NETWORK ITEMS AND THE GENERAL SOCIAL SURVEY *

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This is an argument for obtaining network data in the General Social Survey (GSS). The proposal requires a discussion of how and why at least minimal network data ought to be obtained in a probability sample survey of attitudes and behaviors.

I begin with general concerns; briefly describing the proposal, available experience with the proposed items in large probability samples, how the proposed items are different from existing GSS items, kinds of variables that the proposed items would generate, and kinds of research questions that could be addressed if the proposed items were included in the GSS.

I then address comparatively focused questions likely to arise in deliberations over the proposal; explaining how much interview time the proposed items are expected to require, why one rather than multiple name generators are proposed, why recording five alters is proposed, why intimacy is proposed as the name generator criterion content, why a short form is proposed for obtaining formal data, how priorities among name interpreter attribute items were established, how the proposed items elicit data on the strength and content of relationships, and how the proposed data might be coded for easy access by GSS users.

1. Introduction

Under current National Science Foundation funding priorities, the annual General Social Survey (GSS) is sociology's data base. It is the

premiere laboratory for theoretically informed empirical research using national survey data. In fact, with survey costs becoming prohibitive, the GSS is fast becoming sociology's only national probability data base on the American population. This unique circumstance creates a dilemma for individuals interested in maintaining the GSS data base. The GSS is a national resource for diverse academic interests and as such it must be protected from faddish change. Including new items means disrupting existing time series and could intrude upon academic interests currently represented. The GSS is not a vehicle for poorly thought out possibilities or frivolous experiments. At the same time, the GSS must keep pace with theoretical developments in sociology. It otherwise runs the risk of degenerating into a data source for theoretically trivial time series and student statistics exercises, eventually jeopardizing its National Science Foundation funding as a scientific data base.

Conscious of this dilemma and concerned with maintaining the GSS data base, I propose that carefully selected network data be obtained in the General Social Survey. The proposal involves some departures from routine survey practice and is accordingly risky. However, developments in survey design and network analysis have accumulated to the point where it is reasonable to say that costs are negligible relative to benefits. The costs are 5 to 11 minutes of interview time and accompanying data processing time. The benefits are twofold; increased precision in GSS measures of social context, and expanded research opportunities. (1) Conceptual developments in network analysis offer a variety of indicators describing theoretically significant aspects of an individual's interpersonal environment; social integration, social participation, and exposure to normative pressures. (2) Network data offer, in interaction with existing GSS items, insights into the ways in which a respondent's interpersonal environment distorts and enriches the respondent's abilities, aspirations, attitudes, and behaviors.

Looking back from the more distant future, the decision to include network items on the GSS at the current time is very similar to the decision made some time ago to include detailed occupation items. Formally, network and occupation items are similar because both are a set of interconnected items. Both are more complex to administer, and accordingly more expensive, than the usual survey opinion item. Beneath this cosmetic similarity – speaking to the substantive rationale for funding the GSS – both kinds of items create indicator variables

(e.g. network range, occupational prestige) that function simultaneously as important dependent variables and independent variables in explanations of respondent attitudes and behaviors. Beyond their substantive value as descriptive data, in other words, both network and occupation items are valuable for their associations with other variables. Like the occupation items preceding them, GSS network items would open up new ways of studying traditional social science data obtained in the survey.

2. Questions of general concern

I begin with general concerns; briefly describing the proposal, available experience with the proposed items in large probability samples, how the proposed items are different from existing GSS items, kinds of variables that the proposed items would generate, and kinds of research questions that could be addressed if the proposed items were available on the GSS. After addressing these general concerns, I shall turn to comparatively focused questions likely to arise in deliberations over the proposal.

2.1. Exactly what is proposed?

The Appendix displays network items proposed to be asked of all respondents in the 1985 General Social Survey. The proposed items have been crafted from four sources of information; experience with network items previously administered to survey respondents in large probability samples, consultation with interested experts (see acknowledgement note), a small number of pretest interviews (some conducted myself with Columbia University undergraduates and some conducted under John Robinson's direction by interviewers affiliated with the University of Maryland's Survey Research Center), and computer simulations of interviews in which the network items were administered. Items have been selected to provide – in minimal interview time with minimal data processing costs – sufficient data to describe significant aspects of a respondent's interpersonal environment.

The items are not proposed with equal priority for the GSS. The first ten items (Q1 through Q10) form a core proposal and are expected to require, on average, five minutes of interview time. The five remaining

items (Q11 through Q15) are significant to many GSS interests, but are
expected to provide less reliable data so they are recommended with
lower priority. The total set of proposed network items is expected to
require an average of eleven minutes. I will discuss the items in detail
later, reserving this section to introduce them and the data that they
produce.

Two kinds of questions are listed in the Appendix. The first question
(Q1) is a name generator, eliciting the names of persons with whom the
respondent discussed personal matters during the last six months. Full
names are avoided. A time period and kind of interaction are explicitly
indicated in the question. For reasons to be discussed later, intimacy
(discussing important personal matters with others) is proposed as the
criterion kind of interaction. Respondents are expected to name three
people on average but some will name no one and some will name
many people. The other questions listed in the Appendix are name
interpreter items eliciting data on the people cited in response to the
name generator. The name generator identifies individuals for study in
the respondent's interpersonal environment and the name interpreters
flesh out substantive details on relationships and kinds of people in the
identified environment. The number of people cited in response to the
name generator is recorded, but name interpreter items are asked only
of the first five people named. This issue too is discussed later. Let alter
be a person cited in response to the name generator.

Questions Q2, Q3 and Q4 provide formal data on relations between
alters. The second question elicits the names of people especially close
to the respondent. Alters not named are assumed to have a moderately
close relationship with the respondent. The third question identifies
people who are complete strangers to one another and the fourth
question identifies people who are especially close to one another.
Relations not falling into these extremes of stranger and especially close
are coded as moderate. The first four items thus define a symmetric
matrix (up to six by six) of data on relations among the respondent and
alters.

Sixteen variables result. The total number of people named is recorded
and relationships are coded into four categories; strangers (S is coded
as a 0), especially close (EC is coded as a 2), somewhere in between (no
mark between named alters is coded as a 1), and missing (relations with
unnamed alters are coded as a 9). The fifteen relationship variables
would be coded during the interview in the matrix listed under Q1 in

the Appendix (note the matrix elements "var 1" to "var 15"). For example, formal data on a hypothetical respondent's interpersonal environment are displayed in Figure 1 as a sociogram and response matrix. Five alters have been named, three of whom are especially close to the respondent. Alter two is a stranger to all others, alters one and five are strangers, and alters three and four are especially close. If no fifth person had been named, then the last row of the response matrix would contain codes of "9" to indicate an unnamed alter.

The remaining items (Q5 through Q15) are name interpreter items providing substantive details on each alter. Alter names are written across the top of the questionnaire and data are obtained by row. The respondent is asked to code each alter into one or more response categories. Among the data obtained on each alter are sex (Q5), race (Q6), education (Q7), contact frequency and length of acquaintance
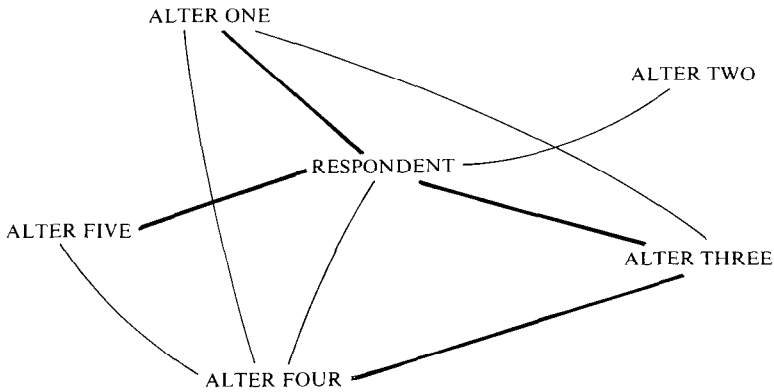
Response matrix

–						Respondent
2	–					First person named
1	0	–				Second person named
2	1	0	–			Third person named
1	1	0	2	–		Fourth person named
2	0	0	1	1	–	Fifth person named

Figure 1. Sociogram and response matrix of formal data elicited by Q1 through Q4 from a hypothetical respondent (____, indicates an especially close relationship; —, indicates a relationship of less intensity, and no connecting line indicates strangers).

with the respondent (Q8, Q9), kinship (or other) role relation with the respondent (Q10), topics of conversation (Q11), age (Q12), religion (Q13), political affiliation (Q14), and income (Q15). Education and
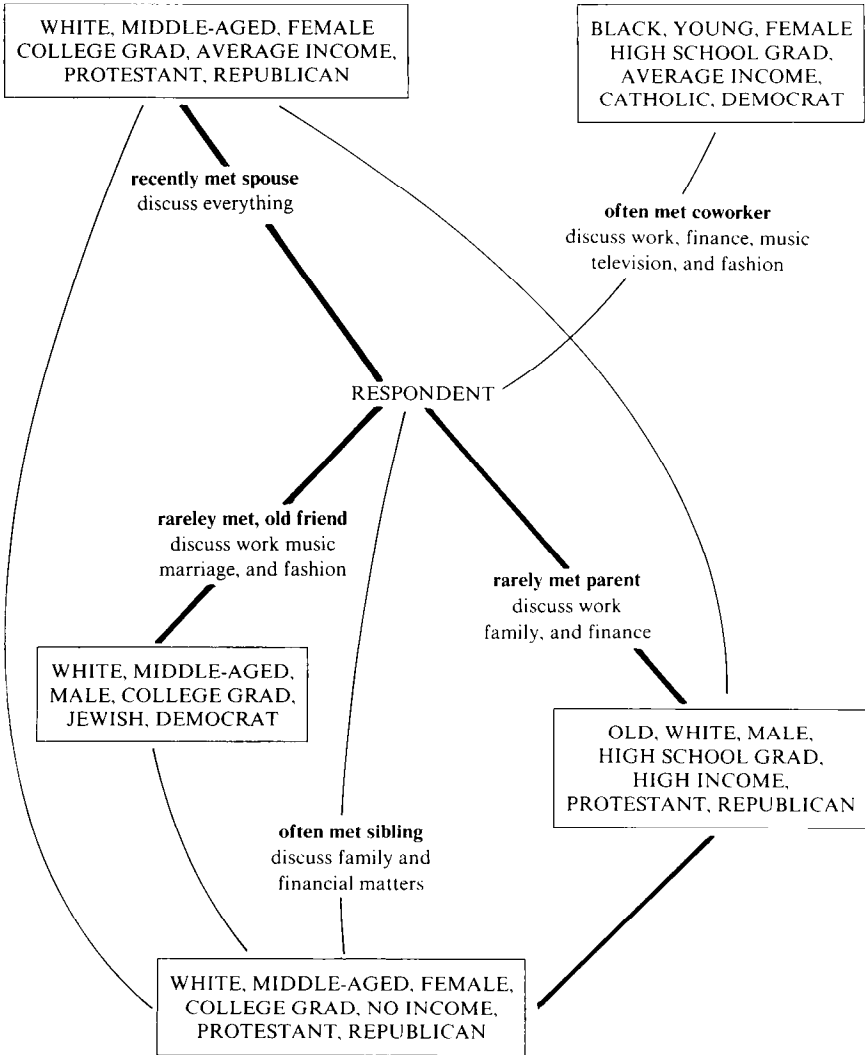

Figure 2. Formal data in Figure 1 enriched with some of the proposed name interpreter data (Q5 through Q15) on the hypothetical respondent and alters.

income are used as socioeconomic indicators in lieu of occupation because they can be coded so much more reliably and inexpensively. This list could be expanded or shortened, of course, depending on costs and interests. The proposed name interpreter items cover the strength and content of relations with each alter and alter demographic data pertinent to the GSS.

The items and the variables they create will be discussed in detail shortly, but Figure 2 illustrates the rich description that these items can provide. Figure 2 displays name interpreter data for the hypothetical respondent in Figure 1. Alters now have demographic backgrounds indicating the heterogeneity of socially significant attributes – sex, race education, age, and so forth – found in the respondent's interpersonal environment. Alters have role labels; father, sister, wife, old friend, coworker. There are particular topics of conversation with each alter. Work, family and media get discussed with the often-seen coworker. Family and financial matters are discussed with the respondent's father and sister. Work, women, music and fashion get discussed with the respondent's rarely seen long-time friend. All topics are discussed with the respondent's wife. A diagram such as Figure 2 could be generated for each GSS respondent and, with so much data available, each would be unique in some way. At the same time there would be typical qualities. At this point, unfortunately, we do not know what Figure 2 looks like for the " typical" American and have only limited data on the ways in which the network structure of this interpersonal environment patterns respondent attitudes and behaviors.

2.2. Is there any precedent for this kind of thing?

The items proposed for the GSS are based on surveys conducted during the last 20 years. These surveys have continued a research tradition established by Paul Lazarsfeld at Columbia University's Bureau of Applied Social Research in which survey data on a respondent's inter-personal relations played a central role in explaining response data. This theme of explicitly taking into account social relations among the people named by a respondent was articulated in unpublished Bureau memoranda by Peter Rossi in the 1950s and emerged to the public eye as a concern with the respondent's "interpersonal environment" (Rossi 1966); cf. another Lazarsfeld student's concern with network data obtained in survey studies patterned after traditional sociometric stud-

ies – Coleman, (1958). Of course, sociometric questions have been used for a long time in saturation samples of elites within a geographic area, students in a classroom, employees within an organization, and the like (e.g. see the overviews by Lindzey and Borgatta (1954); Lindzey and Byrne (1968)). The use of network items in probability sample surveys where respondents are typically unknown to one another, however, is a comparatively recent phenomenon. Although network data have been obtained for metropolitan and regional probability samples, such data have yet to be obtained for a probability sample of the American population. To summarize briefly, three stages of work with network items in probability sample surveys can be identified.

In order to study interpersonal relations between occupational statuses, religious groups, ethnic groups, and other social categories, Edward Laumann asked survey respondents in the mid-1960s to name their three "most often seen" "closest friends" and then asked for the occupations, religions, and so on for each person named. Respondents were also asked to judge the strength of friendship between each pair of persons named. The most widely analyzed of these data were collected by the Survey Research Center at the University of Michigan as part of the Detroit Area Survey (items are displayed in Laumann 1973: Appendix) building on the dissertation work in Laumann (1966). Similar items appeared at the same time in Robinson's national survey – also conducted by Michigan's Survey Research Center – of how Americans used time (see Robinson 1977: 22–23). [1]

This work was expanded during the late 1970s with an increase in the number of criteria under which names were generated and an increased list of attributes obtained on persons named. The most extensive research in this second generation is Claude Fischer's Northern California Communities Study. Fischer (1982) provides a thorough discussion of study design, general results, and questionnaire items (cf.

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[1] Robinson also asked respondents to name their three "most often seen" "closest friends" and asked for selected attributes of the persons named. His data could not be used to construct a relation data matrix of the form illustrated in Figure 1, however, because his relations between alters were marriage ties (a pair of alters were unconnected unless they were married). Thus, the meaning of relations between respondent and alters (frequent contact, close friendship) was not the same as the meaning of inter-alter relations (marriage). This illustrates a general tendency for survey items to elicit data on respondent "contact" with attributes rather than eliciting network data on the structure of relations within the respondent's interpersonal environment. This general problem has also characterized the GSS (see pp. 301–302 below).

Wellman's (1979) pioneering community survey conducted in the late 1960s and Kadushin's (1982) community and limited national surveys). Personal interviews with just over 1000 persons scattered over a large area in Northern California were conducted for the study in 1977 by the Survey Research Center at the University of California, Berkeley. Alter names were elicited by 10 name generator items and other qualities of relationship were obtained with 19 name interpreter items (e.g. Fischer 1982 : 36–37). Respondents named an average of 19 people as alters, ranging from a minimum of 2 in one interview up to a maximum of 67 in another interview. Data on the strength of relationship between alters ("know well") were obtained for up to 5 people especially important to the respondent.

These developments have been extended in scale, if not methodology, during the 1980s to include still more alters, more kinds of relations, more alter attributes, and all of this over time in panel survey designs (e.g. Minor 1983). While current developments are well beyond the space available on the GSS, they have greatly increased our understanding of alternative name generators and interpreters, and that knowledge has gone into selecting network items for the GSS. This will become more apparent when the proposed items are discussed in detail.

2.3. To what extent are the proposed items already on the GSS?

There are no items currently on the GSS that correspond to network items. The most similar are items eliciting "contact" data. There are items eliciting summary data on the frequency with which the respondent "spends social evenings" with social categories of people (relatives, neighbors, non-neighbors, persons in a bar/tavern, parents, siblings; item 158, variables SOCREL to SOCSIBS). There are items eliciting summary data on organizational memberships (item 160, variables MEMFRAT to MEMNUM). There are items eliciting crude data on the hierarchical position of the respondent's job (items 178 and 179, variables WKSUB to WKSUPS).

These items elicit data on a respondent's contact with people of specified attributes. The data that these items provide cannot be used to describe the respondent's interpersonal environment because they describe neither respondent relations with specific people, nor relations between people in contact with the respondent. The significance of this deficiency is apparent when one considers the indicator variables that

would be available if network data were obtained in the General Social Survey.

2.4. What kinds of variables would become available?

For the purposes here, I shall distinguish three general classes of variables available from the proposed network items; access, brokerage, and subgrouping. [2] The variables can be loosely described as indicators of network range – the extent to which a respondent's interpersonal environment is socially diverse.

The simplest class of variables indicating network range describe **access**; the extent to which a respondent has personal contact with many social categories of people. Three kinds of access variables often appear in empirical research: (1) Number of alters. With respect to the proposed name generator, this would be the number of people cited as having been available to discuss personal matters. (2) Percentage of alters with a particular attribute. For example, what percentage of the respondent's intimates are female? What percentage of them are black? What percentage are kin, coworkers, neighbors, old friends? (3) Contact with a particular attribute. For example, are any of the respondent's intimates female?, black?, kin?, coworkers?

These variables indicate an important advantage that network items have over current GSS efforts to describe social relations. Ambiguous

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[2] I can only illustrate the great diversity of variables available from the proposed network items. Thorough discussion is can be found elsewhere (e.g. Alba 1982; Burt 1982; Burt and Minor 1983; Knoke and Kuklinski 1983; and for a focus on network range, see Burt and Minor 1983: ch. 9; Campbell et al. 1984). The three classes of variables distinguished here come from five social structural principles used to connect network data with attribute, attitude, and behavior data. Two principles concern the extent to which individuals can be treated as if they were members of the same network subgroup. The principles, cohesion and structural equivalence, are substantively and theoretically quite distinct but are combined for the purposes here as subgrouping. Three principles are used to study the implications of specific relation patterns for opinion and behavior. Access concerns the extent to which an individual has personal contact with many social categories of people. Brokerage concerns the extent to which he is an intermediary between people. Demand, the principle underlying network models of power and prestige, concerns the extent to which many socially significant people are interested in the individual under demand. I ignore the demand principle here because the proposed GSS network items are limited to a respondent's perception of symmetric relationships. Asymmetric relational data could be obtained in the GSS, but the data would not be comparable to those typically used to estimate power and prestige because the GSS is not a saturation sample of individuals within a bounded system. Within the framework of a national probability sample, it is impossible to know the extent to which a respondent is sought out by persons beyond those he cites in his interview.

contact with attributes is replaced with specific interpersonal relationships. In a sense, the dummy variables of contact with persons of particular attributes are very similar to the contact items now on the GSS: How often do you have contact with relatives? Are you a member of such and such an organization? Where the GSS items allow any kind of contact, however, the network items focus on a specific kind of contact. The proposed network items focus on intimacy, discussion of personal matters. Instead of focusing on an attribute and asking if a respondent has social contact with persons of the attribute, network items identify a pool of persons tied to the respondent in a specific way and elicit data on the attributes that characterize the identified people.

Beyond the mere fact of a shift from emphasizing attributes to emphasizing qualities of relationship, network items impose a "budget constraint" on respondent contact with attributes. It is possible for a respondent to have some contact with any number of mutually exclusive attributes, e.g. contact with males and contact with females, contact with whites and contact with blacks. It is not possible, however, for a respondent to have simultaneously high proportions of these attributes in his interpersonal environment. The higher the proportion of females among the respondent's cited alters, the lower the proportion that can be male. The higher the proportion of blacks, the lower the proportion of whites. Thus, a new kind of research question can be asked of GSS data: When the respondent selects a confidant, what are the odds that the person will be male rather than female? What are the odds that the person will be white rather than black? And so on for any attributes defined across nonoverlapping categories as a name interpreter item.

A third advantage that network items have over current GSS data on social relations concerns relationships between alters. Beyond indicating how social relations connect attributes to the respondent, network items indicate how the attributes themselves are connected. This advantage is most apparent in brokerage and subgrouping variables. Where access variables describe a respondent's degree of contact with kinds of people, brokerage and subgrouping variables describe the way in which that contact occurs.

A respondent's interpersonal environment provides opportunities for **brokerage** to the extent that the respondent connects otherwise unconnected individuals. There is a rich history of network models measuring brokerage opportunities, none of which is of immediate concern (e.g.

see Freeman (1977) on centrality; Burt (1982, 1983) on structural autonomy; Cook *et al.* (1983) and Marsden (1983) on power). The general idea is that brokerage opportunities decrease – and normative pressures increase – as alters are socially homogeneous and strongly connected with one another. There are two kinds of indicator variables here.

There are summary measures computed from data on the form of relations among respondent and alters (e.g. Figure 1). Betweenness centrality indicates the extent to which no alter can reach any other without going through the respondent. For example, alter two in Figure 1 only knows other people in the figure through the respondent. There are constraint and social pressure indicators measuring the extent to which alters share the same socially significant attributes such as race or sex and have especially close relations with one another. Density is the average strength of relations in the respondent's interpersonal environment (i.e. the mean of the 15 relation variables under Q1 in the Appendix). When relation data are binary, 1 for strong and 0 for missing, density is the proportion of relations in the interpersonal environment that are strong.

There are alter specific measures. Each alter's centrality and contribution to constraint on the respondent can be computed and linked to alter attributes. Thus, questions such as the following can be asked of the GSS data: How central are kin among the respondent's confidants? What proportion of social pressure on the respondent originates with kin? What proportion originates with coworkers? What proportion originates with males? with persons of higher education?, with older persons?, and so on.

Finally, there are **subgrouping** variables; similar to the brokerage variables in the sense that subgroups create opportunities to broker contact between the subgroups. There is subgrouping in a respondent's relationships to the extent that alters are especially close within groups and strangers across groups. A variety of clique models and inequality models are available to describe network subgrouping. Details and references are available elsewhere (e.g. Alba and Moore 1978; Burt and Minor 1983: chs. 12–14). [3] In Figure 1, for example, the especially close

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[3] Of the two subgroup principles mentioned in footnote 2, cohesion alone is discussed in the text because off its wider familiarity among social scientists broadly defined and its more obvious primary group link to the proposed intimacy name generator. Subgroups could be based equally well on structural equivalence, of course.

relation between alters three and four defines the only subgroup in the interpersonal envrionment and alter two is isolated from all other confidants. The name interpreter data in Figure 2 enrich this picture. The isolation of alter two, the only cited coworker and nonwhite, is an isolation of coworkers and nonwhites in the respondent's interpersonal environment. The only alters forming a subgroup are both kin to the respondent.

2.5. What kinds of research questions could be addressed?

The analytical opportunities created by network items for survey research with probability samples have only begun to be exploited. Putting to one side the multitude of journal articles in which specific topics are addressed, the richest collections of empirical results obtained from probability sample network data are two books on the 1966 Detroit Area Survey (Laumann 1973; Fischer et al. 1977) and Fischer's (1982) book on his 1977 Northern California Communities Study. Here, I can only illustrate the diversity of research questions that culd be addressed if network data were obtained in the GSS. The illustrations are in no sense exhaustive. There are research questions of marginals, correlates, and interactions created by the proposed network items.

2.5.1. Marginals
Network variables would be interesting even without the wealth of other data obtained in the GSS. For example, access variables measure social integration at an interpersonal level. They indicate the mixture of sex, race, age, and other attributes that occur in the respondent's interpersonal environment. It is one thing to be able to say that some percentage of sampled persons have a liberal attitude toward persons of a different sex, race, or age. It is quite another to say that a specific percentage of sampled persons confide in persons of a different sex, race, or age. Over time, variation in these variables would track shifts in the range and kinds of persons Americans were turning to as confidants.

On the same note, the broker/subgrouping variables measure social integration on a micro-level with implications for macro-level integration (see Granovetter (1973) on the strength of weak ties). To the extent that GSS respondents only have confiding relations with socially homo-

geneous alters who are themselves closely tied to one another, American
society is merely a collection of isolated primary groups. To the extent
that respondents are brokers between alters in separate groups, then
primary groups are integrated in society by individuals being members
of multiple groups (see Blau (1977) and Blau and Schwartz (1984) on
crosscutting social circles). The marginal distributions of centrality,
density, and constraint across GSS respondents would indicate the
extent to which these two extremes hold in the American population.
More specifically, cleavages among alters can be described with respect
to alter attributes in order to identify the attributes most clearly
underlying segregation. For example, the network data would indicate
the extent to which female alters are strangers to male alters, white
alters are strangers to nonwhite alters, and so on across attributes
believed to stratify American society.

More generally, the network data would provide a data base for
studying the ways in which attributes are associated with intimate
relations. Imagine the 2 × 2 table created by respondent sex in the rows
and alter sex in the columns. The relative frequencies with which
alter–respondent pairs fell into the four cells of this table could be
studied to describe the extent to which people prefer discussing per-
sonal matters with members of their own sex. Similar interaction tables
could be created for each name interpreter attribute; race, education,
age, kinship, coworker, and so on. Such tables are the central vehicle for
Laumann's (1966, 1973) work on the interpersonal qualities of social
stratification (cf. Jackson 1977; Verbrugge 1977; Wellman 1979; Fischer
1982) and Blau's (1977; Blau and Schwartz 1984) work on structural
constraints in social interaction.

2.5.2. Correlates
Beyond their inherent interest, network data would enrich the study of
data traditionally obtained in the GSS by linking those data with
respondent interpersonal environment.

There is the question of accounting for respondent differences in
network range. What respondent background variables account for
differences in access, brokerage, and subgrouping within interpersonal
environments? Socioeconomic status is often advanced as a background
variable determining network range – the ignorant poor having to rely
on a few, socially homogeneous, redundant relationships while the
wealthy and educated have extensive access and brokerage opportuni-

ties in their relationships. Complicating the situation, sources of friends operate in conjunction with socioeconomic status in determining network range. For example, people who principally draw their friends from relatives have more densely connected alters than people who draw their friends from membership in voluntary associations. There are many more empirical findings connecting network range variables to respondent background variables in large probability samples (see Laumann 1973; Fischer *et al.* 1977; Fischer 1982), but the connection has yet to be studied with data on a national probability sample.

There is also research into the consequences of network range. The following are some themes in this work. Increasing access and brokerage and subgrouping in a respondent's personal relationships:

(1) requires increasing interpersonal negotiations and so increases the respondent's cognitive complexity, stress, and leadership skills;
(2) exposes the respondent to diverse points of view and so creates more liberal respondent attitudes toward others and a lower reliance on stereotyping;
(3) allows the respondent to negotiate relationships to suit his or her own interests and so facilitates respondent achievement and increases respondent satisfaction with his or her achievement.

The GSS contains a variety of items on these outcome variables. To summarize the matter in a sentence, diverse response data obtained in the GSS should be strongly associated with qualities of network range. For empirical findings on associations between specific variables, I refer you once again to the book-length network studies of probability sample data; Laumann (1973), Fischer *et al.* (1977), and Fischer (1982).

Of course, the association between network range variables and the above outcome variables need not be evident without holding third factors constant – even though it is on occasion.

Illustrating the second of the above themes, for example, Laumann (1973 : 127) reports a significant zero-order tendency for respondents with unconnected alters (high network range) to be more tolerant of political extremists than respondents with strongly connected alters (low range). Tolerance was measured with standard items – drawn from Stouffer's work on tolerance of non-conformists – eliciting the respondent's attitude toward the civil rights of specific political extremists (admitted Communists and members of the Ku Klux Klan, cf. items 75 and 76 on the GSS, variables SPKRAC to LIBCOM).

On the other hand, associations can be complex. Illustrating the first of the above points, for example, network range is associated with stress. More specifically, respondents whose alters are especially close to one another (low network range) have "stress" scale scores that are lower than scores obtained from respondents with unconnected alters (high range). Kadushin (1982) reports a significant positive association between occupational prestige and network range and a significant tendency for respondents with unconnected alters to obtain relatively high scores on a stress scale composed of items indicating respondent anger, anxiety, frustration, worry, and so on. Respondents whose alters were especially close to one anotehr obtained lower scores on these items. Working with a sample more typical of a national probability sample, however, Fischer (1982 : 151) finds no zero-order association and a significant, but weak, partial association between respondent stress and the extent to which alters know one another well. Respondent stress is a score on a "psychological mood" scale constructed from multiple items, similar to those used by Kadushin, indicating respondent anger, anxiety, unhappiness, worry and so on (see Fischer (1982 : 336); cf. Kadushin (1982 : 157–158) and items 142, 143, 163 on the GSS, variables ALIENAT1 to HAPPY, ANOMIA2).

Fischer goes on to show that the association with stress is contingent upon respondent income. For low income respondents (family income under $15,000 in 1977), strong relations among alters decrease respondent stress. The opposite is true for high income respondents; stress increases with the extent to which high income respondents; stress increases with the extent to which high income respondent alters know one another well (cf. Kadushin's (1983 : 194) demonstration of a stress–density interaction with whether or not a respondent lives in a metropolitan area). These contradictory associations work against one another to produce an ostensibly null association between network range and stress across the entire sample of respondents.

In other words, the consequences for respondent stress of having densely connected alters are only apparent if the interaction with respondent income is correctly specified. Putting aside the many interesting substantive explanations for this particular finding, the point here is that the variables indicating network range can be expected to have strong associations with diverse response data traditionally obtained in the GSS, but the associations need not be obvious zero-order effects. This point brings me to a final class of research opportunities that would be created by GSS network items.

2.5.3. Interactions

Beyond correlations with traditional GSS items, network data would enrich studies of correlations between those items. More specifically, network range variables define interactions with predictor variables on the GSS to create slope adjustments in analyses bereft of network data.

Consider sex stereotyping. As part of a summer research seminar in 1983, a Columbia Univesity graduate student, Danqing Ruan, interviewed a small number of Manhattan residents to study sex bias in subjective judgments of social behavior. Focusing on a small part of Ms. Ruan's study, let Y be a respondent's subjective judgment of a person described in a social vignette, let D be the density of relations among the respondent and people cited as confidants in response to a name generator much like the proposed Q1, and let F be a dummy variable equal to 1 if the vignette person being judged is a female, 0 if the sex of the person is unknown. In the following regression equation: $Y = b_f F + b_d D + b_x FD + R$, where R is a residual term composed of intercept and variables held constant, the regression coefficient b_f measures sex bias. It measures the extent to which – *ceteris paribus* – the respondent judges a person one way if he does not know the person's sex and another way if he knows that the person is female. The coefficient b_d measures the direct effect of network density on judgment and b_x measures the interaction effect of network density. Across alternative judgment criteria, the direct effect of network density was negligible in this equation, but the interaction effect was strong and in the same direction as the sex bias effect b_f. The same pattern of effects was observed when density was replaced with the proportion of alters who were the same sex as the respondent. In other words, respondents whose confiding relations were limited to persons especially close to one another and of the same sex were especially likely to rely on the sex of a person when judging the person's behavior. Interpersonal environments of especially close, sexually homogeneous people created a significant sex bias in respondent opinion.

A common theme in network analysis is illustrated here. Low range respondents – persons with socially homogeneous, densely connected alters – are people exposed on all sides to normatively prescribed beliefs and behaviors. A respondent with extensive range is a person free to select from alternative social prescriptions that which suits his interests. Networks range variables measure the extent to which a respondent's interpersonal environment is free from social pressure to

conform to a single normative standard. Decreasing range increases normative pressure on respondent judgment, thus increasing the likelihood of response bias on opinion items. The implications for surveys containing many opinion items, e.g. the GSS, are intriguing to say the least. It is difficult to have confidence in regression results predicting an opinion item response without appropriate controls for the structure of the interpersonal environment within which the response was made. Such results fail to hold constant the degree to which responses were elicited in a normatively charged environment.

3. Questions focusing on specific concerns with the proposed items

Their general virtues notwithstanding, the specific network items proposed require more detailed justification to warrant inclusion in the GSS. There are substantive as well as practical issues to be addressed.

3.1. How much interview time is involved?

On a survey as closely monitored as the GSS, time is a dominating consideration. [4] Timing can usually be estimated from a small number of pretest interviews with socially diverse respondents. Among survey items generally, however, network items are especially difficult to time in this way. The time required to administer them varies directly and widely with the complexity of a respondent's interpersonal environment. The more people and the greater the diversity of relations in the environment, then the more time required to obtain data describing the environment. Design flaws in a set of network items can be detected with a few pretest interviews, of course, but the extensive variation in network complexity to be expected in a regional or national population means that the usual pretest methods offer little information on what to expect across respondents in a probability sample of the population.

In order to get around this impediment, two kinds of pretests were run. Pretest interviews with a few people were combined with survey

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[4] Although the idea is not developed here, it should be pointed out that some interview time could be saved by deleting the seven social contact variables currently on rotation in the GSS (item 158, variables SOCREL to SOCSIBS). As described earlier, better contact data is provided by the proposed network items.

data on network complexity in a large probability sample to time successive draft versions of the proposed network items using computer simulations of pretest interviews with a large sample of respondents.

A draft of the proposed items were administered to a dozen Columbia University undergraduates. deliberately selected to range from the best to the least gifted. I was more interested in the relative than the absolute speed with which items were answered. Several tendencies emerged consistent with common sense. Alter names were mentioned with increasingly long pauses between names, the last names offered more slowly than the first. People with sparse networks took longer than persons with dense networks to answer the relationship items (Q2, Q3, and Q4). Name interpeter items (among the now proposed Q5 through Q15) required very little prompting because the respondent answered for all alters after the second name (e.g. for alter race, Q6; "They are all white except for Julia, who is black.")

On the basis of these kinds of observations, and a sense from the pretests of where pauses were needed when administering the network items, I wrote a microcomputer program to simulate and time an interview in which the form of the network around a respondent is defined. The network of formal data is illustrated in Figure 1 and obtained with the first four of the proposed items, Q1 through Q4. These were the most important to simulate because the interview time that they require is most contingent on network complexity. The program draws a respondent at random from a population with a known distribution of alters and network density. Questions are then asked in real time to mirror the personal pretest interviews. The interviews includes numerous pauses of random length at appropriate places for interviewer prompts, recording answers, transitions to new questions, and the like. In sum, three things determined the length of a simulated interview: the cumulative severity of random pauses, the number of alters named, and network density. [5]

The 1050 person sample interviewed for the Northern California Communities Study was used to define a population distribution of

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[5] Respondent and interviewer density are significant factors left out of the simulation. My purpose in writing the program was merely to get a sense of the interview time likely to be required by the network items as a function of network complexity. There are some interesting possibilities in simulation for rigorously studying the design of complex items and questionnaires, but such issues are beyond my purposes here. A copy of the simulation program is available to interested readers. The program is written in BASIC for an IBM microcomputer.

network density and number of alters cited. This is the most extensive survey study to date of interpersonal environments and the best available indication of what can be expected in the national probability sample interviewed for the GSS. In response to the question: "When you *do* talk which someone about personal matters, who do you talk with?" and a follow-up prompt of "Anyone else?" – a name generator very similar to the one proposed for the GSS (cf. Q1 in the Appendix) – respondents in the study cited an average of 2.5 people with some respondents naming no one and a small number of respondents naming eight people. The density of close relations among a core set of up to five alters ranged from 0 to 1 with a mean of 0.3 to 0.5 (the exact mean depending on whether or not one and two alter respondents are deleted from computations).

Simulated interviews were conducted with 1000 people and the results are displayed in Table 1. Rows in the table distinguish numbers of alters named. Divide the entry in the "number of simulated pretest interviews" column by 100 to obtain the percentage of respondents naming each number of alters in the Northern California Communities Study; 5 percent named no one, 27.3 percent named one person, 24.7 percent named two people, and so on. Minimum, maximum and mean times required to administer the items are presented with standard deviations in parentheses. For example, a respondent naming no one is only asked the first question and that required an average of 24 seconds. All four items are asked of a respondent naming eight alters and that required an average of $2\frac{1}{4}$ minutes. Fortunately, few respondents named so many alters (1.6 percent of the sample).

Averaging across all interviews, the typical interview required a little more than a minute (68 seconds) to obtain the formal data on a respondent's network. The shortest interview lasted for less than half a minute and the longest lasted for a little over $3\frac{1}{2}$ minutes.

The time required to administer the proposed name interpreter items is more easily predicted from experience with the GSS because such items are more similar to traditional survey items. Tom Smith suggests that the typical GSS opinion item, not involving a show card, requires about 30 seconds to administer. From this suggestion and my observation of the way in which students answered name interpreter items without prompting once they saw that the item would be repeated for each alter, I estimate that items Q5, Q6, Q8, and Q9 will require about two minutes to administer. Few response categories are involved, none

Table 1
Seconds of interview time required to obtain the proposed formal data on respondent networks

Number of alters named	Number of simulated pretest interviews	Time elapsed by end of question			Total time		
		Q1	Q2	Q4	Average	Max	Min
0	50	21.8 (0.9	–	–	23.8 (1.0)	26	22
1	273	27.2 (1.0	–	–	29.2 (1.2)	32	26
2	247	35.7 (1.8)	9.9 (2.6)	19.8 (6.4)	65.4 (8.0)	84	53
3	197	38.9 (2.1)	10.6 (2.4)	34.5 (7.5)	84.0 (8.5)	97	61
4	103	42.4 (2.2)	11.3 (2.9)	49.2 (8.8)	102.9 (8.2)	114	66
5	63	41.5 (1.0)	11.7 (3.2)	66.9 (16.4)	120.1 (16.5)	146	70
6	39	45.8 (2.0)	13.1 (4.5)	57.6 (19.7)	116.5 (19.8)	150	71
7	12	48.9 (1.9)	10.5 (1.6)	69.1 (20.7)	128.5 (21.7)	154	79
8	16	55.1 (2.3)	11.8 (3.3)	67.2 (17.5)	134.2 (16.3)	156	88
Typical interview		35.2	7.3	25.1	68.3	154	22

Note: Results are based on simulated interviews with 1000 persons drawn at random to represent a population with the distribution of network density and number of intimacy alters observed in the 1050 person Northern California Communities Study sample interviewed in 1977. The simulated items Q1 through Q4 are displayed in the Appendix.

of the items requires a show card, and the interviewer answers item Q5 for the respondent (subject to respondent confirmation). Item Q10 involves a show card but requires a single answer per alter so let it require a little less than a minute. Given the great speed with which the items will be administered to respondents citing no one or a single alter, these estimates seem conservative.

I draw the inference that the core set of proposed network items will require an average of five minutes to administer. A little over a minute would be required to administer items Q1 through Q4, and a little less than four minutes on average would be required to administer the name interpreters in Q5 through Q10.

Extending the same reasoning to the final five name interpreters (Q11 through Q15, where Q11 and Q15 require show cards), I estimate that the entire set of proposed network items will require an average of about eleven minutes to administer. The topics of conversation item, Q11, is the most difficult to predict. Created at the behest of the GSS Board of Overseers in order to clarify the content of respondent discussions with each alter, there is no field experience with this complex item. I am guessing that it is the equivalent of four opinion items and so will require about two minutes to administer on average. These estimates are in general agreement with pretest interviews conducted under John Robinson's direction at the University of Maryland's Survey Research Center. The proposed items (excluding Q11) required about nine minutes of telephone interview time.

3.2. How should alters be identified?

From the many persons known to a respondent, some tractable and substantively informative subset have to be identified for study. This is the task of name generator items such as the proposed Q1. Discussion about selecting an appropriate name generator for the GSS has revolved around three issues; limiting the number of alters, the use of one *versus* multiple name generators, and selecting intimacy rather than some other kind of interaction as the generating alter names.

3.2.1. Limiting the number of alters

Available evidence suggests that zero to eight people will be cited in response to the proposed name generator with the average respondent citing three people (Table 1). The number of people cited will be recorded, but alter data will be elicited only on the first five people named. This is a concession to the time constraint.

Having compromised this far, why not limit the number of alters to three as was done in the mid-1960s surveys conducted by the University of Michigan's Survey Research Center? Three names seems to be a clear minimum because it is the lowest number of alters among whom some individuals could be connected while others are not. In other words, it is the minimum needed to reveal variation in inter-alter relations for the network range variables. As alter data on more people are obtained, more interesting variation in the structure of respondent interpersonal environments is available for study.

In addition to the increased measurement precision created with

additional alters, there is measurement bias to consider. The more intimate the relationship considered – for example, the respondent's most trusted confidant will be a closer intimate than the fifth most trusted confidant – the more likely that respondent and alter share the same attributes. The weaker the relation between alter and respondent, the more likely that respondent and alter come from significantly different social categories. The fewer names elicited, in other words, the less likely that evidence of network range will be obtained.

Somewhere between the time saving choice of asking too few names (thereby masking variation in network range) and the unacceptably time consuming choice of asking too many names, is that number of alter names which reaches the border of the respondent's interpersonal environment to reveal social heterogeneity. We do not know where this point is for respondents in a national probability sample. Moreover, such a boundary is likely to be different for different kinds of respondents. Given the ease with which two or three people could be held in confidence at the same time, the appropriate cut-off point would seem to be higher than three. With no guide other than common sense, I expect the corresponding upper limit to be a single digit number. There is evidence to suggest an upper limit of five to seven (e.g. Miller (1956) and Simon (1974) on the number of data "chunks" that can be comfortably retained at once in human memory). In the interest of increasing measurement precision and decreasing measurement bias – under a severe time constraint – the five alter limit proposed for Q1 seems judicious.

3.2.2. One versus multiple name generators

There are substantive and methodological reasons for including more than one name generator on a survey. Substantively, multiple name generators would create opportunities to study the coordination of various kinds of interaction within relationships. Virtually every site for interpersonal relations and every reason for people getting together could be used to define name generator items. The more diverse the name generators included in the GSS, the more subtle the distinctions that could be made in describing the social structure of interpersonal environments. Network study surveys tend to include multiple name generators. Methodologically, multiple name generators make it possible to specify relationships very concretely and so improve data reliability. Who are the people who currently live with you? With whom did

you discuss candidates in the last political race? From whom did you borrow money last year? Who do you ask to take care of your home when you have to leave town suddenly? The more concrete the name generator criterion, the more reliable – *ceteris paribus* – the relational data it produces.

With respect to the GSS, however, these virtues pale in the shadow of concern with timing and substance. Substantive arguments for including multiple items fall before GSS time constraints. The argument for multiple, highly concrete, name generators is unacceptable for both substantive and methodological reasons.

First, although not foremost, more interview time would be required to administer multiple name generators. There is the time required to pose multiple questions. This could be off-set in part by deleting other questions such as the less reliable name interpreter items, but time and special interviewer training are also required to coordinate alter names across name generators. After posing the name generator items, the interviewer would have to assemble a nonredundant list of alters before asking about alter attributes and the now multiple content relationships between alters (e.g. see the instrument displayed in Fischer (1982 : 344–345)). Moreover, additional time would be required for name interpreter items because the list of alters would be longer.

Second, and I believe more importantly, there are substantive and methodological reasons for avoiding overly concrete name generators. The GSS is a general purpose survey so the possibility of narrowly defined name generators raises the following question: Whose interests are to be served by the network items? The more narrowly defined the name generator, the fewer substantive items for which it is relevant. There is also the issue of comparability with other surveys. The more narrowly defined the name generator, the less likely that it will appear on other surveys. There is the issue of defining relational content for name generators. Our current understanding of relation content is nominal at best. The more narrowly defined the name generators included on a survey under our current understanding, the more likely that redundant rather than additional information is being obtained with successive items. Finally, the more narrowly defined the name generator, the less likely that it will be salient to all respondents. Random error becomes a significant portion of variation in responses to the item and missing data become a problem. The criterion eliciting names in the following item is concrete and clear; "Who do you ask to

take to take care of your home when you have to leave town suddenly?"
However, the item will elicit "not applicable" responses from the many
people who have not had to leave town suddenly. This problem can be
avoided by making the name generating criterion hypothetical (e.g.
"Who *would* you ask to look after your home *if* you had to leave town
suddenly?"), but this raises more reliability questions than it solves.

   On balance, a single name generator with a relatively clear criterion
but allowing the respondent to define interaction details seems optimal
at the current time for the GSS. Intimacy stated in terms of discussing
personal matters is the proposed criterion. The respondent is asked to
focus on emotionally close ties in which specific matters of a personal
nature have been discussed. What those matters are is left up to the
respondent – and is likely to vary from respondent to respondent. Thus
the importance of including the name interpreter items together with
the intimacy name generator. The name generator in Q1 is a point of
departure more than an end point. It is the window through which the
respondent's interpersonal environment is to be scrutinized. Name
interpreter items provide data on more specific qualities of relationship
such as role involved (Q10), substantive topics discussed (Q11),
frequency and duration of acquaintance (Q8, Q9), and alter attributes
of social significance (Q5, Q6, Q7, and Q12 through Q15). In short,
many aspects of multiple name generators are contained even within
the limited scope of the core items proposed.

3.2.3. Why intimacy?

The intimacy criterion in the Q1 name generator is proposed for two
general reasons. First, intimacy is more central than any one other
name generating criterion to the GSS as an opinion survey serving
diverse scientific interests. Intimacy animates the primary ties through
which interpersonal socialization operates to create the normative pres-
sures purported to define respondent opinion. At the same time, the
intimacy criterion serves the diverse research needs of persons inter-
ested in public opinion, social support, well-being, pesonality, par-
ticipation, and so on across lines of research emphasizing social psycho-
logical processes. Second, variations on the proposed intimacy criterion
have been used to such an extent in past research that the criterion has
known and desirable properties, Variations on intimacy and positive
affect have been the work horse of sociometric studies (e.g. see Lindzey
and Byrne (1968) for a review of psychometric properties), but I shall

focus here on the Northern California Communities Study because it is the most extensive survey study of network data to date using a large area probability sample. As I mentioned earlier, respondents in the study named an average of 19 alters, ranging from a minimum of 2 up to a maximum of 67. In all, 19,417 alters were named in the study. Four inferences regarding the name generator proposed in Q1 can be drawn from the study.

First, an informative and tractable number of people can be expected to be elicited by the proposed name generator. As displayed in Table 1, respondents can be expected to be elicited by the proposed name generator. As displayed in Table 1, respondents can be expected to name three intimates on average, a few naming none and a few naming as many as eight.

Second, an analysis of ways in which different qualities of relationship were mixed together by respondents in the Northern California Communities Study shows that "discussing personal matters" is a central quality and a stable point of reference for understanding other qualities of relationship (see Burt and Minor (1983 : ch. 2, esp. pp. 46–56) for details). It is clearly distinct from, and equally mixed with, four identified domains of relationship: friendship, work, kinship, and acquaintance. Three dimensions of social differentiation (age, socioeconomic status, and race) were found to distinguish respondents in the ways that they combined qualities of relationship. Across respondents varying on these dimensions, "discussing personal matters" was relatively stable in its mixture with other qualities of relationship.

Third, the proposed criterion seems valid in eliciting the names of intimates. That is to say, the people named as intimates are likely to be the kinds of people that one would expect to be named as intimates. I have selected diverse qualities of relationship from the Northern California Communities Study for display in Table 2. The first column indicates the probability of any of person being named for the row relationship. Of the 19,417 people cited as alters, for example, 58.3 percent were cited as friends, 34.7 percent were cited as people with whom the respondent had socialized informally, 37.5 percent were cited as especially close, and so on. The second column in the table presents the same probability but for alters elicited by the proposed name generator, discussing personal matters. For example, 58.3 percent of all alters were cited as friends but that percentage increases to 67.6 percent among alters cited as intimates. A comparison of the two entries in each

Table 2

Probabilities of observing various qualities of relationship

Probability among all cited alters ($N = 19417$)	Probability among cited intimates ($N = 2660$)	Qualities of relationship
0.137	1.0	Alter cited as someone with whom respondent discusses personal matters
		_____ FRIENDSHIP
0.583	0.676	Alter cited as a friend
0.347	0.472	Socializing (going out, visiting, gossiping)
0.375	0.710	Respondent feels especially close to alter
		_____ FREQUENCY AND PHYSICAL PROXIMITY
0.314	0.413	Frequently get together (at least once a week)
0.117	0.102	Rarely get together (less than once a month)
0.115	0.104	Neighbor
0.303	0.341	Proximate (less than five minute drive away)
0.292	0.165	Distant (more than an hour drive away)
		_____ HOMOPHILY
0.580	0.599	Alter and respondent are same sex
0.426	0.498	Same age (plus or minus five years)
0.246	0.223	Younger (by more than five years)
0.328	0.278	Older (by more than five years)
0.147	0.197	Same kind of work (defined by respondent)
0.352	0.443	Same religion
0.346	0.373	Same ethnicity (defined by respondent)
0.101	0.133	Co-members of an organization
		_____ ACQUAINTANCE
0.038	0.014	Alter cited as an acquaintance
0.250	0.174	First met recently (within the last two years)
0.356	0.248	Friend of friend (introduced through a friend, neighbor, or spouse)
		_____ WORK
0.141	0.279	Respondent discusses his/her work with alter
0.104	0.119	Co-worker
0.124	0.165	First met where respondent works
		_____ FAMILY
0.420	0.483	Alter is one of respondent's relatives
0.032	0.168	spouse or spouse-surrogate
0.067	0.079	respondent's child
0.136	0.170	parent or sibling
0.186	0.067	member of extended family
0.079	0.347	Respondent relies on alter's judgment to make important decisions such as family/work
0.080	0.164	Respondent could go to alter for money in an emergency

Note: Results are based on 1050 personal interviews conducted for the Northern California Communities Study in 1977 (see text). "Cited intimates" here refers to alters named in response to the following name generator item; "When you *do* talk with someone about personal matters, who do you talk with?" with a follow-up probe ("Anyone else?"). Comparisons across rows of the table should be made with caution because some name interpreter items were not asked of some alters.

row of Table 2 illustrates the validity of the proposed name generator. Qualities of friendship were more evident in relations with intimates than in relations generally. Respondents were more likely to discuss personal matters with people they saw often than with people that they saw rarely. Continuing down the rows of the table, note that intimates were more likely than alters generally to have the same sex, age, work, religion, ethnicity, and organizational affiliations as the respondent. Intimates tended not to be mere acquaintances and were drawn relatively often from the respondent's work and nuclear family.

Fourth, a healthy diversity of people can be expected to be named as intimates. One reservation expressed about using intimacy as a name generator was the fear that intimates would be so similar to the respondent as to be uninformative. This concern can be allayed by looking down the second column of Table 2. While homophily was higher between respondents and intimates than it was in the general population of alters, respondents were more likely to be different than similar on attributes of age, work, religion, ethnicity, and organizational affiliation. For example, 50 percent of the people cited as intimates were the same age as the respondent citing them. This is higher than the percentage observed in the general population of alters, but it still leaves 50 percent of the intimates being older or younger than the respondent citing them. Also note that while one in two intimates were met frequently by respondents, one in ten were met very rarely. While intimates were less likely to be mere acquaintances than alters generally, many intimates were relatively recent acquaintances or friends of a friend. Finally, intimates were drawn sometimes from work and sometimes from the family. One in ten intimates were coworkers and half were drawn from the respondent's relatives (spouse, parents, and siblings being the most likely family intimate).

3.3. How should data be obtained on relations between alters?

In order to describe the network structure of a respondent's interpersonal environment, data are required on the relationship between each pair of persons cited for study as alters. There are long-form and short-form items eliciting such data.

The short-form variation frames items in terms of a specific kind of relationship. The respondent is asked to identify people between whom the specified relation exists. Are any of these people married to one another? Who among these people dislike one another? The proposed

items Q3 and Q4 are short-form items. Strangers are identified with Q3 and people who are especially close are identified with Q4.

The long-form variation frames items in terms of a specific pair of alters. The respondent is asked to describe the relationship between a specific pair of people. Data similar to that elicited by Q3 and Q4 could be obtained with a ten part long-form item where each inter-alter cell of the response matrix beneath Q1 in the Appendix would contain the respondent's answer to the following: "Think about the relationship between (COLUMN NAME) and (ROW NAME). Would you say that they are strangers, just friends, or especially close?" The question would be repeated for each pair of alters named by the respondent.

There are good reasons to use short-from items and good reasons to use long-form items. Both complete a data matrix of the form displayed in Figure 1 and beneath Q1 in the Appendix. Nevertheless, on balance, the short-term variation seems preferable for the GSS.

Time is once again an important consideration. To obtain the data provided by short-form items, a long-form variation would require more time to administer and would be more taxing on respondent patience, increasingly so as the number of alters increases. Naming three alters would create three items to administer (variables 3, 5, and 6 beneath Q1 in the Appendix). Four alters would create six items (Q1 variables 3, 5, 6, 8, 9 and 10) and five alters would create ten items (all Q1 interalter variables between 1 and 15).

Reliability probably works in the opposite direction. Long-form items focus respondent attention on the relationship between a specific pair of people. Short-form items require a respondent to compare relations between all alters simultaneously. It is easier to evaluate one relationship rather than many, so it seems likely that the long-form items produce more reliable data than the short-form items. There is no empirical evidence, however, to support or refute this supposition.

On similarly intuitive grounds, long-form items would be more likely to obscure network structure with an upward bias in network density. Given a set of people named as intimates, cognitive balance implies a bias toward perceiving some kind of relation between each pair of intimates. This bias would be facilitated by the long-form items because relationships are evaluated independently. In contrast, the short-form items ask a respondent to evaluate relations for their relative strength, identifying the strongest and the weakest. In other words, long-form items ask for relationships to be evaluated relative to an average

strength relation while the proposed short-form items ask for relations to be evaluated at the boundaries of relation strength. This difference is especially important to identifying holes in an interpersonal environment (item Q3). In sum, pending empirical study, there are reasons to expect greater variability in the structure of interpersonal environments produced by the short-form items. [6]

3.4. What name interpreter items should be selected?

Ten items are proposed to fill in background information on the people cited as intimates. Names are to be interpreted with respect to often studied categories of social differentiation; sex, race, education, kinship (and other roles), age, religion, political party, and income. As with name generator criteria, there are many alternatives here. Any attribute of social significance could be used to define a name interpreter item – but with minimal interview time available, the number of alternatives that can be included in the GSS is very limited.

Beginning with the most extreme limitation, it does not seem wise to eliminate name interpreter items completely. Informative range variables could be created from formal data alone (items Q1 through Q4), but the intuitively meaningful social integration measures provided by variables such as percent white, percent female, percent kin, and so on, are likely to be widely used in research drawing on the GSS data. Moreover (as described on pp. 301–306), name interpreter data make it possible to study the ways in which specific attributes promote or discourage social linteraction as well as the extent to which persons with specific sex, race, or role attributes (e.g. kin *versus* coworker) are sources of social pressure.

Fortunately, there are some obvious criteria by which attributes can be ranked for inclusion in the GSS. (1) A high priority attribute should pattern the kind of interaction used to generate alter names, predisposing some people to seek one another out and predisposing other people to avoid one another. With respect to the name generator proposed for the GSS, in other words, a high priority attribute should operate as a

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[6] In other circumstances, multiple name generators would be an additional consideration. For example, if a respondent were asked to name friends at one point in the interview and coworkers at another point in the interview, the names produced by each name generator would have to be pooled later in a nonredundant list of alter names to obtain data on inter-alter relations. Long-form items are therefore preferable in a multiple name generator interview (e.g. see Fischer 1982; Minor 1983). With a single name generator proposed for the GSS, however, long-form advantages in handling multiple name generators are irrelevant to this discussion.

structural parameter in intimacy (Blau 1974, 1977). (2) A high priority attribute should be pertinent to subjective judgements under study. For example, alter sex and kinship would be critical to studying sex roles and stereotyping while alter political affiliation would be important for a study of political participation. (3) Reliable data should be available on a high priority attribute. For example, Laumann (1973 : 29–36) presents evidence from the 1966 Detroit Area Survey to argue that empirical, behavioral attributes of friends are reported very accurately (reliabilities of 0.9 or better and high percentages of agreement between respondents and alter in reporting alter age, occupation, education, general religious affiliation, and race). Less easily observed attributes were reported much less accurately (e.g. alter political affiliation had a reliability of 0.5 between respondent and alter and agreement was nearly random between respondent and alter on alter attitudes).

Using past research linking social relations with attribute data as a guide, name interpreter items are listed in the Appendix in order of their rank on the above three criteria. The highest priority items are at the top of the list. Specifically, items Q5 through Q10 are the core set of proposed name interpreter items. Alter sex, race, education (as a socioeconomic status indicator), contact frequency, length of acquaintance, and role label (relative, coworker, neighbor, etc.) are very high priority attributes under the above three criteria. Data provided by these items should be reliable and would make it possible to study social integration across dimensions of sexual, racial, socioeconomic, behavioral, temporal, kinship, work, leisure, and organizational differentiation. If it is at all practically possible, there are also good reasons for the GSS including items Q12 through Q15; the items eliciting data on alter age and religion, as well as the less reliable, more sensitive, data on alter political affiliation and income (occupation being too expensive to obtain). [7]

[7] Alter age is difficult to rank. Although a major parameter of social differentiation, age is elicited by Q12 in years and such exact data is unlikely to be as reliable as that elicited by the core items. Response categories for alter age could improve reliability and make the item easier to administer, but response categories would be a mistake here because they would unacceptably limit later data analysis. Age stratification will be studied with interaction tables in which rows and columns are defined by broad age categories (e.g. 20–30, 31–40, etc.). Age stratification will also be studied with measures of the extent to which respondents confine their interaction to persons close to their own age (e.g. within five years of respondent age). Response categories for Q12 created for the first kind of analysis would make it impossible to conduct the second kind. Response categories created for the second kind of analysis would make the first impossible. Item Q12 elicits less reliable, but more widely usable, data on alter age.

As a final note, response categories on name interpreter items selected for the GSS should correspond to respondent attribute categories so that interaction tables can be created. For example, it would be unwise to have alter eduction coded into a category of 10–12 years while respondent education was coded into categories of 9–11 years and 12–13 years. Corresponding attribute categories for respondents and alters could not be created from such a coding.

3.5. How should data be obtained on respondent-alter relationships?

Five items are proposed to describe the form and content of relationship between each alter and respondent; the strength of interaction constituting form and its substance defining content.

Relationship form is measured with respect to strength in affect, space and time. Familiar items have been adapted for the GSS. Item Q2 distinguishes alters especially close to the respondent from alters who are only moderately close. The "especially close" name interpreter has been used successfully to identify particularly intimate associates in the past (e.g. Wellman 1979; Fischer 1982; Burt and Minor 1983 : ch. 2). Item Q8 distinguishes alters by their frequency of contact with the respondent. Weekly, monthly and less often are familiar response categories for contact frequency. A daily category has been added here because a disproportionate number of intimates in past surveys have been met at least weekly. Among the intimates cited in Fischer's Northern California Communities Study, for example, 41.3 percent were met at least weekly (see Table 2) and among those cited in Wellman's community study of similar design, 49.0 percent were met at least weekly (Wellman 1979 : 1213). Finally, item Q9 distinguishes alters by the duration of their relationship with the respondent. The usual form for this item is to ask for the number of years over which the respondent has known alter (e.g. the 1966 Detroit Area Survey item in Laumann (1973 : 264) and the Northern California Communicities Study in Fischer (1982 : 344)). In order to improve the speeed and reliability of this item for the GSS, however, years of acquaintance have been collapsed into three response categories; recent acquaintance (known for less than three years), established acquaintance (known for three to six years), and old acquaintance (known for three to six years), and old acquaintance (known for more than six years). Years have not been collapsed arbitrarily. Response categories have been defined by break

points – as a function of years known – in the tendency for respondents in the Northern California Communities Study to recognize someone as a close friend and advisor.

Summary results underlying the proposed categories are displayed in Table 3. Frequencies with which non-kin intimates were known for specific numbers of years are displayed; 20 had been known for less than a year, 132 had been known for a year, 112 had been known from two years, and so on, for a total of 960 non-kin cited as people with whom respondents discussed personal matters (item is given in the note to Table 2). Years of acquaintance have been cross-tabulated with three binary variables; whether or not the alter was cited as a friend, whether or not the alter was cited as someone especially close to the respondent, and whether or not the alter was cited as someone on whose judgment the respondent relied in making important decisions. Percentages and multiplicative interaction effects in log-linear models of these crosstabulations are presented in Table 3. For example, the 85 percent and 0.5 in the second row of the "friend" column of Table 3 indicates that 85 percent of non-kin intimates known for one year were cited as friends and that frequency is about half (0.5) the frequency expected if years known and friendship had been independent of one another.

The proposed response categories are evident from the parameter estimates in Table 3. The first Q9 response category identifies recent acquaintances as persons known for less than three years. Note that intimates known for less than three years in Table 3 had below expected tendencies to be cited as close friends and advisors. Interaction parameter estimates in the first three rows of the table are less than one. This recency effect was particularly sharp for persons known for less than a year, but there were too few such alters to warrant a "less than one year" response category. [8] The second Q9 response category identifies established acquaintances as persons known for three to six years. Note in Table 3 that intimates known for three to six years by and large had above expected tendencies to be cited as close friends and advisors (parameters estimates greater than one). Finally, the third Q9 response category identifies old acquaintances as persons known for

[8] A name generator less intimate than "discussing personal problems" would probably elicit more alters known for less than a year and a "less than one year" response category for Q9 would then be warranted by the results in Table 3.

more than six years. Note in Table 3 that the tendency for an intimate to be cited as a close friend and advisor fell off after six years of acquaintance and fluctuated around the frequency expected under independence from years known. In sum, the three condensed response categories on item Q9 represent socially significant break points in the meaning of knowing a person outside your family for a specific number of years. Recent, established, and old acquaintances respectively had low, high, and variable tendencies to be cited for their close friend and advisor relationship with respondents.

Relationship content is measured with respect to role labels and discussion topics characterizing interaction between respondent and alter.

Item Q10 elicits data on the roles in which an alter is known to the

Table 3
Tendencies for close friendship and advising with non-kin intimates by years of acquaintance

Years known	(N)	Percentages and multiplicative interaction effects for persons known this long who are cited as					
		Friend		Especially close		Advisor	
Recent acquaintance							
0	(20)	85%	0.5	40%	0.6	15%	0.6
1	(132)	85%	0.5	58%	0.8	24%	0.9
2	(112)	92%	0.7	60%	0.8	22%	0.8
Established acquaintance							
3	(98)	96%	1.0	63%	0.8	37%	1.2
4	(86)	98%	1.3	74%	1.2	42%	1.3
5	(68)	97%	1.1	73%	1.1	44%	1.4
6	(41)	100%	2.0	76%	1.2	34%	1.1
Old acquaintance							
7	(50)	92%	0.7	66%	1.0	24%	0.9
8	(41)	95%	0.9	78%	1.3	27%	0.9
9	(23)	100%	1.5	78%	1.3	26%	0.9
10	(64)	98%	1.4	77%	1.2	41%	1.3
over 10	(225)	98%	1.4	69%	1.0	29%	1.0
All	(960)	95%		67%		31%	

Note: Results are based on the 960 non-kin cited by respondents in the Northern California Communities Study as people with whom personal matters were discussed (see note to Table 2 for exact name generator). Estimates presented describe three cross-tabulations; years known by friendship citation (yes, no), years known by "especially close" (yes, no), and years known by "relies on alter judgment in making important decisions" (yes, no).

respondent. Alter and respondent can be tied through kinship (spouse, parent, sibling, child, or extended family), through their work (co-worker), through organizations with which they are jointly affiliated (co-member), through living in the same neighborhood (neighbor), or through informal socializing (friend). An "other" category is provided to make the response options exhaustive (see the Q10 show card in the Appendix). Five of the nine specific roles refer to kin because kin are so likely to be named as intimates. Among the intimates named in the Northern California Communities Study, for example, 48.3 percent were kin (see Table 2). An even higher percentage (50.0 percent) were cited as intimates in Wellman's earlier community study – even though respondents were asked to cite people who lived "outside your home" (Wellman 1979 : 1212).

Item Q10 asks for *all* the listed roles in which an alter is known to the respondent. The diversity of possible role-sets produced by the item can be represented in ten binary variables per alter, one variable per response category, where a "1" would indicate that the response category role was cited as linking alter with respondent, a "0" would indicate that it was not mentioned, and a "9" would indicate missing data (DK response or fewer than five alters were named). For example, the following string of values on the ten Q10 variables: 0000011010, describes an alter who is coworker, co-member of an organization, and friend to the respondent.

Item Q11 elicits data on the substantive topics that come up in conversations between alter and respondent. Sixteen general topics covered in the GSS define response categories for the item; work and the respondent's current job, marriage and sex roles, personal finance, food and eating, parents, children, religious matters, medical care, fashion, books/newspapers/magazines, art and music, television, racial issues, crime/police/criminals, local politics, and extralocal politics.

This item is asked to the respondent twice, once to identify topics that are almost always discussed and a second time to identify topics that are almost never discussed. Thus, 16 trichotomous variables are produced per alter, one variable per item Q11 response category, where a "2" would indicate that the response category topic almost always came up in conversations with the alter, a "1" would indicate that the topic was discussed, but not all the time, a "0" would indicate that the response topic almost never came up in conversations with the alter, and a "9" would indicate missing data (DK response or fewer than five

alters were named). For example, the following values on the 16 Q11 variables: 2222110011110111, describe an alter with whom conversations almost always include the topics of work and the respondent's job, marriage and relations with members of the opposite sex, personal finance, and eating. Religious, medical, and racial issues are almost never discussed. The other topics (parents, children, fashion, media, crime and politics) are discussed, but not all the time.

Trichotomous variables are proposed here because topics need not characterize discussion between respondent and alter in order to be significant when they do come up. Further, those topics which "almost always" come up in conversation are likely to be widely shared by respondents (e.g. family and work). Thus, I expect that the difference between "never" discussed and "sometimes" discussed will be more informative in explaining variation in respondent opinion and behavior than the difference between "always" and "sometimes" discussed.

The discussion topics item was created in order to obtain data on the kinds of things that respondents discussed with their intimates. Discussing personal matters will mean different things to different respondents. The discussion topics item Q11 provides some indication of variation in topics across respondents as well as variation across alters within a respondent's interpersonal environment (e.g. the hypothetical respondent in Figure 2 discusses music and fashion with non-kin and family matters with kin).

The item is not included in the core set of network items proposed for the GSS (items Q1 through Q10) for two reasons. The item is much more complex than the other name interpreters listed in the Appendix. It is asked to respondents twice and has many response categories, each of which could be cited as a frequently or infrequently discussed topic. More significantly, there is reason to suspect the reliability of data produced by any "topics" name interpreter. Items Q5 through Q10 elicit relatively clear alter attributes, empirical qualities that respondent and alter are likely to agree upon. The little evidence available suggests that such attributes can be identified reliably with name interpreter items (Laumann 1973 : ch. 2). In contrast, item Q11 asks the respondent to remember past conversations and code their content into general topic areas. In as much as this recall and subjective coding is likely to vary across respondents, discussion topic data are likely to be less reliable than the data provided by the other proposed name interpreters. Nevertheless, knowing what the respondent perceives to have been

discussed with each alter is significant to such an extent that marginally reliable data are preferable to total ignorance. At least with Q11 being asked, GSS users will have some sense of the substantive topics discussed with intimates.

3.6. How should the network data be distributed?

The data produced by the proposed network items will be slightly more complex than the typical survey opinion item response data, so there is value, as a final note, in describing how the data might be distributed to GSS users.

The entire set of items in the Appendix would create 191 variables; number of people named as intimates, 15 variables measuring relations among respondent and alters (see pp. 296–297), and 35 name interpreter variables per alter (Q5, Q6, A7, Q8, Q9, and Q12 through Q15 each produce 1 variable, and the just described items Q10 and Q11 respectively produce 10 and 16 variables).

In order to expand the utility of the GSS network data down to the student first learning how to use a computer, it would be useful to aggregate the alter specific data into a hypothetical "sixth" alter, a generalized alter, whose attributes could be analyzed as characterizing the respondent's interpersonal environment. The following seems a useful list of "sixth" alter variables:

(variable 1) number of persons named in response to Q1;
(variable 2) network density (the average of nonmissing values on variables 1 through 15 under Q1);
(variable 3) number of alters who are female (Q5);
(variables 4 through 7) number of alters who are respectively Asian, Black, Hispanic and White (Q6 response categories);
(variable 8) average education (Q7);
(variable 9) average frequency of contact (Q8);
(variable 10) average length of acquaintance (Q9);
(variables 11 through 18) number of alters respectively who are spouse, parents, siblings, extended family coworkers, comembers of organizations with respondent, neighbors, and friends (Q10 response categories);
(variables 19 through 34) average extent to which conversations with alters respectively cover topics of work and the respondent's job,

marriage and sex roles, personal finance, food and eating, parents, children, religion, medical care, fashion, books/newspapers/magazines, art and music, television, racial issues, crime/police/criminals, local politics, extralocal politics (Q11 response categories);

(variable 35) average age (Q12);

(variables 36 through 38) number of alters respectively who are Catholic, Protestant, and Jewish (Q13 response categories);

variables 39 through 41) number of alters respectively who have Republican, Democrat, and Independent political party affiliation (Q14 response categories); and

(variable 42) average income (Q15).

Note that dividing "sixth" alter variables 3 through 7, 11 through 19, and 37 through 42 by five or the number of persons named as intimates (whichever is smaller) easily creates network range measures of social integration (e.g. females as a proportion of the interpersonal environment, kin as a proportion of the environment, Catholics as a proportion, and so on).

For the more sophisticated analyst, the remaining 190 alter specific variables would follow these aggregate "sixth" alter variables on the GSS data tape.

Appendix

Q1. From time to time, most people discuss important personal matters with other people. Looking back over the last six months -- that would be back to last August -- who are the people with whom you discussed an important personal matter?

Please just tell me their first names or initials. (RECORD NAMES IN THE ORDER LISTED BY RESPONDENT AND RECORD TOTAL NUMBER OF PEOPLE NAMED. IF FEWER THAN FIVE NAMES ARE GIVEN, PROBE: Anyone else?)

RESPONDENT

```
 _____
|  EC    |   _____
| var 1  |  FIRST NAME
 _____
|  EC    | S EC  |   _____
| var 2  | var 3 |  SECOND NAME
 _____
|  EC    | S EC  | S EC  |   _____
| var 4  | var 5 | var 6 |  THIRD NAME
 _____
|  EC    | S EC  | S EC  | S EC   |   _____
| var 7  | var 8 | var 9 | var 10 | FOURTH NAME
 _____
|  EC    | S EC   | S EC   | S EC   | S EC   |  _____
| var 11 | var 12 | var 13 | var 14 | var 15 | FIFTH NAME
```

NUMBER OF PEOPLE NAMED

```
 _____
|      |
|      |
 _____
```

IF NO ONE IS NAMED,
SKIP TO QUESTION 16

IF ONLY ONE NAME CAN BE OBTAINED, CIRCLE THE VAR 1 EC AND SKIP TO QUESTION 5

Q2. Do you feel equally close to all of these people? ____Yes ____No

IF YES, THEN CIRCLE THE EC CODE IN THE RESPONDENT COLUMN FOR EACH ROW NAMED

IF NO, THEN ASK: Who is especially close to you? (CIRCLE THE EC CODE IN THE APPROPRIATE ROW OF THE RESPONDENT COLUMN IN THE MATRIX)

Q3. Please think about the relations between the people you just mentioned. Are [NAME 1] or [NAME 2] or [NAME 3] or [NAME 4] or [NAME 5] total strangers, in the sense that they wouldn't recognize one another if they bumped into one another on the street? ____Yes ____No IF NO, SKIP TO QUESTION 4

IF YES, THEN ASK: Who among them are strangers? (CIRCLE THE S CODES IN THE APPROPRIATE BOXES OF THE MATRIX -- SKIP TO QUESTION 5 IF MATRIX IS FULL)

☐ ALL ARE STRANGERS - CIRCLE S IN NAMED ROWS, THEN SKIP TO QUESTION 5

Q4. Are any of these people especially close to one another, as close to each other, for example, as they are to you? ____Yes ____No

IF YES, THEN ASK: Who among them is especially close? (CIRCLE THE EC CODE IN THE APPROPRIATE BOXES OF THE MATRIX)

☐ ALL ARE ESPECIALLY CLOSE - CIRCLE EC BETWEEN NAMED ROWS

We'd like to find out a little about each of these people.
(WRITE IN THE NAMES OF PEOPLE LISTED IN QUESTION 1 ACROSS THE COLUMNS BELOW)

Questions and Response Codes	Name 1	Name 2	Name 3	Name 4	Name 5

Q5. [FIRST NAME] is [male/female]? (INSERT YOUR BEST GUESS BASED ON ALTER NAME. WAIT FOR CONFIRMATION OR CORRECTION FROM RESPONDENT. REPEAT FOR EACH NAME)

Male...........1
Female.........2

| 1 2 | 1 2 | 1 2 | 1 2 | 1 2 |

Q6. Is **[FIRST NAME]** Asian, Black, Hispanic, White or something else? (FOR OTHER NAMES IF PROMPT IS NEEDED: And [NAME]?)

Asian..........1
Black..........2
Hispanic.......3
White..........4
Other..........5
Refused........8
Don't know.....9

| 1
2
3
4
5
8
9 | 1
2
3
4
5
8
9 | 1
2
3
4
5
8
9 | 1
2
3
4
5
8
9 | 1
2
3
4
5
8
9 |

Q7. This card lists general levels of education (HAND CARD Q7). As far as you know, what is **[FIRST NAME]**'s highest level of education? (PROBE: What is your best guess? RECORD VERBATIM IF NOT CODEABLE.) (IF PROMPT IS NEEDED FOR OTHER NAMES: And [NAME]'s? or What is [NAME]'s education?)

1. 1 to 6 years
2. 7 to 9 years
3. 10 to 12 years
4. High school grad
5. Some college
6. Associate degree
7. Bachelor's degree
8. Graduate degree
9. Don't know

| 1
2
3
4
5
6
7
8
9 | 1
2
3
4
5
6
7
8
9 | 1
2
3
4
5
6
7
8
9 | 1
2
3
4
5
6
7
8
9 | 1
2
3
4
5
6
7
8
9 |

Q8. On average, do you speak with **[FIRST NAME]** almost every day, at least once a week, at least once a month, or less than once a month? (FOR OTHER NAMES IF PROMPT IS NEEDED: And how often do you speak with [NAME]?)

Daily..........1
Weekly.........2
Monthly........3
Less often.....4
Don't know.....9

| 1
2
3
4
9 | 1
2
3
4
9 | 1
2
3
4
9 | 1
2
3
4
9 | 1
2
3
4
9 |

Q9. Have you known **[FIRST NAME]** for less than three years, three to six years, or more than six years? (FOR OTHER NAMES IF PROMPT IS NEEDED: And how long have you known [NAME]?)

Less than three.1
Three to six....2
More than six...3
Don't know......9

| 1
2
3
9 | 1
2
3
9 | 1
2
3
9 | 1
2
3
9 | 1
2
3
9 |

Q10. Here is a list (HAND CARD Q10) of some of the ways in which people are connected to each other. Some people can be connected to you in more than one way. For example, a man could be your brother and he could belong to your church and be your lawyer. When I read you a name, please tell me all the ways that person is connected to you.

REPEAT FOR EACH NAME: **How is [NAME] connected with you?** (INITIAL PROBE: **What other ways? -- SUBSEQUENT PROBES AS NEEDED: Any other ways?**)

Spouse..........1	1	1	1	1	1
Parent..........2	2	2	2	2	2
Sibling.........3	3	3	3	3	3
Child...........4	4	4	4	4	4
Other family....5	5	5	5	5	5
Coworker........6	6	6	6	6	6
Comember........7	7	7	7	7	7
Neighbor........8	8	8	8	8	8
Friend 9	9	9	9	9	9
Advisor........10	10	10	10	10	10
Other..........11	11	11	11	11	11
Don't know.....DK	99	99	99	99	99

Q11. **This card lists some topics that people talk about** (HAND CARD Q11). **Over the last six months -- that would be back to last Christmas -- what topics on the list almost always came up in your conversations with [FIRST NAME]?** CIRCLE CITED CODES; THEN ASK: **What topics on the list almost never came up in your conversations with [FIRST NAME]?** DRAW AN X OVER CITED CODES.

REPEAT FOR EACH SUBSEQUENT NAME: **What about [NAME]. What topics almost always came up in your conversations?** THEN: **What topics almost never came up?**

Work/job.........1	1	1	1	1	1
Marriage/sex.....2	2	2	2	2	2
Finance..........3	3	3	3	3	3
Food/eating......4	4	4	4	4	4
Parents.........5	5	5	5	5	5
Children........6	6	6	6	6	6
Religion........7	7	7	7	7	7
Medical matters..8	8	8	8	8	8
Clothes/fashion..9	9	9	9	9	9
Books & mags....10	10	10	10	10	10
Art/music.......11	11	11	11	11	11
Television......12	12	12	12	12	12
Racial issues...13	13	13	13	13	13
Crime...........14	14	14	14	14	14
Local Politics..15	15	15	15	15	15
Other Politics..16	16	16	16	16	16
Don't know......DK	99	99	99	99	99

Q12. **How old is [FIRST NAME]**? (PROBE: **What is your best guess?**) (REPEAT FOR EACH NAME)

```
Number of years    ┌──────┐  ┌──────┐  ┌──────┐  ┌──────┐  ┌──────┐
Refused.......8    │      │  │      │  │      │  │      │  │      │
Don't Know....9    └──────┘  └──────┘  └──────┘  └──────┘  └──────┘
```

Q13. **What is [FIRST NAME]'s religious preference? Is it Protestant, Catholic, Jewish, some other religion, or no religion?** (PROBE: **What is your best guess?"** FOR OTHER NAMES IF PROMPT IS NEEDED: **What about [NAME]?**)

```
Protestant......1    1          1          1          1          1
Catholic........2    2          2          2          2          2
Jewish..........3      3          3          3          3          3
Other...........4        4          4          4          4          4
None............5          5          5          5          5          5
Refused.........8    8          8          8          8          8
Don't know......9    9          9          9          9          9
```

Q14. **Is [FIRST NAME] generally a Republican, Democrat, Independent, or what?** (REPEAT FOR EACH NAME. ENCOURAGE RESPONDENT TO "GUESS" IF NECESSARY.)

```
Republican......1    1          1          1          1          1
Democrat........2      2          2          2          2          2
Independent.....3        3          3          3          3          3
Refused.........8    8          8          8          8          8
Don't know......9    9          9          9          9          9
```

Q15. **Finally, given these levels of earnings** (HAND CARD Q15), **what would you estimate [FIRST NAME]'s earnings were last year -- 1983? By earnings we mean his/her own wages or salary, or income from his/her own business or profession -- before taxes or other deductions.** Just tell me the letter. (PROBE FOR BEST GUESS. FOR OTHER NAMES IF PROMPT IS NEEDED: **What about [NAME], what would you guess his[her] earnings were last year?** PROBE FOR BEST GUESS)

```
1(A)  Under $4,000      1          1          1          1          1
2(B)   $4,000 - 6,999   2          2          2          2          2
3(C)   $7,000 - 9,999   3          3          3          3          3
4(D) $10,000- 14,999      4          4          4          4          4
5(E) $15,000- 19,999        5          5          5          5          5
6(F) $20,000- 24,999      6          6          6          6          6
7(G) $25,000 & over     7          7          7          7          7
 8.   Refused           8          8          8          8          8
 9.   Don't know          9          9          9          9          9
```

spouse -- your wife, or husband, or a person with whom you are living as if married

parent -- your father or mother

sibling -- your brother or sister

child -- your son or daughter

other family -- for example, grandparent, grandchild, cousin, aunt, uncle, nephew, niece, or an in-law

coworker -- someone you work with or usually meet while working

member of a group to which you belong -- for example, someone who attends your church, or whose children attend the same school as your children, or belongs to the same club, classmate

neighbor -- someone outside your own household who lives close to you in your neighborhood

friend -- someone with whom you get together for informal social occasions such as lunch, or dinner, or parties, or drinks, or movies, or visiting one another's home; this includes a "boyfriend" or a "girlfriend"

professional advisor or consultant -- a trained expert you turn to for advice, for example, a lawyer or clergyman

other

Show Card Q10 Distinguishing Kinds of Relationships

```
                    work and your current job
    marriage and relations with persons of the opposite sex
       personal finance (bills, major purchases, credit)
                 food and deciding what to eat


                            parents
                           children
                      religious matters
                        medical care


                     clothes and fashion
                  books, newspapers, magazines
                         art and music
                          television


                         racial issues
                  crime, police and criminals
                        local politics
                   state or national politics
```

Show Card Q11 Distinguishing Topics of Conversation

Note

The General Social Survey Board of Overseers and Principal Investigators have acted to include network items in the 1985 GSS. During the Board's 1984 spring meeting, the proposed network items were strongly endorsed for the 1985 GSS. The proposed items were adapted to the GSS format and pretested by National Opinion Research Center field and operations staff during the summer. During the 1984 fall meeting, the Board of Overseers voted unanimously to include the network items in the 1985 GSS. To enable you to correctly anticipate the network data soon to be available, some of the initially proposed items listed in the Appendix have been edited to reflect changes made by the National Opinion Research Center staff. The proposed matrix of relational data under Q1 will be obtained, but (in the interest of reliability as discussed in the text) a long form version of items Q3 and Q4 will be used rather than the proposed short form. Also, the core name interpreter items (Q5 through Q10) will appear on the survey. However, the "topics of conversation" and "income" name interpreters (Q11 and Q15) are not scheduled to appear on the survey. Further, the "age", "religion", and "political affiliation" name interpreters (Q12, Q13, and Q15) might not appear on the survey if further pretesting suggests that the network items are taking up too much interview time. The 1985 GSS is scheduled to go into the field in February and a clean data tape will be available through the usual channels in July.

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