A babysitting exchange program was created for a group of women in order to build a social support network and to provide a test of the buffer hypothesis (i.e., the idea that social support may shield an individual from the negative physical and mental consequences of stress, particularly when stress is at high levels). The sample consisted of 30 inner-city women with children younger than 12 years of age. Prior to the first general co-op meeting, mothers were interviewed and pretests were administered. Measures included the Life Experience Survey, the Behavior Stress Index, and the Social Network Assessment Scale. At the first general meeting, the Symptom Checklist 90-Revised, the Tension and Depression Subscales of the Profile of Moods States, and the Proxy Measure of Health Status were administered. During the 28th week of operation, co-op members were reinterviewed and posttested. Two months after posttesting, a follow-up measure of co-op use was obtained. A steady increase in use of the co-op was observed as the women formed small groups and pairs that traded babysitting services. About half the women indicated that they found the co-op helpful. Co-op use continued after the study ended. Participation in the babysitting co-op did not have a differential impact on high- and low-stressed mothers. The implications of these findings are discussed. (RH)
Building Social Support Systems through a Babysitting Exchange Program

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Running head: BUILDING SOCIAL SUPPORT SYSTEMS
Abstract

A babysitting exchange program was created for a group of women in order to build a social support network and provide a test of the buffer hypothesis. There was a steady increase in use of the co-op as the women formed small groups and pairs that traded babysitting services. The process of developing this support system is described. About half the women indicated that they found the co-op helpful and use continued after the study ended. Participation in the babysitting co-op did not have a differential impact on high and low stressed mothers. The implications of these findings are discussed.
Building Social Support Systems through a Babysitting Exchange Program

Dohrenwend and Dohrenwend (1974) suggested that stressful life events can leave individuals in a weakened state, and therefore more vulnerable to emotional disturbance. Since stressful life events account for only a small portion of the variance with regard to disorders (Andrews, Tennant, Hewson & Vaillant, 1978; Wilcox, 1981), the concept of social support has been offered as a moderating variable on the effects of stressful life events on psychopathology (Dohrenwend, 1978).

Many theorists have proposed that social support may act as a buffer, shielding an individual from the negative physical and mental consequences of stress, particularly when an individual is under high levels of stress (Cassel, 1975). The buffer hypothesis was, for example, examined in the work of Nuckolls, Cassel, and Kaplan (1972) who found that women classified as having high life change scores with high psychosocial assets had one third (33%) the complications of women with high life change scores with low psychosocial assets (91%). This finding suggests that a high level of social support exerts a protective effect on pregnant women who are
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exposed to numerous stressors. Similar results have been found when studying academic performance (Sarason, 1981), parenting (Crockenberg, 1981), employment (Gore, 1978), and bereavement (Maddison & Walker, 1967).

A number of studies have sought to identify specific qualities of social networks which may have a positive impact on the individual. Hirsch (1979), for example, studied the network characteristics of college students, and found that the strongest predictor of satisfaction with one's network was the number of multidimensional relationships. In addition, during final exam week, students reported more satisfaction with support received from low density networks. It appears that both low density social networks and multidimensional relationships lead to more varied interaction and greater complexity, and that this variety may be more effective in promoting personal growth and in enhancing adaptation to stress.

In another study, Stokes (1983) studied several components of social networks, including, size, presence of confidants, dominance of relatives in the network, and density. In his study of young adults, the number of confidants was the strongest determinant of satisfaction with one's social networks. There is a need to develop methods to more
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precisely differentiate different components of social support (Nair & Jason, in press).

Individuals can and do initiate efforts which have effects on the type of support they receive (Heller & Swindle, 1983). Several investigators have been able to examine changes in social support dimensions as a function of interventions. For example, Liotta and Jason (1983) found that reciprocity of support between parents decreased when only the mother was provided behavioral training for her acting out child. When the father was also provided the training, rates of reciprocity between parents increased to their former levels. Hirsch and David (1983) introduced nurse managers to the concept of social networks. The nurses were able to form resource groups which provided emotional support in working toward common goals. Jason, Douglas, Nair, and Billingham (1984) demonstrated that students could learn to assess their own support needs and use behavioral techniques to increase levels of social support.

The present study attempted to build a source of support for mothers. In establishing a babysitting co-operative, mothers would have a new resource in addition to other support resources available to them. Since the
buffer hypothesis proposes that social support serves a health protective role when the individual is under stress, women participating in the babysitting co-operative were divided into high and low stress groups. Physical and mental health were assessed prior to the construction of a babysitting co-operative and at a six month follow up testing. It was hypothesized that high stress mothers participating in the babysitting co-operative would report a greater positive change in mental and physical health than the low stress mothers participating in the babysitting co-operative. This study also examined several social network characteristics to determine if density and multidimensionality were related to satisfaction with one's network.

Method

Sample

The sample consisted of thirty inner-city women with children younger than twelve years of age. The women were recruited by sending letters home with grade school children, placing notices in day care centers, the YMCA, and community newspapers, and speaking with mothers at several day care facilities. The final sample consisted of ten Black, sixteen Caucasian, and four Hispanic mothers.
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Of these, eighteen were single parents and twelve were married and living with spouses. The women were generally in a lower-middle income group and had an average educational level of 13 years.

Measures

Life Experience Survey (LES)

The LES is a 47 item self-report measure designed to assess both the desirability and importance of life events the respondent has recently experienced. Sarason, Johnson, & Siegel, (1976), have provided test-retest reliability coefficients which demonstrate that the LES is a moderately reliable instrument, particularly in the case of the negative change scores ($r = .88$, $p < .01$).

Behavior Stress Index (BSI)

The BSI is a list of 20 problems or concerns applicable to mothers of young children. The items are rated on a five point, Likert-type scale with respect to how worrisome the problem is to the respondent. Hobbs (1965) administered a 28 item form of the test and obtained a split-half reliability coefficient of .62. Corveth and Gottlieb (1979) chose 20 of these items that were most successful in discriminating high and low stress mothers. The 20 item form of the BSI scale was used since it focuses on
specific potential life stressors for mothers rather than on stressful life events in general.

**Symptom Checklist 90-Revised (SCL-90-R)**

The SCL-90-R (De Rogatis, Limpman, Rickels, Uhlenhuth, & Covi, 1974) is a self-report inventory of psychological symptoms. Respondents rate 90 symptoms on a five point Likert-type scale. These responses provide a measure of symptoms on nine different dimensions of psychopathology: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. These are combined to yield a global measure of psychopathology (range = 0-4). The internal consistency reliability coefficients reported by De Rogatis, et al. (1974) ranged from .77 to .90 for the nine dimensions, while the test-retest reliability coefficients are at acceptable levels, ranging from .84 to .90.

**Profile of Moods States - Tension and Depression Subscales (POMS-T,D)**

Two subscales from the POMS (McNair, Lorr, & Dropplemann, 1971) were used. Each item is a one-word description of an emotion (e.g., unhappy, panicky, etc.) and the respondent rates the item on a five-point Likert-type scale with respect to how often they have felt this way in the past.
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week. The tension subscale consists of nine items and is designed to measure subjective perceptions of anxiety and tension. The test-retest reliability of the tension subscale was .70 (McNair, et al., 1971). The depression subscale consists of 15 items and is designed to assess a mood of depression as well as a sense of inadequacy. The test-retest reliability of the depression subscale was .74.

Proxy Measure of Health Status (PMHS)

The PMHS (Kisch, Kovner, Harris & Kline, 1969) consists of four questions, two of which assess the evidence of acute illness and two of which assess chronic illness. The more serious the illness, the higher the score assigned to its presence. Kisch, et al. (1969) compared responses on the PMHS with results of medical examinations by two physicians and found significant agreement between the two sources about the severity of the medical problems ($X^2 = 18.58, p < .01$).

Social Network Assessment Scale (SNAS)

The SNAS, developed for use in this study, was administered in order to assess several network variables. The women were first asked to respond to six questions which paralleled the five categories of possible social
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support delineated by Hirsch (1980): Cognitive guidance (Who would you go to if you needed some information or advice?), Social Reinforcement (Who are the people who would let you know when they like your ideas or the things that you do?), Tangible Assistance (Who are the people that you know that would lend you money or some type of object that you needed?, What people would help you to do something which you needed help doing?), Socializing (Who are the people you get together with to have fun or to relax?), and Emotional Support (Who would you talk to about things which are very personal or private?).

Density. Respondents were asked if each network member was "friends" with each other network member in an effort to determine the density of network members. Density was calculated according to the method reported by Hirsch (1979), where X equals the number of friendships and N equals the number of people in the social network. Density then equals x/[N(N-1)/2].

Type of Relationship. Respondents were asked to label network members as family, friend, co-worker, or neighbor. Froland, Brodsky, Olsen, and Stewart (1979) and Tolsdorf (1976) used only kin versus non-kin to
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determine type of relationship. Friend, co-worker and neighbor were added here to extend the descriptive value of the non-kin category. Responses were expressed in terms of the percent in the respondent's network of each category.

**Multidimensionality.** Respondents were given a list of activities, which included socializing, school, church, neighborhood, family, and work, and were asked to rate how many of these activities they were likely to do with each network member. Multidimensionality was computed by dividing the number of network members with whom there was more than one activity listed by the total network size. While Hirsch (1980) used a subjective three point interviewer rating of friendship multidimensionality, in this study it was felt that listing specific types of possible interaction would increase the accuracy of this scale.

**Satisfaction.** Satisfaction with network members was assessed with a five point Likert-type scale, which ranged from very dissatisfied (1) to very satisfied (5) with the relationship. An average network satisfaction score was calculated by dividing total satisfaction scores by network size. This method is like that used by Hirsch (1979, 1980).
Co-op Evaluation Form

This questionnaire consists of multiple choice questions that determine reasons for use of and satisfaction with the co-op. Open ended questions also allowed the participants to expand on the strengths and weaknesses of the co-op.

Procedure

Prior to the first general co-op meeting, mothers were interviewed in their homes. During these interviews, the purpose of the co-op was explained, and the LES, BSI and SNAS were administered. After all interviews were completed, a general co-op meeting was held.

Four goals were met at the first group meeting. (Since all mothers could not attend this meeting, a second meeting was scheduled so that all mothers could participate in this first important meeting.) First, the necessary information and materials for implementing the co-op were distributed. A list of women's addresses, phone numbers, children (number and age), and times available for babysitting was provided to each co-op member. In addition, each woman received 20 babysitting coupons to use as a base. Each coupon was worth one hour of babysitting. Thus, women exchanged coupons rather than
money for babysitting services. Second, many parental concerns were discussed, such as discipline of visiting children, reliability of parents returning for children at the appointed time, and fears of children during first-time visits. During this rather spirited discussion, a third purpose was being achieved - the women were beginning to get to know each other. Many recognized that they shared similar concerns, had characteristics in common, lived near one another, and had children of similar ages. Finally, the general meeting provided the investigator an opportunity to administer the SCL-90-R, POMS-T,D and PMHS.

The women agreed to schedule a second general meeting in two months. They were informed that the facilitator (first author) would contact them weekly during the interim to determine how much they were using the co-op and to discuss any problems that had developed.

The second set of large meetings was held two months later. Discussions at these meetings focused on the difficulties in beginning to use the co-op (i.e., fear of imposing on others by calling at the last minute, fear of being the first to ask for services, and reluctance to leave very young children for the first time). At these
meetings specific exchanges were encouraged. Rather than another group meeting, the mothers decided to have a picnic in two months. Although enthusiasm for the outing during phone conversations was high, attendance was low (only five mothers attended the event). Several women expressed disappointment at missing the picnic for a variety of reasons.

During the 18th, 19th and 20th week of the co-op's operation, three small group meetings were arranged around separate geographic areas. These meetings had an attendance of five, four, and six respectively. During these smaller meetings, the women discussed their successful experiences with sharing. These small groups turned out to be primarily social as discussion did not center exclusively around co-op activities.

During the 28th week of operation, members of the babysitting co-operative were re-interviewed and the SCL-90-R, POMS-T,D, PMHS, and SNAS were administered a second time. Participants were also asked to complete the Co-op Evaluation Form.

Two months after the post-testing (the 37th week), all co-op members were contacted to determine the number of hours they had used the co-op in that week. This was a follow up measure of co-op use.
Results

Outcome Measures

Stress

The BSI was added to the negative change score from the LES to create a Total Stress score with a mean for the sample of 48.8 (Range = 23-125). The median Total Stress score (41) was used to split the sample into 15 high stress and 15 low stress women. The mean Total Stress score for the high stress group was 63.07 and for the low stress group, 34.53. The two groups differed significantly on the SCL-90-R with the high stress group (X = 1.73) reporting significantly higher psychopathology scores than the low stress group (X = 1.38) [t(28) = 2.08, p < .05]. The high stress group also reported higher levels of depression and tension, but this difference was not statistically significant. The two groups did not differ significantly on the initial network characteristics measured by the SNAS.

Primary Dependent Measures

To determine if the social support intervention, the co-op, had a differential impact on the high and low stress groups, two by two repeated measures analyses of variance were performed (high versus low stress; pre versus
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Data from the pre and post intervention administration of the SCL-90-R, tension subscale, depression subscale, and PMHS provided the dependent variables for the four analyses. No significant main effects or interaction effects were found.

Process Issues

Patterns of use of the co-operative were diversified and evolved over time. Examining the use of the co-op as a whole is possibly not as useful as considering the various types of co-op users. There were four different types of co-op users: those who used the co-op by forming small closed groups, those who used the co-op exclusively within pairs, those who used the co-op sporadically, and those who did not use the co-op at all.

Total Co-op Use

During the 27 week data collection period, a total of 384 hours of babysitting was provided by co-op members to each other (See Figure 1). Each episode of use of babysitting services was confirmed by the investigator by talking with both parents (mother with the child, mother who provided the babysitting) during the weekly phone calls. This method was used to insure the reliability of the self-report data. During the first eight weeks of data
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collection, the average co-op use was 5.9 hours per week.

Insert Figure 1 about here

The second general meeting was held during the eighth week. In the next seven weeks (weeks nine through fifteen), the period between the second and third general meetings, the average weekly co-op use was 11.3. During the next twelve week period, there were small group meetings during weeks 18, 19, and 20. The average weekly use during the last twelve weeks was 20.4 hours. The drop in co-op use in weeks 25, 26, and 27 may be attributed to the fact that these weeks occurred in mid August when many women were taking vacations and thus, less likely to require babysitting services. At the two month follow up, the co-op was used 35 hours during the 37th week.

Small Groups

Two small clusters of women who tended to use each other's services almost exclusively are described below.

Group A. Five women who lived within a mile radius of each other used the services of the same day care center. The women were single working mothers with children between the ages of seven and ten. Four women were Black, and
the fifth was a Caucasian, whose child was Black. They were of similar socioeconomic status. The women initiated a series of successful visits and outings with the children (e.g., going to the zoo, roller-skating). Once trust was established, swapping began to occur. These women had natural common bonds, and this apparently contributed to their choice of each other in forming a viable group of mothers sharing services.

**Group B.** Four other women, with several common characteristics, lived close to one another. This group was composed of one Hispanic and three Caucasian women with children younger than four years of age. They either worked outside the home on only a part time basis or were full time home-makers. These women were not accustomed to leaving their children with non-family members, so despite professed need for "a break" from the home and children, they were reluctant to take this step. Following the second group meeting, they began to leave their children for short periods of time with each other. After a small group meeting in the 20th week, co-op use increased and was maintained through post-testing.
Pairs

Four pairs of women began to trade with each other, and once the pairing was established, they did not seek babysitting services from the rest of the co-op members. In general, these were women who lived very close to one another, were similar in terms of race, marital status, and employment, and in all but one case, had children of the same age.

Sporadic Users

There were three women who sporadically used the co-op. These women attended the first general meetings, but they were not present at subsequent general or small group meetings.

Nonusers

Ten women did not use the co-op at any time. The reasons given for not participating included: availability of family members for babysitting, feeling uneasy about leaving children with "strangers", and feeling that other co-op members lived too far away. This group was composed of five Caucasian, three Hispanic, and two Black women. These women did not score significantly different from other co-op members on pre-existing network characteristics or in terms of level of stress. The one comparison that
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did approach significance was multidimensionality. Those who did not use the co-op reported networks with higher multidimensional relationships than those reported by users of the co-op [t(28) = -1.84, p < .08]. This finding suggests that individuals with networks that already meet a variety of needs will be less likely to seek babysitting services from a separate structure.

Social Network Assessment Scale

The SNAS was administered both before the co-op began and at the post-test. While none of the women listed names of other co-op members on the pre-test, eight members listed co-op members as part of their social network on the post-test. The correlations between the network variables at the two testing points were: density (r = .63, p < .01), type of relationship (r = .77, p < .01), multidimensionality (r = .61, p < .01), and satisfaction (r = .71, p < .01).

The relationship between satisfaction with network on the one hand, and multidimensionality and density of relationships on the other, was of theoretical interest. The work of Hirsch (1979) predicts both a negative correlation between satisfaction and density and a positive correlation between satisfaction and multidimensionality. In the present study satisfaction evidenced a small, nonsignificant
relationship to multidimensionality ($r = .03$) and density ($r = .17$). In addition, a group of 13 women were identified who had specifically reported high multidimensionality (greater than 50%) and low density (less than 50%) in the original network assessment. There was no significant difference on ratings of satisfaction with network relationships when these 13 women were compared with 17 other co-op members.

Satisfaction with social network was related to several prepoint adjustment measures. Satisfaction was significantly correlated with total stress ($r = -.45$, $p < .05$), amount of tension ($r = -.36$, $p < .05$), and depression ($r = -.50$, $p < .01$).

**Follow up Questionnaire**

On the evaluation form, co-op members were asked to comment on why they used the co-op, and to evaluate the co-op in terms of their satisfaction with it. Of those who used the co-op, 43% participated in it in order to socialize, 30% to enable them to go to school or work extra hours, 17% to create time in order to do chores, and only 10% to secure time alone. To the question of how women chose an individual to call on in the co-op, the most frequent answer (47%) was "we lived close to one another".
In response to what was the major factor which encouraged them to get involved in the co-op, 46% of the women referred to the original list of names and addresses provided at the first general meeting, 37% cited the large group meetings, and 16% the small group meetings. Seventy percent of the women stated that it was easy or very easy to have children in their homes.

Fifteen women reported that they were satisfied with the co-op, 14 reported feeling neutral and one was dissatisfied with the co-op. Those who were neutral or negative felt that they had not used the co-op enough to benefit from it.

Stress variables, health and adjustment measures, and network characteristics of those women who were satisfied with the co-op were compared to measures of women who were not satisfied with the co-op. In terms of pre-test stress and pre- or post-test health and adjustment measures (SCL-90-R, POMS-T,D, and PMHS), there were no significant differences between the two groups. One interesting finding was apparent, however, when pre-test network characteristics were examined: Those who reported satisfaction with the co-op had networks composed of significantly more families \[t(28) = 2.47, p < .05\]
and fewer friends \( t(28) = -3.02, p < .01 \) than those who were neutral or dissatisfied with the co-op. (For this comparison, all ratings were divided into either family or friend, this latter category included friends, neighbors, and co-workers.) This suggests that women with few friendships with non-family members were more responsive to a structure that put them in touch with women who could be potential friends.

Discussion

While this study does not provide support for the buffer hypothesis, several factors may help to explain the data. First, the majority of the women (57%) reported using the co-op for reasons not related to social support, such as working extra hours, doing chores, or spending time alone. For these women, the co-op served a valuable function, but not the function envisioned by the experimenter. Second, examination of Figure 1 reveals that there was a steady increase in co-op use over time, with many of the women who did eventually become involved in the co-op on a regular basis not participating until the last three months of data collection. The follow up data provide evidence of continued use of the co-op and suggest that the co-op remained a viable alternative for
child care. The experience of the co-op as a way to enhance social support may have come too late in the process to be reflected in the global measures of mental and physical health. In addition, since ten women did not use the co-op, which represents one third of the sample, the possible facilitating effects of support were diminished.

This study's most important contribution to the understanding of social support groups is the information gained from the attempt to create a source of support for women. The existing social support literature presents few attempts to actually build social support networks, perhaps due to the difficulty in attempting such an intricate and sensitive operation.

Many women were initially hesitant to use the co-op. They did not want to be the first to call and/or they were afraid to leave the children with mothers they did not know well. In order to stimulate more usage, meetings were planned, periodic newsletters which told members of changes in addresses and phone numbers were initiated, and members were contacted weekly to determine if they had used the co-op or planned to use it. Large and small group meetings were used to explore the fears involved in
using the network. Social visits helped overcome some initial awkwardness that many mothers were feeling. These visits ranged from watching television in each other's homes to visiting a zoo or a museum. Such visits were successful in breaking the ice in many cases, since trading generally followed these outings. Women were encouraged to call each other - particularly in cases where potential links were obvious and both parties were having difficulty taking the first step. These prompts were initiated during weekly telephone contacts and at the meetings.

Several factors were important determinants of whether women would trade babysitting services with each other. If women knew each other before the co-op, in even the most minor way, they were more likely to build on this past association than to seek out entirely new women in the co-op. In addition, women tended to link up with those members who were like them in terms of marital status, race, and/or age of children. Of the active exchanges, 61% were of the same race, 69% had the same marital status, and 78% had children within one year of the same age. Finally, proximity appears to be an important determinant of co-op exchange since 77% of
swappers lived within one mile of each other. Proximity not only allowed for the easy exchange of children, but it facilitated the preliminary social visits that were important in promoting co-op use.

In the present study multidimensionality and density of network relationships were not found to be significantly related to network satisfaction. Since the present study included only thirty participants, it is best to be conservative about these findings until other evaluations are conducted. The relationship between network satisfaction and social support is complex, and perhaps other variables such as current life situation and personality style need to be considered in further research.

The present attempt to build a babysitting co-op was most successful when the members were of similar demographic backgrounds, lived fairly close to one another, and already had some prior knowledge of each other. More research is needed to determine if these variables or others are responsible for the successful creation of social support networks. Although support for the buffer hypothesis was not found, and possible reasons for this have been previously considered, it is of importance that an effort was made to actually create a support system. The fact that it
continued to be used several months after the study had ended suggests that it was perceived as useful to the mothers. There is a need for more research that systematically attempts to stimulate the creation of support networks and evaluate their effectiveness.
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Figure Caption

Figure 1. Hours of Use of the Babysitting Co-op.