Network Characteristics Related to the Well-Being of Normals: A Comparative Base

By Susan L. Phillips

Abstract

An efficient method of mapping the networks of members of the general population is described. The method permits examination of the effect of several social participation and social network variables on the well-being of 1,050 subjects. Specifically, an index of avowed happiness is regressed on measures of network size, network density, number of instrumental supporters, number of confidants, kin as a major network component, number of dependent others, number of social contexts, and range of socializing. The regression procedure is carried out separately for male and female subjects. Results show that network size is the best predictor of the well-being of men while range of socializing is the best predictor of the well-being of women. These findings are explained in terms of men's and women's differing social responsibility. In conclusion it is suggested that mental health workers may benefit from an understanding of the differing stresses and supports that networks offer men and women.

In recent years growing numbers of researchers and practitioners in the mental health field have been exploring the impact of social support networks on psychological well-being. Those studying psychiatric populations have uncovered several network features that appear to be characteristic of those populations. For example, Tolsdorf (1976) found that, in comparison to nonpsychiatric subjects, psychiatric subjects reported fewer intimate relationships with their network members; their networks were more heavily dominated by family members; and functional members of their networks tended to be fewer and more dominating. Sokolovsky et al. (1978) found an inverse relationship between network size and likelihood of rehospitalization. And in the work of Pattison et al. (1975) comparing psychotic, neurotic, and normal subjects, psychotics were found to have the smallest networks with the highest degree of density. Because collecting accurate and sensitive data on the networks of psychotics is notably difficult, efforts to map out the relevant network characteristics may be furthered by returning to the experience of those who have worked with normals.

In order to specify a few network characteristics deserving further attention, I will briefly review some of the work done to date on various samples of normals. I will then present a rather simple method of eliciting complex, yet accurate, information on the networks of normals. And, finally, I will show how the data set developed through this method, that of the Northern California Community Study, can be used as a base of comparison.

Work done to date on samples of normals reveals numerous characteristics of social networks associated with various measures of

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Interested researchers should note that the data reported here will be available to the academic community through the Inter-University Consortium for Political and Social Research, Ann Arbor, MI.
poor mental health, including poor morale, lack of life satisfaction, or low avowed well-being. For example, researchers have found that small network size (Fischer and Phillips, in press), low frequency of contact with others (Tobin and Neugarten 1961; Gove and Geerken 1977), lack of instrumental support (Brim 1974; Belle 1979), and lack of a confidant (Lowenthal and Haven 1968; Moriwaki 1973; Brim 1974; Fischer and Phillips, in press; Miller and Ingham 1976) are all associated with poor outcomes. In addition, Arling (1976) has found that the type of relationship which predominates in a network is significantly associated with morale. He reports that networks having a large family member component predict low morale. Arling suggests that networks with a high friend and neighbor component are associated with high morale because they are relationships which are likely to be based on similar values. Networks having a large kin component, on the other hand, are likely to be less supportive since value discrepancies are likely to be greater among kin than among friends. Belle (1979) finds that density is not itself related to well-being; dense networks merely appear to be associated with high scores on well-being among normals because dense networks are also those in which subjects find a high level of instrumental support. Gove and Geerken (1977) suggest that those who participate in only one social context—home life rather than home and work life, for example—are more at risk than those who have two or more spheres of social participation. They hypothesize that a person with two sources of potentially rewarding social interactions can find solace in one social arena if the other becomes frustrating. In addition, Gove and Geerken find that the presence of dependent others—in this case many young children—is associated with higher levels of psychiatric symptoms in women.

The work reviewed here suggests several characteristics of social networks that deserve further attention, but it does not provide an optimal basis of comparison for those interested in special populations. There are several reasons for this. First, the network measures are often poorly specified. Secondly, no assessment of the relative impacts of the various network measures on well-being can be made because each researcher explored only one or two aspects of social networks. Although the effects of the various network characteristics were tested on samples of normals, the samples represented quite different populations—the aged, college students, and women's group members, for example. Lastly, no accurate comparisons among the works cited can be made because several different measures of well-being were used.

Data gathered in the Northern California Community Study provide a more useful base of comparison for two reasons: First, the network measures used are well delineated; and second, the data set allows for assessing the impacts of numerous network characteristics on well-being. The Northern California Community Study provides information on all the network characteristics reviewed here—size, density, frequency of contact with others, instrumental support, presence of a confidant, presence of a large family component, number of social contexts, and number of dependent others—as well as many other characteristics. I will briefly outline the method of eliciting rather complex information on the networks of normals used in the Northern California Community Study. While many of the network measures delineated may not be sensitive enough to map the networks of those with severely restricted social spheres, I suggest that specificity of this method may prove a useful guide to developing network measures relevant to the social worlds of schizophrenics or other special populations. Once the sample and method have been presented, I will illustrate the type of analysis this method allows. Specifically, I will present preliminary data on the relative impacts of the several network characteristics mentioned above while holding constant sex, race, class, age, and number of stressful life events experienced in the past year.

Sample

In Fall-Winter 1977, we interviewed 1,050 people living in 50 Northern Californian communities—urban census tracts or small towns within 200 miles of, and including, San Francisco. These communities were randomly selected, 10 each, from 5 categories: central-city, inner-suburb, outer-suburb, city, and small-town. Within each community English-speaking respondents

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1For more detail, see Fischer (in press).

2The interviews were conducted by the Survey Research Center, University of California, Berkeley.
18 years old and over were chosen randomly. Because we stratified the sample by metropolitan size for the original purposes of the study, all statistics reported here are based on weighting the data to correct for the sampling procedure and to represent, as well as possible, the general white, adult population of Northern California.

Method

The heart of our interviews asked these respondents to describe their social networks. Since it is infeasible, if not impossible, to ask about all possible persons in a given network, the concept of network had to be delimited. Our goal was to gather information on the set of people who were significant in respondents’ lives; an exchange theory of relations (Thibaut and Kelley 1959; Homans 1974) suggests that the significant network members are likely to be those who provide some type of support or exchange. Therefore we mapped our respondents’ networks by asking them to give the first names of persons who provided them with several common exchanges. We asked respondents to tell us

1. Who would care for their homes if they went out of town.
2. Who they talked to about decisions at work (if the respondents worked).
3. Who had helped with household tasks in the last 3 months.
4. With whom they had engaged in social activities (such as having someone over for dinner or going to a movie).
5. With whom they discussed mutual spare time activities.
6. Who were their fiancés or “best friends” (if the respondents were not married).
7. Who are their fiances or “best friends” (if the respondents were not married).
8. Whose advice they considered in making important decisions.
9. From whom they would or could borrow a large sum of money.
10. Who over 15 years of age lived in the same household.

Respondents were allowed to name as many people as they wished in response to each question. However, interviewers recorded only the first eight names for each (actually, 10 for question 4, and 4 for question 9).

Next, we obtained descriptions of respondents’ networks by asking them to look at a list the interviewer had compiled of all the names elicited in the interview and to select those people who fit a series of criteria. The process of making a list of all the people the respondent named permitted the interviewer to check for redundancies (for example, the same person called by two names) and to supplement the list of names by giving the respondent a copy of the list and asking, “Is there anyone who is important to you who doesn’t show up on this list?” (In the end, most respondents had between 10 and 30 names on their lists.)

Using these lists, the interviewer asked the respondent:

- The sex of each person.
- All the role relations of ego with the named people (e.g., cousin, coworker, fellow union member, “friend”).
- Which persons respondents “feel especially close” to.
- Which persons live within a 5-minute drive.
- Which live more than an hour’s drive away.
- Which they see at a favorite “hang-out.”
- Which persons live within a 5-minute drive.
- Which persons live within a 5-minute drive.
- Which are also full-time homemakers (for homemakers).
- Which are in the same line of work (for workers).
- Which are of the same ethnicity for respondents with an ethnic identity.
- Which share the same religion.

3 We interviewed an average of 21 people in each community. Respondents were 18 years old or over (16 or over if married). For the original purposes of the study, towns under 2,500 in population and communities that were more than 40 percent black were excluded from the sample. This sample underrepresents minorities, but still represents a cross-section of people. For example, 37 percent of our sample was under 31 years of age, while 12 percent was over 64; 14 percent of our sample had been living in their neighborhoods less than 6 months, while 11 percent had lived there more than 20 years or all their lives.

4 To counterbalance our stratified sampling procedure (and demographic changes since the 1970 Census), we applied a procedure that, roughly speaking, weighted center-city respondents 1.7 times and small-town respondents one-third.

5 This description of our method is drawn, in part, from McCallister and Fischer (1978). For further discussion of our rationale and methodology, see McCallister and Fischer (1978), and more fully, Jones and Fischer (1978).

6 These persons were assumed to be involved in tacit exchanges.
(for respondents with a religious affiliation).

- Which share a favorite pastime (for respondents with a favorite pastime).

In addition, we knew from the name-eliciting questions which exchanges the respondents claim to receive from each person named. The technique of asking respondents to select names from a list permitted us to obtain a much greater variety of descriptions than would be permitted by asking about each name directly (the usual procedure in network surveys). We chose to accept the potential inaccuracies of this approach (in the form of names the respondents might have failed to mention) in return for its greater efficiency.

Finally, we obtained further information about a subsample of the elicited names (up to five names, and usually no less than three) by having respondents fill out self-administered questionnaires about each person. (The respondent was asked to fill out the questionnaire while the interviewer was involved in compiling the entire list of names.) The questionnaires asked respondents:

- How they had met the person.
- How many years they have known each other.
- What city the person lives in.
- How often they “get together.”
- The person’s age.
- The person’s employment status.
- The person’s marital status.
- Whether the person has children and how old they are.

In addition, the interviewer obtained an index of network density for this subsample by asking respondents, for each pair of names, whether the two “know each other well.”

The primary advantage of this procedure is that it permits us to focus on the segment of respondent’s networks that is most appropriate for our theoretical concerns—the full variety of people who are important sources of valued exchanges. Our evaluation of the method suggests that it identifies these people reliably (Jones and Fischer 1978). (The names we miss tend to be “specialists,” sources of only one kind of exchange.) As a result, we are confident that the networks we identify are comparable across respondents.

The Measures

In addition to providing data that are comparable across a large sample of respondents, this method permits the construction of a multitude of network-characteristic variables. For example, in the illustrative analysis that follows, I will examine the relative impacts of six network variables and two social participation variables on one of several measures of well-being. The eight variables to be examined are defined as follows:

Size. Simply enough, network size is a count of all individuals reported in response to the 10 name-eliciting items and the “Is there anyone else . . .” question.

Density. The density measure is based on the subset of up to five persons described by the respondents in the self-administered questionnaires. Among other things, respondents reported which of the named persons knew each other well; the density measure is the number of relations among this subset of people divided by the number of relationships possible.

Number of Instrumental Supporters. This variable is created by a simple count of those persons, not living in the respondents’ households, who were named in response to questions 1–3, and 9; that is, questions concerning home care, work decisions, household tasks, and borrowing money.

Number of Confidants. Similarly, number of confidants is a count of the persons named in response to questions 7 and 8; that is, with whom personal worries are discussed and whose advice is considered.

Kin Majority/Minority. Because we obtained information on all the role relationships ego had with each network member, we were able to create this dichotomous variable which differentiates those having over 50 percent kin in their networks from those having less than 50 percent.

Number of Dependent Others. Children under the age of 5 and household members who are infirm or disabled are considered in this count of dependent others. Names and ages of the children living in the household were obtained in direct questioning, while the presence of disabled, ill, or infirm others was reported by the interviewer based on personal observation.
Number of Social Contexts. Respondents were given a count of one each for participating in marriage or a "living together" arrangement, for activity in a workplace, for being in school, for being a regular participant in church, or for other organizational activities.

Range of Socializing. This variable is similar to other measures of social participation but is a good deal more specific. We count the number of activities in which respondents have participated over the previous 3 months. These activities include: Having someone over to one's home for lunch or dinner, going to someone's home for lunch or dinner, someone visiting the ego, going out with someone, and meeting someone outside one's home.

Sample Data Analysis

By regressing an index of avowed happiness on these eight network and social participation variables and on a measure of stressful life events, \(^8\) we can obtain an estimate of their relative effects. Because work on the Northern California Community Study has indicated that males and females have quite different relationships to their respective network members, this particular regression procedure was carried out for men and women separately (see tables 1 and 2). In addition, measures of race, age, and income were introduced into the regression equation on the second step. The regression procedures suggest that, of the various network and social participation variables considered, network size has the greatest impact on the avowed happiness of men (Beta = .25, \(p \leq .001\)) and number of social contexts has the greatest impact on the avowed happiness of women (Beta = .21, \(p \leq .001\)). The next strongest effects are those of number of social contexts for men (Beta = .14, \(p = .01\)) and range of socializing for women (Beta = .19, \(p \leq .001\)). When controls for background variables are introduced, network size still maintains first place among men (Beta = .24, \(p \leq .001\)), while number of social contexts (Beta = .10, \(p = .05\)) drops

<table>
<thead>
<tr>
<th>Variables</th>
<th>Equation (1) Beta weights</th>
<th>Equation (2) Beta weights</th>
<th>(r)</th>
</tr>
</thead>
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<tr>
<td>Size of network</td>
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<td>.24 (^{1})</td>
<td>.28</td>
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<td>Density of network</td>
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<td>-.02</td>
<td>-.07</td>
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<td>-.12 (^{2})</td>
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<td>Number of confidants</td>
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<td>.12</td>
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<tr>
<td>Kin majority/minority</td>
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<td>-.12 (^{2})</td>
<td>-.17</td>
</tr>
<tr>
<td>Number of dependent others</td>
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<td>.01</td>
<td>.00</td>
</tr>
<tr>
<td>Number of social contexts</td>
<td>.14 (^{3})</td>
<td>.10 (^{2})</td>
<td>.20</td>
</tr>
<tr>
<td>Range of socializing</td>
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<td>.04</td>
<td>.19</td>
</tr>
<tr>
<td>Number of stressful life events</td>
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<td>-.01</td>
<td>-.06</td>
</tr>
<tr>
<td>White/non-white</td>
<td></td>
<td>.09 (^{2})</td>
<td>.12</td>
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<tr>
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<td>-.01</td>
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<tr>
<td>Income</td>
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<td>.24</td>
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<tr>
<td>(r^{2})</td>
<td></td>
<td>.13</td>
<td>.16</td>
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\(^{1}\) \(p \leq .001\).
\(^{2}\) \(p \leq .05\).
\(^{3}\) \(p \leq .01\).

\(^7\) We included questions in our interview which can be combined into reliable indicators of feelings, including feeling angry, upset, and happy. The happiness index is composed of the following items:

- How often do you feel particularly excited or interested in something these days? (A lot of the time; some of the time; only once in a while; never.)
- How often do you feel that things are going the way you want them to?
- How often do you feel pleased with what you're doing these days?
- Thinking about your life as a whole, how happy would you say you are these days—very happy, pretty happy, pretty unhappy, or very unhappy?

\(^8\) The data include information on several stressful life events, including deaths, births, marriages, illnesses, moving, and job changes. The measure of stressful life events used here is simply a count of the number of stressful life events that the respondent has experienced in the preceding year.

The survey also included indices tapping frequency of feeling angry and upset. The indices of happiness, anger, and upset were also combined into an overall affect balance scale. More details on their construction can be found in Fischer (in press).

And social participation variables and on a measure of stressful life events, \(^8\) we can obtain an estimate of their relative effects. Because work on the Northern California Community Study has indicated that males and females have quite different relationships to their respective network members, this particular regression procedure was carried out for men and women separately (see tables 1 and 2). In addition, measures of race, age, and income were introduced into the regression equation on the second step. The regression procedures suggest that, of the various network and social participation variables considered, network size has the greatest impact on the avowed happiness of men (Beta = .25, \(p \leq .001\)) and number of social contexts has the greatest impact on the avowed happiness of women (Beta = .21, \(p \leq .001\)). The next strongest effects are those of number of social contexts for men (Beta = .14, \(p = .01\)) and range of socializing for women (Beta = .19, \(p \leq .001\)). When controls for background variables are introduced, network size still maintains first place among men (Beta = .24, \(p \leq .001\)), while number of social contexts (Beta = .10, \(p = .05\)) drops
Table 2. Multiple regression analysis of happiness index on network variables, stressful life events, and background variables for females (n = 538)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Equation (1) Beta weights</th>
<th>Equation (2) Beta weights</th>
<th>r</th>
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<tbody>
<tr>
<td>Size of network</td>
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<td>.10&lt;sup&gt;2&lt;/sup&gt;</td>
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<tr>
<td>Density of network</td>
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<td>.06</td>
<td>.00</td>
</tr>
<tr>
<td>Number of instrumental supporters</td>
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<td>.03</td>
<td>.16</td>
</tr>
<tr>
<td>Number of confidants</td>
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<td>-.08&lt;sup&gt;3&lt;/sup&gt;</td>
<td>.00</td>
</tr>
<tr>
<td>Kin majority/minority</td>
<td>-.01</td>
<td>.00</td>
<td>-.07</td>
</tr>
<tr>
<td>Number dependent others</td>
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<td>-.05</td>
<td>-.10</td>
</tr>
<tr>
<td>Number of social contexts</td>
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<td>.14&lt;sup&gt;1&lt;/sup&gt;</td>
<td>.30</td>
</tr>
<tr>
<td>Range of socializing</td>
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<td>.17&lt;sup&gt;4&lt;/sup&gt;</td>
<td>.28</td>
</tr>
<tr>
<td>Number of stressful life events</td>
<td>-.09&lt;sup&gt;2&lt;/sup&gt;</td>
<td>-.07&lt;sup&gt;3&lt;/sup&gt;</td>
<td>-.15</td>
</tr>
<tr>
<td>White/non-white</td>
<td>—</td>
<td>.12&lt;sup&gt;1&lt;/sup&gt;</td>
<td>.16</td>
</tr>
<tr>
<td>Age</td>
<td>—</td>
<td>-.04</td>
<td>-.07</td>
</tr>
<tr>
<td>Income</td>
<td>—</td>
<td>.16&lt;sup&gt;4&lt;/sup&gt;</td>
<td>.32</td>
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<tr>
<td>r&lt;sup&gt;2&lt;/sup&gt;</td>
<td>.19</td>
<td>.21</td>
<td></td>
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<sup>1</sup>p < .01.  
<sup>2</sup>p < .05.  
<sup>3</sup>p < .10.  
<sup>4</sup>p < .001

in rank to fourth place behind the kin majority/minority (Beta = -.12, p < .05) and income (Beta = .15, p < .01) variables.

Among women, however, when controls for social background characteristics are introduced, the number of social contexts variable drops from first place to second place (Beta = .14, p < .01); range of socializing is shown to have the strongest effect (Beta = .17, p < .001); and income again strongly affects avowed happiness (Beta = .16, p < .001). Note also that having a large kin component predicts low scores for men (Beta = .12, p < .05), all else being equal, but that it does not predict happiness scores for women (Beta = .05, NS).

These preliminary results suggest some important considerations: Because of the differing social roles played by males and females in our society, those aspects of social networks that prove to be most supportive—or conversely, most detrimental—may also prove to differ for men and women. The fact that range of socializing and number of social contexts are the strongest predictors of happiness for women suggests that these women may be responding to the alternative sources of social reward provided by a wide range of social activities. As Gove and Geerken (1977) suggest, those who have more than one sphere of social participation are at an advantage: if one arena proves troublesome, the other(s) are available sources of gratification. By implication, then, those occupying roles that are even more confining and devalued than that of the traditional female role—namely that of mental patient—may benefit from network interventions aimed at providing alternative social spheres.

Similarly, traditional sex roles may explain the contrast between men and women in the effects of having largely kin-based networks. It may be that large kin networks are more burdensome for men than for women, because men are traditionally expected to provide financially for their family members, both dependents and elders. On the other hand, because the traditional male sex role involves participation in the work world, and thus a range of co-workers and others outside the family, a preponderance of kin in the networks of men may indicate a greater degree of social withdrawal for men than it does for women. These findings suggest that those attempting to delineate the contours of the schizophrenic’s networks would do well to consider the differential meanings and effects given network patterns may have for male and female subjects.

Summary and Conclusions

I have presented a method of mapping social networks that may prove useful for those working with special populations. The type of exchanges we have asked about are most appropriate for persons in the general population; these particular exchanges may not be appropriate to persons living in residential care environments or to persons with severely restricted social contacts. I suggest that those working with special populations can parallel our method by first delineating the kinds of exchanges appropriate to the group in question and by developing systematic
techniques of eliciting comparable information either by questioning the subject where possible, by questioning significant others of the subject, or through observation. The specificity of our method can benefit other researchers.

As the sample data analysis presented here shows, our method also facilitates assessing the relative impacts of several network measures. In particular, results show that the network characteristics having the greatest impact on well-being differ for men and women; therefore, we suggest, mental health workers may benefit from assessing the various stresses and support that networks afford male and female clients in light of their gender-specific social responsibilities and roles.

One limitation of our study, and of most other studies on social support and well-being, is that it is a static study—that is, a study made at only one point in time. A perennial problem in the literature on mental health and well-being is the difficulty of assessing the causal direction between network characteristics and well-being. For example, while we suggest that network size affects well-being, the reverse may also be true: lack of well-being may cause an individual to withdraw from others, or an individual with a low score on well-being may lack the social skills necessary for maintaining a wider network. In fact, the effects are probably reciprocal. One of the highest priorities in research on social support and mental health should be to unravel the problem of reciprocal effects. Time-series studies would prove most useful for clarifying the problem of reciprocal effects. In sum, I suggest that high research priorities should be to develop accurate methods of mapping social networks, to explore the relative impacts of network characteristics for males and females separately, and to begin time-series studies aimed at clarifying the reciprocal effects between social support and mental health.

References


Acknowledgment

The research reported was supported, in part, by grant #MH-26802 from the Center for Studies...
of Metropolitan Problems, National Institute of Mental Health. I would like to express my appreciation to Lynne McCallister and Kathleen Gerson for their work on the Northern California Community Study in developing the network and psychological items, respectively. In addition, I would also like to thank the project director, Claude S. Fischer, for his invaluable advice.

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Providing a forum for a lively exchange of ideas ranks high among the Schizophrenia Bulletin's objectives. In the section At Issue, readers are asked to comment on specific controversial subjects that merit wide discussion. But remarks need not be confined to the issues we have identified. At Issue is open to any schizophrenia-related topic that needs airing. It is a place for readers to discuss articles that appear in the Bulletin or elsewhere in the professional literature, to report informally on experiences in the clinic, laboratory, or community, and to share ideas—including those that might seem to be radical notions. We welcome all comments.—The Editors.

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