Furthermore, marital fertility for all diagnostic groups was markedly depressed, compared with the general population.

The mortality of the psychiatric population appears to be different from the general population where information is available. There is some evidence that suicide rates are higher among current and former mental-hospital patients. Within the psychiatric subpopulation, suicide rates are highest among those with a diagnosis of depression. It may be that homicide rates for psychiatric patients are higher, but evidence regarding this is inadequate. The evidence is stronger regarding accident-death rates. For

example, the presence of severe psychopathology has been associated with the occurrence of fatal auto accidents.' For all causes of death, evidence indicates that psychiatric patients—both those hospitalized and, to a lesser extent, those formerly hospitalized—have higher death rates, although the responsible behavioral factors have not been well delineated.

Faris and Dunham were among the first to observe that psychiatric status was affected by geographic distribution. They noted that the subpopulation of individuals requiring hospitalization for a psychiatric condition, specifically those diagnosed as schizophrenic, tended to be concentrated in the more densely populated and socially disorganized central city. They considered both a social causation and a social selection hypothesis, and concluded that this concentration of schizophrenic patients was caused by the social conditions in the central city and did not result from the most disturbed psychiatric subpopulation drifting into those areas. In a more contemporary study, Jaco also found a higher incidence of mental disorder in urban, as opposed to rural areas, although he did observe extremely divergent rates between the two highly industrialized communities within the overall area of study.

The effect of psychiatric status upon geographic mobility has yet to be clearly delineated, mostly because only a few investigators have completed studies which compare a migrant population with a nonmigrant population.

However, it appears that the relationship between psychiatric status and geographic mobility depends upon the social norms governing migration. As Sanua has suggested, in the United States and other countries where geographic mobility is the norm and thus relatively easy, individuals may be freer to express their psychopathology through moving. Regarding the effect of psychiatric status upon the social mobility, as already cited, the evidence indicates that the neurotic subgroup has a higher rate of upward movement than the general population, and the psychotic subgroup a higher rate of downward movement. Because of space considerations, other kinds of status mobility will not be discussed here. However, it seems very likely that psychiatric subpopulations are different from the general population in some of these other areas, such as occupational or marital-status mobility, as well.

Modes of Professional Action

A great deal is unknown regarding the psychological antecedents and consequences of population composition and its change. Similarly, much is unknown regarding the demographic behavior of psychiatric subpopulations. Thus, one of the first orders of business is further investigation. Pending the development of more information, the chief modes of professional action will be the treatment and prevention services outlined in the previous sections with regard to the specific categories of demographic behavior.

Final Comment

While the scope of this essay is admittedly very broad, it is hoped that the general and sometimes abstract level of discussion will be compensated for by assembling a large number of concepts and pieces of information which heretofore have been considered separately but which are, in fact, systematically and dynamically related. Treated in more detail, this subject area can easily extend to several volumes. However, enough of the material presented here is in its early development as to justify a limited, comprehensive treatment in an effort to sketch the outlines of a single field of study.

Such a field is a step in the direction of the integration of the life sciences through a general-systems approach. Such an approach is essential in the case of population problems because of the dynamic interplay of events and processes, not only at the two levels under consideration—the demographic and the psychological—but also between these levels. In the past, there has been a tendency for each level to be treated independently, as a separate field. Hopefully, the importance of interlevel considerations has been effectively demonstrated in the body of this essay.

In the next decade, government at all levels will be under increasing pressure to develop and implement population policies designed to influence the behavior of the public. Such policies will be strongly affected by

population theories and extant knowledge in the field. There are major aspects of population policy which depend upon input at the psychological level and the behavioral scientist who hopes to influence population policy formation and implementation needs to be aware of the many interlevel (psychological-demographic) relationships. Through his effective participation in the solving of social and political problems made necessary by growing population pressures, the quality of human life may be protected and even enhanced.

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