THE last decade has witnessed a shift in the way researchers and policy makers treat the process of aging: striving for functioning at the level of "successful aging" has become the aspired goal advocated by writers (e.g., Baltes & Baltes, 1990; Rowe & Kahn, 1998). This new view contrasts with most earlier writings on aging, which focused on the crises of growing old and on ways to overcome the problems that accompany them. With that earlier approach, the attainment of the "normal state" (i.e., the "average" or the "common" state) was the aspired goal. States of crisis (biological, psychological, sociological) in aged individuals were the focus of attention and the objective for remedy. Yet, the crisis-solving approach seeks at most to bring the crisis-affected individuals to the level of functioning of "normal" individuals. It does not lead "normal" aged individuals to a more successful experience with aging, that is, to achieving the goal of "supernormal aging" in the way the successful minority experiences aging. This remedial approach is analogous to the medical approach of treating the sick rather than elevating the whole population to the status of the most healthy.

The attainment of successful aging as a goal may take two potentially separate approaches: (1) concern with the individual—what individuals should or should not do in order to experience successful aging; and (2) concern with society—what society should or should not do (the social policies and the social arrangements a society should adopt) to raise aged individuals, in large numbers, to the functioning level of successful aging.

Most previous research takes the individual approach, but this article takes the societal approach. It reports relevant findings from the Israeli kibbutzim and the effects of their societal arrangements and policies on the functioning of their aged members. It also reports how current structural changes in these societal arrangements and policies may negatively affect the successful aging of an entire population of the aged. These experiences are offered in honor of the 1999 United Nations International Year of the Older Person to propose ways in which one society's experiences might be brought to the benefit of others.

**Strategies for Learning Appropriate Societal Arrangements**

Let us first consider how one should go about finding the appropriate policies and social arrangements that foster successful aging in large segments of populations. In principle, researchers and policy makers have two ways before them. The first is to carry out social experiments that create intentional variability within populations in the policies and in the social arrangements believed to bring about the experience of successful aging. The second is to capitalize on existing variability across populations with the same social policies and social arrangements.

However, creating intentional variability in social policies or in societal arrangements involves real-life situations and large populations and is not an easy undertaking. There are normative, social, ethical, and legal restrictions that may hinder or even entirely block any significant deviation from the existing situation. Not to mention the fact that many significant results might be attainable only after a very long exposure to some manipulation—so long that it is beyond the length of a professional career of any researcher or policy maker.
The alternative of resorting to existing variability in the societal determinants of successful aging seems more promising. However, to derive the greatest advantage from variance in the real world, one needs to follow these four steps. First, find a population or a society where aging is successful by accepted criteria. Second, record and study the societal arrangements that distinguish this population from populations with a less successful aging experience. Third, ascertain that the experience of successful aging indeed results from the same societal arrangements under study. And, fourth, ascertain the similarity of the important characteristics (not societal arrangements) in the population or society that experiences successful aging to those in other populations with which the comparison is made (e.g., the personal characteristics of their members). The societal arrangements thus identified are those deserving emulation into other populations.

**Israeli Kibbutz Communities as Learning Grounds**

The kibbutz communities in Israel (about 270 communities, the first of which settled in 1909) and their total population (about 125,000) answer these criteria on all four counts and thus may serve as a learning ground for other parts of industrial society: (1) Its aged population demonstrates success in aging as expressed in longer life expectancy, lower death rates at advanced ages, and their positive standing on several “softer” indicators of well-being such as life satisfaction; (2) successful aging is due to those societal arrangements; (3) The societal arrangements that surround the elderly people on kibbutzim are different in important ways from those in other industrial societies; (4) Research evidence exists showing that the experience of success in aging is due to those societal arrangements; (4) There is substantial similarity in personal characteristics and other relevant dimensions between this population and other parts of industrial society. These four points are further developed in the following sections.

**Similarity of kibbutz population to other parts of industrial population.**—The similarity of kibbutz society to other societies in the industrial world is expressed in many ways, as follows: (a) Its members’ personal characteristics, such as indicators of personality structures (e.g., Rabin, 1965; Rabin & Beith Halachmi, 1985) or the distribution pattern of psychopathologies (e.g., Kaffman, 1972), or their structure of needs (e.g., Macarove, 1972; Tannenbaum, Rosner, Kavic, Vianello, & Weiser, 1974); (b) its members’ personal backgrounds, such as ethnic origin and family relations in the society at large, and the extent of their intensive interaction with the rest of Israel society (Leviatan, 1984); (c) its members’ lifestyles, job structures, and intensive interactions with city communities. Although kibbutzim are located in rural areas, they cannot be compared to any stereotype of rural communities. They are, in fact, more like industrial communities set in rural areas (Leviatan et al., 1998); (d) its pattern of relationships among certain important variables at the individual level of analysis (e.g., Bartolke, Escsweiterle, Flechsenberg, Palgi, & Rosner, 1985; Levy & Gutman, 1975; Macarov, 1972; Palgi, 1984; Tannenbaum et al., 1974); and (e) its features as a “whole society” both at the social level (e.g., having most social roles performed within the same organizational boundaries) and the economic level (e.g., taking the macro-economic rather than micro-economic, approach in economy) that solidify its standing as learning grounds about potential behavior of other “whole societies” (Leviatan, 1984).

**Social arrangements and policies.**—In sharp contrast to the similarities enumerated above, kibbutz society differs very much from other industrial societies in the principles that guide its social arrangements and social policies. These principles are defined in The Kibbutz Regulations (Takanot HaKibbutz, Kibbutz Artzi Federation, 1973) and its various updates as resolved in several conventions of the kibbutz movement (e.g., Kibbutz Artzi, 1976, 1997). Rosner and Getz (1994) summarize the unique features of the kibbutz structure and principles of conduct as “cooperation”—similar to Ouchi’s (1980) “Clan” or Butler’s (1983) “Commune”—and contrast it with social models based on “hierarchy” or “market” principles (Williamson, 1991). Among the central characteristics of this “cooperation,” they mention solidarity and brotherhood among members, shared values and beliefs, mutual dependence, informal social ties based on personal relations, and decision making done jointly by persuasion.

These central principles of kibbutz conduct translate into concrete practices that contribute to successful aging. Four of these follow:

A. There is an expected interaction between individual and community. It follows the dictum: “[Community expects] from each according to his or her abilities, [individuals expect community to care] for each according to his or her needs (within the capabilities of the community).” Application of this principle means that individuals’ unique needs—rather than position, status, ability to contribute, age, strength, or level of education—determine right for need fulfillment, including their changing needs as they age.

B. All members have equal standing in their rights and obligations. Therefore, aged members have the right, for instance, to work as long as they wish, and the community is responsible for making it possible; they also have the right to participate in the process of “direct democracy”—a major governing institution in the kibbutz (Pavin, 1998); and they expect to take part as equals in the communal decision-making processes.

C. The kibbutz takes responsibility to offer total life security for each member in the domains of economics, health, and care of his or her dependents. This is reflected in the lives of aged members mostly in the responsibility the community takes for their health, for their psychological well-being, and for their maintaining a material standard of living comparable to the rest of the membership.

D. The kibbutz is also a social community with solidarity and mutual care among its members. In practical terms it means the nourishing of communal social and cultural activity, and the offering of formal (by social institutions) and informal social support to members in need.

These aspects of kibbutz life may be summarized as follows: While similarities exist between the kibbutz population and other industrial populations at the personal level, in personality, in psychological characteristics, and in its characteristics of “wholeness,” differences from other industrial societies appear in the kibbutz organizational and social structures and arrangements that result from application of kibbutz ideology. This unique combination allows generalization from kibbutz experience to other industrial societies. The similarities allow for the
generalization because with any inference from the kibbutz population, one is still dealing with a similar population to the one for which such inferences are made. Yet the very different societal arrangements of the kibbutz society provide an opportunity to learn of new approaches in dealing with societal questions—including aging—in the larger industrial society.

**RESEARCH FINDINGS**

**Sources of Research Data**

Part of the data and research findings in this and the following sections have already been reported in previous publications by the writer and his collaborators. Where appropriate, I repeat them in summary form. The current paper, however, expands on these previous publications by the use of updated data. Data and findings come from two major sources.

One data source is a large-scale study of aging processes in Israeli kibbutzim conducted in 1978–1979 in 10 veteran kibbutzim in which about 420 respondents were aged 55–80 years and 100 were aged 45–54. It had a partial follow-up in 1991. In that study, three kibbutzim with more favorable social arrangements for successful aging (so judged by movement-level expert informants) were compared with six kibbutzim judged as offering less favorable arrangements. (The tenth kibbutz was added to make the sample representative of all kibbutz federations of the time.) Reports based on this study appeared in Hebrew and in English (e.g., Cohen-Mansfield & Leviatan, 1992; Leviatan, 1983, 1988, 1998; Leviatan, Adar, & Am-Ad, 1981).

The other source is data from social diagnostic surveys in 26 kibbutzim from the years 1994 to 1998. About 3,600 respondents were covered of whom about 700 were aged 60 or older, 1,500 were aged 40–59, and the rest were in the 20–39 age group.

**Indicators of Successful Aging Among the Kibbutz Elderly Population**

Currently, the aging phenomenon represents an important experience in all veteran kibbutzim, while other younger kibbutzim have even today no members approaching 50 years of age. Until the mid-1960s only a small fraction of the kibbutz population had reached the age of 65% (0.3%), while in the general Jewish population of Israel there were already about 6.5% in this age group. The difference from the larger population diminished as the years passed. But it was not until 1980 that the percentage of aged kibbutz members started to approach that of the general Jewish population (5.3% vs 9.7%). The difference between the two populations continued to diminish, so that now they are almost equal (in 1996, 11.1% among Jews in Israel and 10.8% in the kibbutz permanent population).

In the very old group (75 years or older) in kibbutzim already comprises a larger percentage of the population than the comparable group in the general Jewish population (in 1996, 5.3% vs 4.5%). These data underline the suddenness and intensity of the recent aging of kibbutz society. However, the data of the total kibbutz population mask the more significant aging process that has occurred in the older kibbutzim. In kibbutzim settled in the early 1940s, members aged 65 or older constitute about 25% of the adult permanent membership, and those aged 75 or older constitute about 15% (Pavin, 1998b); in kibbutzim established in the 1960s or later, members aged 65 years or older constitute less than 7% and there are no members aged 75 or older.

The growing numbers of aged members in each of the older kibbutzim generated problems associated with aging. Despite the suddenness of the appearance of the aging population and the lack of preparedness, findings from studies on aging in kibbutzim strongly support the conclusion that kibbutz society has successfully met the challenges of aging among its members. This is attested to by one of the most robust indicators of survival and mortality rates (MR) at older ages.

**Longevity and Age-Specific Mortality Rates (MR)**

Analyzing demographic data for 1974–1981, 1981–1987, and 1993–1997, and calculating life expectancy in mean years of these age ranges (1977, 1984—Leviatan, Cohen, & Yafa-Katz, 1983, 1986; Leviatan, 1998—and 1995), indicate a life expectancy of the kibbutz population as considerably higher than that of the Jewish population in Israel for the same years—an advantage of about two to three years at both birth and age 50. Perhaps the most important information about mortality relates to the age groups 50 years and older. In those age groups the mortality rates of the kibbutz population are significantly lower than those of the general Jewish population, and reach the level of only about two thirds (on average) of the mortality rate level in the comparable age-by-gender specific groups of the general population. This conclusion holds for all three periods (1970s, 1980s, and 1990s). I do not believe that self-selection or personal characteristics of the kibbutz aged could completely explain these findings of successful aging on the kibbutz (Leviatan et al., 1986). We turn next to a consideration of the unique environmental conditions and social arrangements in kibbutz communities for a possible explanation of these findings.

**Environmental Conditions and Social Arrangements that Lead to Successful Aging**

I list first societal and environmental conditions that are characteristic of kibbutz life and that, based on research in the general population, probably influence the mortality rates among aged kibbutz members, but for which no validating research is yet available. These may be viewed as tentative hypotheses.

**Stability in Social Roles and in Life Experiences**—The relative stability experienced by the kibbutz elderly population in most central areas of life is one such influence. In many domains of life it stems from kibbutz principles of conduct, but an additional important reason is, of course, the elderly persons live in one (small) community for many years. Our data show (for those aged 60 or older) the age of 29–30 as the average age when they joined as members in a kibbutz. A person aged 70, for instance, has lived more than 40 years in the same location and with the same individuals of his or her age group or older. This relative stability in life experience differentiates aging on kibbutzim from aging in most other populations in the industrial world. It manifests itself in many domains such as work, standard of living, social relationships, social involvement in the community, social composition of the neighborhood, housing, and family interaction. Other elderly persons usually experience major changes of their roles in these domains—changes that contribute to a deterioration in their well-being and in their phys-
Stability in taking on a worker role.—While most aged members of industrial society cease to work upon reaching retirement age, there is no compulsory retirement from work on the kibbutz. There exists, however, provision for a gradual reduction in number of working hours per workday and number of workdays per year. As a result, all aged members continue to be part of the work force of the kibbutzim as long as they are physically and mentally fit to participate (Cohen-Mansfield & Leviatan, 1992; Leviatan, 1983). In 1993, 79% of the kibbutz population aged 65 or older (men and women) held jobs in the kibbutz labor market; this was true for only 18% of men and 6% of women in the Jewish population of Israel (Maron, 1995). Differences for the 35–54 age group were much smaller: 97% for both men and women on the kibbutz compared with 90% for men and 71% for women in the general population. An anecdotal finding from our 1979 study (Leviatan et al., 1981) lists only three individuals aged 65 or older, out of 252, who stated “not working now” in the interview. When asked what were they doing instead, one responded, “I am writing a book” (apparently not considered “real work” in this population of pioneers).

Stability in social ties.—Once retired, many aged city people move to other neighborhoods. This may result from a decrease in income, a wish to be closer to family, or other causes. As practically no member over the age of 60 leaves his or her kibbutz, kibbutz elderly persons stay in the same community throughout their lives, thereby ensuring continuous relationships with their friends and involvement within a community that is both known to them and knowledgeable about them as unique individuals.

Stability in material standard of living.—An adjunct of retirement and aging in industrial society is a substantial reduction in income and a consequent decrease in standard of living. Again, this is not so for the kibbutz aged. Because kibbutz society adheres to the principle of supplying the needs of individuals irrespective of their contributions, aged members enjoy the same standard of living as younger members.

Stability in public involvement.—Staying on the same kibbutz throughout their lives as full-fledged members in a self-governing community keeps the kibbutz elderly population involved and in control of their lives. This is in contrast to many other elderly people who are, in their retirement, sometimes relegated to the status of second-class citizens in their community and in society at large.

Stability in geographical proximity of offspring.—Research (Am-Ad, 1985) showed that 65% of the kibbutz elderly population had at least one adult son or daughter living in the same kibbutz. This ensures they have almost daily contact with their children and grandchildren. It also ensures the security of having the family nearby in case of need. It allows the experience of life’s symbols and passages (holidays, celebrations, stations in the life cycle) in the presence of an extended family. Such experience is very different from the common lot of elderly adults in the industrial world. For there, even if they talk to or meet their offspring on a regular basis, it is for visits only, and not part of the regular, daily schedule.

Medical care.—Quality of medical care and the rural surroundings are other factors in kibbutz life that are likely to contribute to the lower mortality rates of its elderly members. Not only is the medical care among the best available in the country, but also the responsibility for members' health is at hand in the kibbutz medical institutions. The rural environment contributes to health by its positive ecology and by reducing risks to health and to life such as population density, congested traffic, and random violence against the aged.

Reduced stress.—Finally, an additional factor which many Kibbutz members might mention is the relative absence of stresses experienced by members of most other industrial societies - concerning economic competition, control over one’s life, alienation at work, and the pressure to achieve. Kibbutz elderly also enjoy complete economic security for themselves and for their families and dependents.

RESEARCH FINDINGS: SOCIAL ARRANGEMENTS AS CONTRIBUTORS TO WELL-BEING

The previous section presented hypotheses not yet substantiated by research findings. In what follows I present some research findings on other factors – social arrangements—that contribute to the well-being of the kibbutz elderly population, and presumably to their longevity. The following reports bear on several topics: relative importance of life domains in determining life satisfaction; the relative importance of planned social conduct and policies of kibbutz communities compared with the importance of individual-related domains of life in defining general well-being; and effects of current structural changes on well-being.

Relative Importance of Specific Life Domains

A direct question presented to individuals aged 55 years or older about the “importance” of life domains (Cohen-Mansfield & Leviatan, 1992; Leviatan et al., 1981) produced the following grading of domains: 89% claimed work to be important, 79% cited family life, 73% mentioned leisure activities, 54% social life, 44% cultural activities, and 33% cited activity in a public office. Data from the same study (Cohen-Mansfield & Leviatan, 1992) showed “satisfaction with work” as the major contributor (for men aged 60–80) to explain variance in a measure of “satisfaction with life in general.” Its estimated contribution to the explained variance ($R^2 = .30$) was about 40%, compared with 12% by “satisfaction with family life,” 27% by “satisfaction with social relations,” and 20% by “satisfaction with housing.” For women of the same age, “family” was the most important predictor of life satisfaction (35% of the explained variance; $R^2 = .28$) but “work” was a close second (34%) followed by “social relations” (20%) and cultural activity (15%).

An analysis (for men and women combined) regressing “satisfaction with life in general” on “satisfaction” with specific domains, but also including “satisfaction with life on the kibbutz,” added an extra 7% to the explained variance (Leviatan et al., 1981). This means that individuals experience a unique interaction of the life domains expressed in kibbutz life, one that results in an added benefit to individuals—over and above the contribution of their additive combination.
Moreover, most of the explained variance is due to domains features a large part of the variance in the global measure of life satisfaction: about 44% for older men, 30% for older women, 32% for younger men, and 29% for younger women. Moreover, most of the explained variance is due to domains that are the responsibility of the kibbutz community (and do not depend on the individuals themselves). Thus, all predictors but one (health) in the regression models for the older men and women should be considered the responsibility of the community (such as creating roles that match abilities, realization of kibbutz ideology, offering opportunities for influence within the community, material standard of living, home feeling, and satisfaction with work). Satisfaction with one’s health accounts for about 14% in the female sample (according to the estimation of beta coefficients, only 37% of the explained variance in the male sample and for the younger age group). The findings in the male sample for only 4% in the women’s model.

Recent multiple regression analyses, which I performed with data I have from diagnostic surveys conducted in 26 kibbutzim in 1994–1998, show similar results. This is demonstrated in Table 1 for the 60+ age group (mean age about 70). For comparative purposes I show in Table 2 the same analysis for a younger age group (40–59, mean age 48). The findings in the two tables lead to the following conclusions.

First, similar to the results of 1978, the regression model captures a large part of the variance in the global measure of life satisfaction: about 44% for older men, 30% for older women, 32% for younger men, and 29% for younger women. Moreover, most of the explained variance is due to domains that are the responsibility of the kibbutz community (and do not depend on the individuals themselves). Thus, all predictors but one (health) in the regression models for the older men and women should be considered the responsibility of the community (such as creating roles that match abilities, realization of kibbutz ideology, offering opportunities for influence within the community, material standard of living, home feeling, and satisfaction with work). Satisfaction with one’s health accounts for only 37% of the explained variance in the male sample and for about 14% in the female sample (according to the estimation procedure explained in note b to Table 1). Also, the regression models for the older groups did not capture any of the personal demographic variables (age, level of education, and family status). A similar pattern is shown in Table 2 for the younger group. Individually relevant predictors are only two (health and kibbutz ideology, offering opportunities for influence within the community) and “age” within the category, and “number of years studied” did not enter into the regression of either gender.

### Table 1. Multiple Regression Analyses (separate for men and women aged 60+) to Predict “Satisfaction With Life in General”

<table>
<thead>
<tr>
<th>Predictors—“Satisfaction with”</th>
<th>Men (Mean age=70.2; SD=7.0; N=235)</th>
<th>Women (Mean age=69.4; SD=6.8; N=240)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Beta</td>
</tr>
<tr>
<td>Roles match abilities</td>
<td>.172</td>
<td>.169</td>
</tr>
<tr>
<td>Health (compared with others)</td>
<td>.335</td>
<td>.370</td>
</tr>
<tr>
<td>Realization of kibbutz ideology</td>
<td>.237</td>
<td>.255</td>
</tr>
<tr>
<td>Influence in community</td>
<td>.232</td>
<td>.225</td>
</tr>
<tr>
<td>Material standard of living</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>Home feeling</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td>—</td>
</tr>
</tbody>
</table>

R²=.447; R² adj.=.437; C= 173
Dependent var: mean=2.49; SD=91

Note: Predictors are demographic characteristics and levels of “satisfaction with…” individual domains (data from diagnostic surveys in 26 kibbutzim during the years 1994–1998).

Due to the late introduction of the “health” indicator into the surveys (only in 1996), the number of respondents in the regressions is smaller than the number of respondents upon which the means and SDs are reported (about 350 for each gender in the dependent variable).

Beta*² is an estimate of the contribution of each predictor to the total explained variance. This is so because R² = β₁² + β₂² + … + βₙ². Therefore, Beta*²/R² * 100 is the estimated percentage of explained variance accounted for by the “x” predictor.

All measures of attitudes (“satisfaction…”) were on a 5-category scale: l= most positive, 5=least positive. Years of education was measured on a 4-category scale: 1=12 years or less, 2=13-14 years; 3=15-16 years; 4=17 years or more. “Marital status,” “age” within the category, and “number of years studied” did not enter into the regression of either gender.

### Table 2. Multiple Regression Analyses (separate for men and women aged 40–59) to Predict “Satisfaction With Life in General”

<table>
<thead>
<tr>
<th>Predictors—“Satisfaction with”</th>
<th>Men (Mean age=48.6; SD=5.5; N=450)</th>
<th>Women (Mean age=48.2; SD=5.3; N=510)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Beta</td>
</tr>
<tr>
<td>Roles match abilities</td>
<td>.145</td>
<td>.153</td>
</tr>
<tr>
<td>Health (compared with others)</td>
<td>.163</td>
<td>.173</td>
</tr>
<tr>
<td>Realization of kibbutz ideology</td>
<td>.111</td>
<td>.120</td>
</tr>
<tr>
<td>Influence in community</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Material standard of living</td>
<td>.115</td>
<td>.101</td>
</tr>
<tr>
<td>Home feeling</td>
<td>.163</td>
<td>.174</td>
</tr>
<tr>
<td>No. of yrs. studied</td>
<td>.007</td>
<td>.080</td>
</tr>
<tr>
<td>Work</td>
<td>.190</td>
<td>.185</td>
</tr>
</tbody>
</table>

R²=.325; R² adj.=.314; C=.584
Dependent var: mean=2.61; SD=.89

R²=.318; R² adj.=.301; C=.242
Dependent var: mean=2.58; SD=.87

Note: Predictors are levels of “satisfaction with…” individual life domains and several demographic characteristics (data from diagnostic surveys in 26 kibbutzim during the years 1994–1998).

Due to the late introduction of the “health” indicator into the surveys (only in 1996), the number of respondents in the regressions is smaller than the number of respondents upon which the means and SDs are reported (about 700 for each gender in the dependent variable).

See note in Table 1.

Beta*² is an estimate of the contribution of each predictor to the total explained variance. This is so because R² = β₁² + β₂² + … + βₙ². Therefore, Beta*²/R² * 100 is the estimated percentage of explained variance accounted for by the “x” predictor.
In general, the similarity in the regression models across the two age groups is striking (the sole major difference is in the predictor of "health"). This means that under conditions of equal opportunity and equality in need fulfillment, older members have very similar needs to younger members and they judge their life in reference to similar criteria.

Second, the domain of work is an important predictor of life satisfaction for older women but not for older men. This is surprising in view of the earlier study (Cohen-Mansfield & Leviatan, 1992). It is possible, though, that the variables of "roles to match ability" and "influence in community" capture its variance. By contrast, "health" was the most important single domain for older men yet it did not enter the regression model for older women. We need further analyses, not possible here, to explain the difference. Note, too, that in all four subsamples "satisfaction with work" receives the most positive scores of all domains.

Third, satisfaction with life in general is more positive for both older groups when compared with (same-gender) younger groups. These differences are statistically significant. The difference between men and women within the older group is not statistically significant.

Finally, similar to the finding with the 1978 data, the inclusion of the variable "satisfaction with life on the kibbutz" as an additional predictor in the regression analyses elevates the amount of explained variance by about two percent in each of the four analyses.

In continuation of findings in Tables 1 and 2, research is available to show how kibbutzim answer to the needs of the elderly population in the domains found to be important in predicting life satisfaction: the sphere of work, involvement and influence in the community, matching one's capabilities to role demands, and general social support by the community to satisfy its older members' needs. Cohen-Mansfield and Leviatan (1992) show that elderly kibbutz members experience frequent readjustment in their work role by moving to other occupations and activities more befitting their changing capabilities and sensory-motor functions. The average member aged 65 has experienced seven different occupations in his or her life on a kibbutz and three different central public offices. Kibbutzim have even invested in industrial and service businesses that have as their primary goal the introduction of ballot voting in all decisions instead of an "assembly" of representatives, such as the "representative council," or "general assembly," by institutions of "representative democracy," such as the "representative council," or the introduction of ballot voting in all decisions instead of an open debate (and a chance for mutual persuasion) followed by a vote by participants (Pavin, 1998); and (e) differential remuneration according to contribution or position.

These structural changes have spread rapidly in kibbutzim. For instance, in 1990 only 3% of the kibbutzim "privatized" their food budgets; by 1998 the rate had reached 60%. The case of the dissolution of the institution of the general assembly is similar (8% in 1990 compared with 31% in 1998). Another example is the move to replace voting on decisions after open debate at the general assembly by those present by a ballot vote of members not necessarily at the meeting (7% in 1990 compared with 57% in 1998) or the disbanding of social committees (7% in 1990 compared with 25% in 1998; Getz, 1998).

When such changes are summed and consolidated, they present the vision of a society becoming more similar to other parts of the industrial world and abandoning the "cooperation" or "communal" uniqueness of kibbutz communities (Rosner & Getz, 1994). We should therefore expect effects on the elderly kibbutz
members resulting in their life experience and aging outcomes to become more similar to the rest of industrial society—in short, less positive than hitherto. If the research reported in this paper is valid, both well-being and physical survival (longevity) should be adversely affected. We should also expect older members to oppose such structural changes more strongly both because of their stronger adherence to kibbutz values and because—being a weaker segment of the population—they might be more adversely affected by them. This is indeed the case, as Table 3 shows. The older age groups of members form the strongest opposition to some of the eight possible comparisons. However, no difference is

effects of structural changes.—Although the structural changes made by some kibbutzim are recent, they already seem to be having the predicted adverse effects. The data from the diagnostic survey offer a first opportunity to test for the effects of some of these structural changes on well-being of older members (and other members for that matter). I was able to ascertain at the time of the survey, for each of the kibbutz communities in my sample, whether they “privatized the food budget,” and whether they are replacing elected social committees by career functionaries. Only a small minority of the kibbutzim in the sample (26 kibbutzim in 1994–1998) already decided and were executing these structural changes at the time of data collection. Those that had, had experienced it for a very short time—one to three years. Yet, as shown in Table 4, well-being reactions already differed between the two groups in favor of the subsample in kibbutzim that did not perform the structural change.

Table 3. Reactions to Suggested Changes in Kibbutz Normative Principles by Different Age Groups (% opposing within each age group)

<table>
<thead>
<tr>
<th>Group</th>
<th>Age (%, N)</th>
<th>Oppose privatization in consumption (%)</th>
<th>Oppose differential remuneration (%)</th>
<th>Oppose unlimited use of hired labor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20–24</td>
<td>53; 277</td>
<td>64.5</td>
<td>43.9</td>
</tr>
<tr>
<td>2</td>
<td>25–29</td>
<td>76; 399</td>
<td>61.2</td>
<td>36.6</td>
</tr>
<tr>
<td>3</td>
<td>30–34</td>
<td>103; 539</td>
<td>61.8</td>
<td>37.4</td>
</tr>
<tr>
<td>4</td>
<td>35–39</td>
<td>121; 630</td>
<td>64.9</td>
<td>36.1</td>
</tr>
<tr>
<td>5</td>
<td>40–44</td>
<td>135; 707</td>
<td>64.5</td>
<td>39.5</td>
</tr>
<tr>
<td>6</td>
<td>45–49</td>
<td>31; 682</td>
<td>68.2</td>
<td>43.7</td>
</tr>
<tr>
<td>7</td>
<td>50–54</td>
<td>89; 466</td>
<td>76.0</td>
<td>49.0</td>
</tr>
<tr>
<td>8</td>
<td>55–59</td>
<td>75; 390</td>
<td>71.2</td>
<td>58.1</td>
</tr>
<tr>
<td>9</td>
<td>60–64</td>
<td>63; 328</td>
<td>82.7</td>
<td>69.6</td>
</tr>
<tr>
<td>10</td>
<td>65–69</td>
<td>56; 291</td>
<td>82.2</td>
<td>76.4</td>
</tr>
<tr>
<td>11</td>
<td>70–74</td>
<td>46; 239</td>
<td>85.0</td>
<td>75.3</td>
</tr>
<tr>
<td>12</td>
<td>75–79</td>
<td>34; 177</td>
<td>85.2</td>
<td>80.1</td>
</tr>
<tr>
<td>13</td>
<td>80+</td>
<td>18; 93</td>
<td>85.5</td>
<td>91.3</td>
</tr>
<tr>
<td>Total</td>
<td>100; 5218</td>
<td></td>
<td>69.1</td>
<td>49.7</td>
</tr>
</tbody>
</table>

Notes: comparisons are between members of same age group (60+ years and 40–59 years). Ns range between age groups, measures, and structural changes. The number of kibbutzim with the structural changes is always smaller than the ones without changes; the 60+ age group is smaller than the 40–59 age group. The range is from about 100 to about 2700 respondents. Extent of the differences is expressed by values of Student t statistics and indications of levels of statistical significance for the difference.

Table 4. Measures of Well-Being for Members in Kibbutzim Who Experienced Structural Changes by “Privatization of Food Budget” or “Doing Away With Social Committees” Compared With Same Measures for Members in Kibbutzim Who Did Not Experience These Structural Changes

<table>
<thead>
<tr>
<th>Indicators of Well-Being</th>
<th>Privatization of food budget</th>
<th>Doing away with social committees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age 60+</td>
<td>Age 40–59</td>
</tr>
<tr>
<td>Feeling of powerlessness*</td>
<td>2.21 t ≤ .01</td>
<td>3.20 t ≤ .00</td>
</tr>
<tr>
<td>Satisfaction w/ lifeb</td>
<td>1.68 t ≤ .05</td>
<td>1.78 t ≤ .04</td>
</tr>
<tr>
<td>Satisfaction w/ kibbutz life</td>
<td>-</td>
<td>2.69 t ≤ .00</td>
</tr>
<tr>
<td>Satisfaction w/ influence</td>
<td>-</td>
<td>4.36 t ≤ .00</td>
</tr>
</tbody>
</table>

Notes: comparisons are between members of same age group (60+ years and 40–59 years). Ns range between age groups, measures, and structural changes. The number of kibbutzim with the structural changes is always smaller than the ones without changes; the 60+ age group is smaller than the 40–59 age group. The range is from about 100 to about 2700 respondents. Extent of the differences is expressed by values of Student t statistics and indications of levels of statistical significance for the difference.

*An index composed of two questions with five response categories.

bEach question with five response categories.

regardless of sign, all statistically significant t values are in the expected direction—the well-being indicators are more positive for the subsample in kibbutzim that did not perform the structural change.
found in the opposite direction, and the remaining comparisons are in the same direction, although not statistically significant.

I find it striking that stronger effects are not evident in the 60+ age group (who are on average about 70 years old) but in the younger group (who are now on average about 50 years old). Seven of the eight comparisons show the negative effects of the two structural changes. All are more intensive than for the older group. By the time this group reaches the "old age status" (say, in 15–20 years), their accumulated exposure to these negative experiences (from the perspective of well-being) could have major negative effects on their well-being and survival.

**DISCUSSION**

I began by stating conditions for, and the advisability of, learning from societies that demonstrate successful aging in their populations. I then argued that kibbutz society answers the needed conditions as learning grounds—on this topic—for the rest of the industrial world, and that its aged members demonstrate successful aging, at least in their relatively high life expectancy and low mortality rates at older ages; also, that these indicators are probably due to social arrangements and not selection processes. I showed that these indicators of successful aging are stable at least for the time covered by research, a full generation (1970s to 1990s).

Research findings presented here support the argument that lower mortality rates and potential longevity result from favorable social arrangements in life domains. However, the data suggest that this relationship is indirect and that subjective well-being and satisfaction with life domains intervene in the relationship. Thus, the causal flow model is of three major components: social arrangements → subjective well-being → lowered mortality at old age.

The effect of social arrangements on subjective well-being must be strong and fairly immediate. Effects became visible within the Kibbutz population even though kibbutzim have very small variability as communities and are very similar to each other in their structures and functioning, as compared to other communities. Also their population is very homogeneous compared with other societies. And effects appeared a very short time after structural changes occurred in kibbutzim (e.g., Table 4).

Kibbutz uniqueness in the way life domains interact in affecting subjective well-being is an important factor. This is exemplified by "satisfaction with kibbutz life" being an additional contributor to life satisfaction over and above the separate contributions of individual life domains. This uniqueness, perhaps, cannot be emulated by communities of a different kind. However, the domain-specific social arrangements' effect on subjective well-being is ten times stronger (e.g., Tables 1 and 2). It also, perhaps, eventually affects survival at old age. These domain-specific arrangements are such that (in principle) they could be emulated by other communities, even whole societies, elsewhere in the industrial world. Examples are: continuation of the worker role, constant adjustment of jobs to changing abilities, institutionalization of continuous formal involvement in decision making in the community, shared responsibility by both individual and community in health preservation, and formal community institutions as sources of social support to replace nonexistent close family members.

Finally, our recent data about the effects of structural changes in kibbutzim—their direction, pace, and intensive effects within a short time—are, from a research methodology perspective, very promising. Within a few years one could test empirically the causal effects of these structural changes while rightly assuming no significant changes in the human composition of the communities. It is important, therefore, to continue following these communities not only as interesting experiments but also—as argued in the introduction of this article—as learning grounds for the sake of the larger society.

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Address correspondence to Uriel Leviatan, Department of Sociology, University of Haifa, Haifa 31905, Israel. E-mail: leviatan@soc.haifa.ac.il

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