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ABSTRACT

The Parent Services Project (PSP) is a family resource program which provides supportive activities for highly stressed and socially isolated parents based on the "social support as a stress-buffer" model of primary prevention. A PSP evaluation followed parents as they went through the PSP program and compared them with a matched control sample of low-income parents from other state-funded child care centers. Questionnaires about life events and stress, social support, and psychological symptoms were administered to parents when their children first entered PSP child care centers, again in 15 months, and finally 15 months later when most children had graduated from the centers. Evaluation findings included the following: (1) at the study's beginning, both the PSP and control groups were highly stressed, socially isolated, and, therefore, at high risk for the development of psychological symptoms; (2) by the second interview, PSP parents had decreased slightly in support and significantly in stress and psychological symptoms, while the control group had decreased greatly in support and only slightly in stress and symptoms; (3) at the final interview, PSP parents had stabilized, demonstrating very slight reductions in stress, support, and symptoms, while the control parents decreased dramatically in support, increased in stress, and increased significantly in symptoms; and (4) cultural variations in stress and social support influenced symptom development within the PSP sample. (AC)

PARENT SERVICES PROJECT EVALUATION:

FINAL REPORT OF FINDINGS

by

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EXECUTIVE SUMMARY

The Parent Services Project (PSP) Evaluation is a unique study that bridges the gap between the analytical and applied traditions in the field of social support research. As a prospective study with an experimental design, it evaluates the therapeutic impact of both the PSP program and individual support networks in reducing stress and psychological symptoms over time. As such, it contributes to both analytical and applied research in social support and primary prevention.

The Parent Services Project provides supportive activities for parents based on the "social support as a stress-buffer" model of primary prevention. This model basically states that stress makes people vulnerable to the development of psychological symptoms. Social support, however, buffers this stress by helping people to cope and adapt, thereby reducing symptom development. PSP is a family resource program which provides a type of institutionalized support in an informal environment to parents who are highly stressed and socially isolated, and thus at high risk for the development of psychological symptoms and other forms of family dysfunction. PSP's ultimate goal is to empower parents to enrich their own lives and improve the developmental environment of their children.

The PSP Evaluation tested this model by studying parents as they went through the PSP program and comparing them with a matched control sample of low-income parents from other state-funded child care centers. Questionnaires about stress, social support, and psychological symptoms were administered to parents when their children first entered the centers, again in fifteen months, and finally fifteen months after this second interview, when most children had graduated from the centers. This strategy has provided us with outcome information on the effectiveness of PSP.

The most significant findings of this evaluation are as follows:

> PSP's goals of reducing and preventing psychological symptoms are being achieved. The short term (first fifteen months) effect of PSP was to significantly reduce psychological symptoms as compared to the control group's modest reduction in symptoms. The longer term impact of PSP is in the prevention of further symptom development. In the last fifteen months of the study, the PSP group stabilized at a relatively low level of symptoms, while the control group increased dramatically in symptoms. This demonstrates that access to child care alone does not decrease the deleterious impact of high stress and social isolation without the supportive benefits that a family resource program such as PSP provides.
>
> At the beginning of the study, both the PSP and control groups were in fact highly stressed and socially isolated, and therefore at high risk for the development of psychological symptoms. Symptom scores were extremely high (relative to the non-patient adult population) in both groups at this time.
>
> By the second interview, PSP had decreased slightly in support and significantly in stress and symptoms, while the control group had decreased greatly in support and only slightly in stress and symptoms.
>
> At the final interview, PSP parents had stabilized, demonstrating very slight reductions in stress, support and symptoms, while the control parents decreased dramatically in support, increased in stress and significantly increased in symptoms.

PSP's supportive effects did not extend to increasing the size or supportiveness of parents' informal networks outside the program.

Cultural variations in stress and social support played an important role in the patterns of symptom development within the PSP sample, but the PSP program demonstrated significant positive effects on the lives of parents from all cultures represented.

The relatively moderate impact of PSP during the final phase of the study may be attributed in part to budget cuts and decreased levels of participation in PSP activities.

Based on these findings and on our qualitative evaluation of organizational aspects of the PSP program, we make the following policy recommendations:

PSP should continue to receive funding at levels that are adequate to preserve the integrity and therapeutic benefits of the program. Minor budget reductions in family resource programs like PSP can have major deleterious organizational and client impact. Therefore, support by public and private foundations should be conceptualized as a long rather than short-term commitment.

PSP has proven both cost effective and beneficial to public health. Because of its proven efffectiveness, existing PSP legislation should be adopted and expanded as a demonstration project by the state Department of Education.

An evaluation component should be incorporated into new family resource programs at the beginning of the program development phase.

PSP, Inc. should disseminate the PSP model and provide technical assistance to agencies developing PSP programs in the form of information on program development, grant writing and evaluation. This information should be provided to new agencies entering PSP, Inc. and to the control centers who participated in this study in the hope of developing PSP programs for their parents.

Until full funding is achieved, PSP should attempt to provide as many different types of activities as possible. This range should be maintained even at the cost of reducing the total number of activities or the expenditure for each activity.

PSP should also concentrate on educational and supportive activities that promote the development of parents' skills in acquiring and utilizing the social support resources that are available to them. Training parents to organize and develop their own parent support groups (in conjunction with schools and other organizations in which their children are involved) prior to leaving the PSP environment is crucial to maintaining parent empowerment and capitalizing on the benefits of PSP on a long term basis. Such parent action groups, facilitated by PSP but run by alumni parents, could serve as a continuous form of social support for alumni families.

PSP should attempt to network with other community resource groups, particularly local colleges and mental health centers that may be able to provide low-cost assistance, volunteers and interns to the PSP program or to parents in the program on a referral basis.

In conclusion, the PSP Evaluation finds that the PSP program is effective in reducing parents' symptom levels in the short term and preventing symptom development on a longer term basis. This symptom reduction promotes the development of parent empowerment and healthy family functioning, which are crucial to the healthy development of children. Those children who have had the benefit of a healthy developmental environment, especially during their preschool years, are more likely to develop into healthy adults and parents themselves. Thus PSP has the potential of breaking the cycle of family violence and dysfunction so prevalent in this society and creating positive outcomes for future generations. Whether this potential will be realized depends on the extent to which social support levels can be maintained by parents after they leave the PSP program. The policy recommendations outlined are intended to insure that the benefits gained from family resource programs such as PSP are maximized and maintained. Future research on the children of PSP parents may determine the "final" outcome of the PSP program.

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I. Background

The Parent Services Project (PSP) was established to provide social support to low-income parents whose children are enrolled in state subsidized child care. These services exist in 20 centers that are geographically distributed in three Northern California counties: San Francisco, Alameda and Marin. The parents who attend PSP activities are ethnically, linguistically and culturally representative of the diversity of this Northern California population. PSP has been funded for the past several years through private grants from San Francisco Foundation, Marin Community Foundation and Zellerbach Family Fund.

The PSP program is as diverse as its parent population. Activities range from educational to cultural to recreational events and may include just the parents or the whole family. The philosophy behind all PSP activities is that if the parents can maintain a healthy level of functioning in their own lives, they will enrich and improve the lives of their children. PSP provides supportive activities in a natural environment to help parents maintain that healthy level of functioning. In addition, parents are involved in developing and executing PSP activities, which contributes to a sense of empowerment. The development of parent leadership and empowerment is a crucial component of the PSP model and program.

The PSP philosophy is expressed well in analytical terms by the "stress-buffer theory of social support". This theoretical model suggests that stress reduces people's physical or emotional defenses and leaves them vulnerable to disease states or other pathology. Social support, however, buffers this stress by helping people to cope and adapt, thereby decreasing the likelihood of symptoms developing while helping to maintain optimal functioning. According to this model, there is an interaction effect of stress and social support on psychological symptoms. Thus, social support should be most effective when stress levels are high. When stress levels are low, social support should have few major effects on symptom development.

Family resource programs, like PSP, that operate on the stress-buffer model make an implicit assumption that their target group of families are, in fact, under high levels of stress. If stress levels in these families were not high, the model suggests that social support programs would not be very helpful or cost effective to those families. PSP, then, assumes that the parents served are at high risk for the development of psychological symptoms, child abuse and other family problems. PSP's ultimate goal is to prevent the development or continuation of these family problems and promote the development of parent empowerment through the use of supportive interventions. Preventive interventions in PSP are accomplished through the use of the informal yet systematic support provided by other parents and staff at PSP activities.

The Parent Services Project Evaluation is designed to evaluate the effectiveness of the PSP program and to test the validity of the assumptions behind the PSP model. With this dual goal and by utilizing experimental design in a longitudinal study, the PSP Evaluation is able to bridge the gap between analytical and applied research in the field of social support. The PSP Evaluation measures levels of stress, informal support and psychological symptoms, as well as supportiveness of PSP interventions over time. Parents receiving the intervention from PSP constitute an experimental group, and parents not receiving the intervention but who are matched in other ways (economic status, ethnicity, and access to similar child care resources) to PSP parents constitute a control group. This provides us with outcome measures of psychological and social functioning, which can be attributed to the individual's support network as well as to the PSP intervention. As a prospective, longitudinal study, the PSP Evaluation can substantially contribute to analytical as well as applied research.

II. Evaluation Methods

Parents from 35 child care centers were interviewed for this study: 20 PSP centers and 15 control centers. The PSP centers include seven centers from the Parent Child Development Centers, Inc. (PCDCI) in Oakland, ten centers from Marin County, one center (Companeros del Barrio) in the Mission District of San Francisco, and two centers (Wu Yee Child Care Center and Wu Yee Resource and Referral Center) in Chinatown, San Francisco.

In selecting control centers, we attempted to match the PSP population in terms of economic status and ethnicity. For economic status, we acheived this match by selecting only state-funded child care centers, which have the same income requirements for entry as PSP centers. We then selected two centers to match the mostly black population of parents in Oakland, four centers in Sonoma County to match the mostly white, but culturally diverse population in Marin County, three centers in the Mission District of San Francisco to match the Hispanic population at Companeros del Barrio, and six centers to match the Chinese parent population at the Wu Yee centers.

Two groups of parents were interviewed at each of these centers. The first group of parents (Cohort 1) entered PSP or Control centers in the period of June through November of 1985. The second group of parents (Cohort 2) entered the centers from June through November of 1986. The first group of parents was interviewed three times at fifteen month intervals. Cohort 2 parents were only interviewed twice, once at entry and again fifteen months later. The total sample of parents, combining both Cohorts 1 and 2 at the time of the second interview, includes 255 people, of which 169 are PSP parents and 86 are control parents. This report will cover the combined sample for the first two interviews as well as the third interview with Cohort 1 parents. The interviews with parents were highly structured, utilizing paper and pencil questionnaires. The first questionnaire was a brief demographic profile developed by the PSP Evaluation team. Two of the questionnaires used in the study were developed or modified by Jane Norbeck: the Life Events Questionnaire and the Norbeck Social Support Questionnaire. These are our measures of stress and social support. Psychological symptoms were measured by the Brief Symptom Inventory (BSI) developed by Leonard Derogatis.

The Life Events Questionnarire (LEQ) lists 79 possible life events and asks the respondent to decide: (1) whether the event occurred in his or her life during the past year; (2) whether the event had a positive or negative effect on his or her life; and (3) what the degree of the event's effect was. In addition, the LEQ allows the respondent to list three more life events that have occurred during the past year but were not included in the original list of events. Each event was given equal weight in the analysis. However, some events are likely to be much more stressful than other events. For example, "death of a spouse or partner" is probably more stressful than "credit rating difficulties". Such differences are not accounted for in this summary.

The Norbeck Social Support Questionnaire (NSSQ) asks respondents to list significant people in their lives and their relationship to those people. Respondents are then asked questions about how much support they receive from each of the people listed in their network, how long they have known the person, and how often they have contact with the person. Norbeck's questionnaire asks questions about emotional, instrumental and appraisal or evaluational support. We added four questions that ask the respondent to rate the support they receive in their roles as parents. One of those questions measures an additional category of support: informational support. The parents were asked to respond to these questions on a scale ranging from 1 = no support received to 5 = a great deal of support received.

The Brief Symptom Inventory (BSI) is a short (53 questions) questionnaire that measures the number of psychological symptoms a respondent experienced during the past week and the degree of distress resulting from those symptoms. The BSI was scored by clustering the 53 items into nine symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoia and psychoticism. Three global scores were also computed for the BSI: the Global Symptom Index (GSI), the Positive Symptom Distress Index (PSDI) and the Positive Symptom Total (PST). The GSI is the strongest and most inclusive summary score for the BSI, while the PST simply measures the number of symptoms a person reports, and the PSDI measures the average degree of distress a person feels from each symptom. These scores were then converted to standardized scores, which allows us to compare the scores for each respondent with the scores for a much larger general reference population of non-patient adults. One final variable derived from the BSI, the "case variable", may be used as a diagnostic guideline for psychiatric cases, and it is suggested that individuals scoring positively on this variable may benefit from some form of psychological therapy or counseling.

III. Findings from Follow-up Interviews

A. Full Sample of Parents at Time 1 and 2

The full sample of the PSP and Control groups includes parents from both Cohort 1 and 2 who have been interviewed at the time of entry into the program and at a second follow-up interview fifteen months later. The PSP and Control groups are well matched on several variables. The demographic information reported here was recorded at the time of the first interview. The mean age of both groups is 30. There are far more women than men in both groups; 21% of the PSP sample are men, while only 14% of the control sample are men. Both groups have an average of slightly more than two children living in the home. Significantly more PSP parents, however, consider themselves "partnered" than control parents (66% vs. 52%). This means that nearly half the control group are single parents vs. about one-third of the PSP group. Table 1 shows that the ethnic match of the PSP and Control groups is fairly good, even with a 34% attritition rate between the first and second interviews. There is a slight over-representation of Blacks and a slight under-representation of Chinese parents in the control sample, however.

About two-thirds of the parents in both the PSP and the Control groups graduated from high school. There are slight differences in employment status between the groups. About 67% of the PSP group is employed at least part time, while only 58% of the Control group is employed. Mean per capita income for the Control group, however, is somewhat higher than for the PSP group.

TABLE 1: ETHNIC MATCH OF PSP VS. CONTROL GROUP

GROUP	ASIAN	BLACK	WHITE	HISPANIC	OTHER	TOTAL
PSP	38 22%	29 17%	36 21%	63 37%	3 1%	169 66%
CONTROL	12 14%	18 21%	21 25%	33 39%	1 1%	85 * 34%
TOTAL	50 20%	47 19%	57 22%	96 38%	4 2%	253 * 100%

* There are two cases missing ethnic information in the control group. The percentages in the columns within the table are row percents. The percentages in the column at the far right are column percents.

This income measure is the annual household income divided by the number of family members. Both groups are poor: PSP=$3,696; Control group=$3,910. The difference is not significant.

The demographics of the two samples are important as some of the key demographic variables are related in important ways to psychological symptoms. In the regression analysis, we found that ethnicity, "partnership" status and education were significantly related to symptoms at time 2. Specifically, Asians and "partnered" parents were less likely to have high symptom scores, while caucasian parents, and parents with higher education levels were more likely to have high symptom scores at time 2. This may be a function of cultural variation in reporting symptoms. We found consistently throughout the study that Asian parents were less likely to report psychological symptoms. It may be that caucasian parents and parents who are more educated are more accustomed to taking psychological and other kinds of tests, and thus are less reticent to report symptoms.

At the time of entry into the program, both groups were indeed highly stressed and socially isolated, and therefore at high risk for development of psychological symptoms. The LEQ scores were higher in both groups than Norbeck's original sample of low income single mothers. (See J.S. Norbeck, "Modification of the Life Events Questionnaire for use with female respondents," Research in Nursing and Health, March, 1984.) As Table 2 demonstrates, the Control group showed higher scores than the PSP group on all stress variables at time 1, but the differences were

Table 2: Cohort 1 and 2: Life Events Questionnaire Scores at Time 1 and 2 and Change Scores for PSP vs. Control group (N=255).

LEQ SCORE	TIME 1		TIME 2		TIME 2 - 1	
	PSP	CONTROL	PSP	CONTROL	PSP	CONTROL
Total Number of Life Events	13.85	14.47	10.24	13.10***	-3.61	-1.36
Total Degree of Effect of Negative Life Events (weighted)	35.43	38.95	22.31	36.21***	-13.12	-2.74*
Total Degree of Effect of All Life Events (weighted)	55.89	59.03	39.87	55.78***	-16.02	-3.26*

* The two-tailed T-test for the difference between the PSP and Control groups is significant at the .05 level.
*** The two-tailed T-test for the difference between the PSP and Control groups is significant at the .001 level.

not significant. Social isolation is indicated by the low scores on the NSSQ, which are generally lower for the PSP group than the Control group (see Table 3). In fact, PSP parents had significantly fewer people in their networks at time 1 than control parents.

As the stress-buffer model of social support indicates, high levels of stress are positively related to high symptoms in our regression analysis. Negative life events have a stronger effect on symptoms than positive life events, but the effect of all life events combined is also significantly related to high symptom scores. This is not surprising. Our social support findings are puzzling, however. In this group of parents, the size of the network and the average duration of relationships with network members are positively related to psychological symptoms at time 2. A parent's perception of having lost support from network members during the past year is also positively related to symptoms. Part of the reason for this puzzling finding may be that small close-knit networks of family and friends are more supportive than larger networks of acquaintances.

These differences in demographics, stress and support translate into higher pyschological symptoms for control parents at time 1 (see Table 4). The Control group scores higher than the PSP group on all global scores and symptom dimensions on the BSI, with significant differences on the Positive Symptom Distress Index and anxiety. Both groups have high scores on the BSI at time 1. Since the BSI scores are standardized, all scores above 50 on the BSI are higher than the average score for the

Table 3: Cohort 1 and 2: Norbeck Social Support Questionnaire Scores at Time 1 and 2 and Change Scores for PSP vs. Control group (N=255).

NSSQ SCORE	TIME 1 PSP	CONTROL	TIME 2 PSP	CONTROL	TIME 2 - 1 PSP	CONTROL
Number of People in Network	8.44	10.62**	7.91	8.74	-0.53	-1.88*
Average Duration of Relationships	4.20	4.25	4.38	4.37	0.18	0.12
Average Frequency of Contacts	3.89	3.99	4.09	4.06	0.23	0.08
Total Functional Support Received from Network	204.81	238.63	195.74	207.55	-4.70	-31.08

* The two-tailed T-test for the difference between the PSP and Cont groups is significant at the .05 level.
** The two-tailed T-test for the difference between the PSP and Control groups is significant at the .01 level.

Table 4: Cohort 1 and 2: BSI Scores at Time 1 and 2 and Change Scores for PSP vs. Control group (N=255).

BSI SCORE	TIME 1 PSP	TIME 1 CONTROL	TIME 2 PSP	TIME 2 CONTROL	TIME 2 - 1 PSP	TIME 2 - 1 CONTROL
GSI	56.62	58.48	54.15	57.28*	-2.47	-1.20
PSDI	55.63	57.97*	54.32	56.78*	-1.31	-1.19
PST	54.70	56.99	52.89	56.40**	-1.81	-0.58
Obsessive-Compulsive	56.08	56.63	53.16	55.83*	-2.92	-0.80
Depression	55.35	55.71	53.20	56.35**	-2.16	0.64
Anxiety	53.96	56.85*	51.59	53.44	-2.37	-3.41
Hostility	55.74	59.12**	54.05	58.71***	-1.69	-0.41
Psychoticism	58.36	59.23	55.76	58.71*	-2.59	-0.52

* The T-test for the difference between the PSP and Control groups is significant at the .05 level.
** The T-test for the difference between the PSP and Control groups is significant at the .01 level.
*** The T-test for the difference between the PSP and Control groups is significant at the .001 level.

non-patient adult population. Both groups score higher than 50 on all global scores and symptom dimensions of the BSI. This high symptom level is even more evident when looking at the case variable (Table 5): 46% of PSP and 52% of control parents would probably be diagnosed as psychiatric cases at time 1. Therefore, parents in both groups are not only at high risk for mental disorder, but are already experiencing high levels of symptoms at the time of their entry into the day care center.

By interview 2, the picture has changed considerably for the PSP group, but there has been very little change in the control group. The stress levels of both groups have decreased over time, but the PSP group decreases significantly more on stress than the control group (see Table 2). By the second interview, the number of life events, the degree of effect of negative life events and the degree of effect of all life events are significantly lower in the PSP group than in the control group. The change scores for the effect of negative life events and for the effect of all life events are also significant. (See the appendix for variable definitions.)

The changes over time in the social support scores from the NSSQ are more complex. Both groups decrease in the number of people they report in their networks, but the control group decreases significantly more than the PSP group (Table 3). Even with this reduction in network size, the control group still has larger networks at time 2 than the PSP group. The total functional support scores also decrease as the number in the network declines; the decrease is greater in the control group

Table 5: Cohort 1 and 2: Case variable Changes over Time 1 and 2 in PSP and Control Groups (N=255).

CASE	TIME 1		TIME 2	
	PSP	CONTROL	PSP	CONTROL
NO	91	41	102	42
(Col. %)	53.8%	47.7%	60.4%	48.8%
YES	78	45	67	44
(Col. %)	46.2%	52.3%	39.6%	51.2%
TOTAL	169	86	169	86

than in the PSP group, although the difference is not significant. The average duration of relationships and average frequency of contacts scores, however, increase in both groups, suggesting that subjects are dropping people from their network lists that they see less frequently, e.g., acquaintances. By time 2, the networks are smaller and more closely knit, composed mostly of family and close friends.

Functional support scores represent hypothetical support (i.e., support that the subject thinks they may receive from individuals in their network if they need it), while the average frequency of contacts is a better measure of actual support received. Therefore the actual amount of support received from each person in the network may be higher. PSP increases more than the Control group on both average duration and average frequency of contacts scores, but the differences are not significant.

The timing and the type of social support may be as important as the amount of support received for the relief of stress in the lives of these parents. Table 6 gives a more detailed breakdown of the types of social support that parents in the PSP and control groups feel they are receiving. Control parents feel they are receiving more general support than PSP parents at time 1 and time 2, but when it comes to support in their roles as parents, PSP parents feel they receive more support than control parents by time 2. In fact PSP parents have gained support over this time interval while control parents have lost a great deal of support, and the difference is significant. This may be

Table 6: Cohort 1 and 2: Detailed Functional Support Scores from Norbeck Social Support Questionnaire at Time 1 and 2 and Change Scores for PSP vs. Control group (N=255).

NSSQ	TIME 1		TIME 2		TIME 2 - 1	
SCORE	PSP	CONTROL	PSP	CONTROL	PSP	CONTROL
General Social Support:[a]						
Emotional Support	50.10	59.83	47.50	50.63	-2.60	-9.21
Evaluational Support	45.49	53.26	42.92	46.00	-2.56	-7.26
Instrumental Support	39.54	47.40	37.92	42.49	-1.62	-4.91
Parent-Specific[b] Support:	68.73	78.14	69.98	68.43	1.25	-9.71 *
Informational Support	16.68	19.50	17.14	12.06	1.19	-2.36 *
Evaluational Support	17.86	19.16	16.84	16.64	-0.92	-2.52
Emotional Support	20.02	23.50	20.12	20.16	0.22	-3.34
Instrumental Support	13.99	15.98	14.39	14.49	0.67	-1.49

a. Each general social support measure is the sum of two questions relating to that type of social support for each person in the network.

b. The "Parent-specific" support category is the sum of four questions relating to social support given to parents in their roles as parents. The categories of support in the "parent-specific" group each represent only one question relating to that type of social support; thus the scores are lower. The scores are also lower because parents tended to report feeling less supported in their roles as parents than in other areas of their lives.

* The one-tailed T-test for the difference between the PSP and Control groups is significant at the .05 level.

because PSP parents are getting direct support from PSP for their roles as parents or because they are learning (possibly through PSP) how to reach out and get more support from their networks in their parenting roles. Probably both of these factors are operating. This "parental support" factor may partially explain why PSP parents are reducing their psychological symptoms even with an apparent loss of social support.

Psychological symptom scores, the outcome measures, are most encouraging for the PSP program. By time 2, PSP parents have decreased significantly more than control parents on all global symptom measures and on four symptom dimensions, obssessive-compulsive, depression, hostility and psychoticism. Table 4 shows that the BSI scores for the PSP group have decreased almost to the level of the average for the non-patient adult population. The control group scores, however, are still quite high. (Only the symptom dimensions with significant differences are reported in Table 4.) The case variable is down 6.6% for the PSP group, but only 1.1% in the control group. By time 2, only 40% of the PSP group is experiencing symptoms severe enough to warrant a psychiatric diagnosis, while over half (51%) of the Control group is still experiencing symptoms of this intensity (Table 5). While this difference is small (12%) and not statistically significant, it represents an important qualitative improvement in the lives of those PSP parents.

Our regression analysis also demonstrated that PSP has an effect in reducing symptoms, as membership in PSP was negatively related to symptoms at time 2 in the regression equation. Length of time in the child care center, however, (for the combined sample of the PSP and Control groups) was positively associated with symptoms at time 2. When only Cohort 1 parents are considered, however, length of time in the PSP program is negatively associated with symptoms (this will be discussed in more detail in the next section). The point here is that having accessible child care does not constitute enough support to reduce parents' symptoms without the addition of a supportive program like PSP.

The significance of the symptom reduction in the PSP group can be better understood when we examine the "paired t-tests" for the PSP and Control groups separately (Tables 7a and 7b). These tables show that the difference between scores at time 1 and time 2 are significant within the PSP group. For example, the GSI score at time 2 in the PSP group is significantly lower than the GSI score at time 1 in the PSP group, regardless of the control group's score. This is true in the PSP group for all of the global scores and for five symptom dimensions on the BSI: obsessive-compulsive, depression, anxiety, phobia and psychoticism. The Control group does not decrease significantly on any of the global scores, but it does decrease significantly on two of the symptom dimensions, anxiety and phobia. This represents a qualitative difference in the lives of PSP parents as well as a quantitative difference between PSP and Control groups.

The Summary Tables (Tables 8 and 9) give a brief look at how stress and social support relate to symptoms in the PSP and

Table 7a: Cohort 1 and 2: Paired T-tests for BSI Scores at Time 1 and 2 for PSP group (N=169).

BSI SCORE	TIME 1	TIME 2	TIME 2 - 1
GSI	56.62	54.15	-2.47 **
PSDI	55.63	54.32	-1.31
PST	54.70	52.89	-1.81 *
Obsessive-Compulsive	56.08	53.16	-2.92 ***
Depression	55.35	53.20	-2.15 **
Anxiety	53.96	51.59	-2.37 **
Phobia	54.13	51.59	-2.54 **
Psychoticism	58.36	55.76	-2.59 **

Table 7b: Cohort 1 and 2: Paired T-tests for BSI scores at Time 1 and 2 for Control group (N=86).

BSI SCORE	TIME 1	TIME 2	TIME 2 - 1
GSI	58.48	57.28	-1.20
PSDI	57.97	56.78	-1.19
PST	56.99	56.41	-0.58
Anxiety	56.85	53.44	-3.41 **
Phobia	54.59	52.66	-1.93 *

* The T-test for the difference between the interval is significant at the .05 level.

** The T-test for the difference between the interval is significant at the .01 level.

*** The T-test for the difference between the interval is significant at the .001 level.

SUMMARY TABLE 8: PSP VS. CONTROL GROUP

GROUP	TIME 1 GSI	STRESS CHANGE	SUPPORT CHANGE	TIME 2 GSI
PSP	56.61	-16.02*	-4.70	54.15*
CONTROL	58.48	-3.26	-31.08	57.28

* The differences between the PSP and Control groups on stress and on the Global Symptom Index at Time 2 are significant at the .05 level.

SUMMARY TABLE 9: PSP VS. CONTROL GROUP FOR EACH AREA

GROUP	TIME 1 GSI	STRESS CHANGE	SUPPORT CHANGE	TIME 2 GSI
Oakland PSP	56.79	-21.07	2.07	57.43
Oakland Control	55.71	-1.54	-46.75	56.38
Marin PSP	57.46	-23.08	3.08	56.64
Marin Control	60.54	-12.42	-2.81	58.96
Mission PSP	60.29	-16.52*	-18.70	56.66
Mission Control	60.00	6.21	-62.09	59.04
Chinatown PSP	49.40*	-1.11	-14.01	45.54*
Chinatown Control	56.50	-5.75	1.00	51.92

* The differences between the PSP and control groups in each area on the one-tailed t-test are significant at the .05 level for these variables. The sample sizes for each group are as follows: Oakland PSP=28; Oakland Control=24; Marin PSP=50; Marin Control=26; Mission PSP=56; Mission Control=24; Chinatown PSP=35; Chinatown Control=12.

Control groups (Table 8) and in each geographic area (Table 9). In general, for the PSP group, a significant reduction in stress and a minor reduction in support has translated into a significant reduction in symptoms at time 2. For the Control group, a small reduction in stress and a large reduction in support has yielded a very small reduction in symptoms. The changes from Time 1 to Time 2 in the four different geographic areas of the PSP and Control groups are more complicated. In Oakland, for example, the PSP group decreased dramatically in stress and increased slightly in support, but increased slightly on symptoms. The Oakland Control group decreased only slightly on stress and decreased greatly on support and still managed to reduce their symptoms slightly. This difference may be a result of the high symptom scores in the Cohort 2 group at PCDCI.

The other three PSP groups demonstrate lower time 2 symptom scores than their corresponding control groups. Only the Chinatown PSP group (Wu Yee), however, has significantly lower symptom scores than the control group. Wu Yee parents accomplished this symptom reduction even with a minor stress reduction and a major support reduction, while the Chinese control group achieved a smaller symptom reduction even with a reduction in stress and an increase in support. Control parents in the Mission District showed only a slight symptom reduction, while their stress scores actually increased and their support scores decreased dramatically. Their PSP counterparts had a significant stress reduction with a large decrease in support that translated into a large symptom reduction. Marin PSP parents were fortunate enough to have a large reduction in stress and a slight increase in support that led to a decrease in symptoms. Marin control parents also decreased in symptoms, although they experienced a reduction in support as well.

These findings are somewhat puzzling, but some of the differences between the PSP groups can be explained by a "cohort effect"; ie. the Cohort 1 parents faired better during their first fifteen months in the study than the Cohort 2 parents in some of the PSP centers. There is some evidence from the PSP participation data that there was a higher level of PSP activity at the Marin centers during the second phase of the study than at PCDCI, Wu Yee or Companeros. The overall level of participation in PSP dropped by 33% from the Phase 1 period (in which only Cohort 1 parents during their first fifteen months of the program were studied) and the Phase 2 period (which included Cohort 2 parents during their first fifteen months and Cohort 1 parents during their second fifteen months), judging from our PSP Participation Index data. (This rate does not include those parents who dropped out of the study before they were re-interviewed at Time 2.) The participation in the Marin centers, however, only fell off by 6% during the Phase 2 period, while PCDCI participation decreased by 31%, Wu Yee by 58%, and Companeros decreased by 86%.

These figures must be taken only as an indication of actual level of PSP activity, because they only measure the parents in the study who were able to return the PSP Participation Index after each activity. Actual numbers of parents participating in

PSP are much higher than these statistics reflect. But the differences between the PSP groups over this period of time may be a result of funding cuts in the PSP program during the period that Cohort 2 parents were entering PSP. This issue will be discussed further in the next section.

B. Follow-up Findings for Cohort 1 Parents at Time 3

The findings for Cohort 1 parents at their third interview, conducted about fifteen months after the second, are quite interesting. We must be extremely careful in drawing any conclusions from this data, however, because of the small sample size, especially for the control group. By time 3, we had lost 59% of the control sample and 61% of the PSP sample. The original numbers (at time 1) were 147 parents in the PSP group and 34 in the control group. At time 3, the PSP group consists of 57 parents and the control group of 14. Beyond the fact that the numbers are so small, the groups are not well matched on a crucial variable, ethnicity. The original sample was not very well matched on this variable, and the attrition rate has systematically decreased the adequacy of our control sample. For example, the control group experienced a complete (100%) attrition of caucasian parents, while the PSP group had an 85% attrition rate of black parents. As a result, the PSP and control groups are significantly different from each other on the variable of ethnicity (see Table 10). The Control group has an over-representation of blacks and an under-representation of Hispanics, Asians and whites as compared to the PSP group.

Table 10: Ethnicity at Time 3 for Cohort 1 PSP vs. Control Groups (N=70). ***

ETHNICITY	PSP		CONTROL	
	N	%	N	%
Asian	10	17.9	2	14.3
Black	6	10.7	9	64.3
White	16	28.6	0	0
Hispanic	23	41.1	3	21.4
Native American	1	1.8	0	0
Total	56	98.2%	14	100.0%

*** The differences between the PSP and Control groups are significant. Chi-square = 20.05; p < .001. Note that one case is missing in the PSP group.

Although this fact limits the validity of our data, some of the other demographic differences seem to counter this effect.

Other demographic differences between the PSP and Control groups include the fact that 21% of the PSP sample is male, while there are no males in the control sample. Also 68% of the PSP sample is married and 75% consider themselves "partnered", while only 36% of the control sample is married and 57% partnered. The PSP parents have slightly more children (an average of 2.3 vs. 2.1), and their children tend to be somewhat older, although the parents themselves are somewhat younger (mean age = 32.3 in the PSP group vs. 35.6 in the control group).

More of the control group have graduated from high school than the PSP group (79% vs. 74%), but more PSP parents have experienced at least some college than control parents (53% vs. 38%). At the time of the third interview, more control parents were employed full time (71%) than PSP parents (only 46%), and more PSP parents were unemployed (33% vs. 21%). Perhaps for that reason, and partly because the control parents are older, they have a higher per capita income than the PSP parents ($5847/year vs. $5061/year). Both groups are poor, but they have more income than their Cohort 2 counterparts. This, again, may be partly a result of the age difference. These differences between the PSP and control groups are not statistically significant.

In the regression analysis with Cohort 1 parents, we found that several demographic variables are related to symptoms at time 3. Ethnicity has a strong impact on symptoms; specifically, being Asian or black significantly reduces the level of symptoms at time 3, while being Hispanic increases the likelihood of symptoms at time 3. Since there are more Asians and Hispanics in the PSP group and more blacks in the control group, this seems to lessen the impact of the uneven ethnic distribution in our PSP and control samples. Being female, and having higher educational and income levels also increase the level of symptoms at time 3. The last two are somewhat puzzling, yet consistent with the findings from the full sample of parents. The most important finding in the regression analysis is that being a member of the PSP group instead of the control group significantly reduces the level of symptoms at the final follow-up interview.

The Cohort 1 parents differ over time in their stress patterns compared to the Cohort 2 parents (see Table 11a and 11b). In the PSP group, the Cohort 1 parents start out with higher stress than Cohort 2 parents, decrease in stress at time 2, then increase slightly at time 3, judging by their total effect of life events scores. In fact, they actually experience more life events at time 3 than at time 1, though they don't feel as effected by them. Recall that the full PSP sample decreased significantly in stress during their first fifteen months in PSP, while the control group decreased only slightly. The Cohort 1 control parents started out with very high levels of stress (although they experienced fewer events than the Cohort 1 PSP parents), decreased greatly at time 2, and then increased at time 3 to a score considerably higher than their original level.

Overall (from time 1 to time 3), the PSP group decreases slightly in stress (based on the total effect of life events

Table 11a: Cohort 1: Life Events Questionnaire Scores at Time 1, 2 and 3 (N=71).

LEQ SCORE	TIME 1 PSP	TIME 1 CONTROL	TIME 2 PSP	TIME 2 CONTROL	TIME 3 PSP	TIME 3 CONTROL
Total Number of Life Events	14.28	13.00	10.25	12.07	14.95	14.29
Total Degree of Effect of Negative Life Events (weighted)	37.16	44.29	23.54	36.00	27.02	41.86 *
Total Degree of Effect of All Life Events (weighted)	58.44	60.00	41.75	54.21	54.98	62.71

* The one-tailed t-test for the difference between the PSP and control groups at time 3 is significant at the .05 level.

Table 11b: Cohort 1: Change Scores for LEQ (T3-T1; N=71).

LEQ SCORES	TIME 3 - TIME 1 PSP	TIME 3 - TIME 1 CONTROL
Total Number of Life Events	0.67	1.29
Total Degree of Effect of Negative Life Events (weighted)	-10.14	-2.43
Total Degree of Effect of All Life Events (weighted)	-3.46	2.71

scores), while the control group increases. All of the stress reduction for the PSP group occurs between time 1 and time 2. The control group has some stress reduction between time 1 and 2, but the increase between time 2 and 3 more than cancels out this original reduction. The difference between the PSP and control groups at time 3 on the effect of <u>negative</u> life events is statistically significant, and in fact, the PSP group decreases substantially from time 1 to time 3 on this variable. This is important because negative life events are more likely to produce symptoms than positive events. In this sample as in the full sample, stress (as measured by the total weighted effect of life events) is significantly positively associated with symptoms at time 3.

We did not expect PSP to have much direct effect on the level of stress parents experienced, except through direct instrumental support (e.g., sick child care may help a parent keep his or her job if a child is sick for an extended period). No social support program can significantly decrease the number of life events a person experiences. In fact PSP seems to have had more direct effect on stress than we expected. Although the PSP parents actually experienced more life events betweem time 2 and 3, they did not feel as bothered or "stressed out" by those events. Further, the PSP parents experienced more positive events than negative events at time 3, which was about twice as many positive events as they had experienced at time 2. The control group, on the other hand experienced more negative events than positive events at time 3 and felt more effected by those events. Thus they had higher subjective stress scores even though they experienced fewer events overall than the PSP group.

The social support scores for the Cohort 1 groups are represented in Tables 12a and 12b. The Cohort 1 PSP group starts with higher social support scores than the Cohort 2 group (as judged by the number of people in their networks and the total functional support scores), and then decreases over time to about the same level as Cohort 2. The Cohort 1 scores for control parents are consistently lower than their cohort 2 counterparts. At time 1 control parents have higher support scores than PSP parents in the cohort 1 group. Over time, however, the control group decreases to a lower level of social support.

Overall, PSP parents consistently decrease less in the number of people in their networks and their total functional support levels than the control parents. The PSP group also increases consistenty on duration of relationship and frequency of contact scores, while the control group increases on these variables from time 1 to time 2, but then decreases to about the level of the original scores at time 3. None of the differences between the PSP and Control groups of Cohort 1 approach statistical significance.

Although the social support scores for the PSP and control groups are not significantly different for Cohort 1 parents, the relationship between social support and symptoms for this group is in the direction predicted by the stress buffering hypothesis. The regression analysis shows that those parents with larger networks and greater frequency of contact with network members

Table 12a: Cohort 1: Norbeck Social Suppport Questionnaire Scores at Time 1, 2 and 3 (N=71).

NSSQ SCORE	TIME 1		TIME 2		TIME 3	
	PSP	CONTROL	PSP	CONTROL	PSP	CONTROL
Number of People in Network	9.39	9.86	8.49	7.29	8.02	6.50
Average Duration of Relationships	4.02	4.53	4.22	4.65	4.26	4.59
Average Frequency of Contacts	3.65	4.01	4.03	4.31	4.09	4.05
Total Functional Support	208.80	220.36	204.16	187.79	193.61	171.21

Table 12b: Cohort 1: Change Scores for NSSQ (T3-T1; N=71).

NSSQ SCORES	TIME 3 - TIME 1	
	PSP	CONTROL
Number of People in Network	-1.37	-3.36
Average Duration of Relationships	0.24	0.06
Average Frequency of Contacts	0.25	0.04
Total Functional Support Received from Network	-10.15	-49.14

decreased more over time on their level of psychological symptoms than parents with fewer contacts. Parents who have known their network members for a longer period of time are also less likely to exhibit high levels of symptoms at time 3. (Only significant differences are reported from the regression analysis.) Recall that in the full sample, size of network demonstrated a <u>positive</u> relationship to psychological symptoms. The differences between the full sample over a shorter period of time and this smaller sample over a longer period of time on the relationship between the size of the network and psychological symptoms may be an indication that close-knit networks of family members and friends are important, especially for emotional support in times of high stress, but over a longer period of time parents need the additional contacts and resources provided by larger (and perhaps more diverse) networks.

The differences between Cohort 1 PSP and control groups on psychological symptom scores over time are highly significant and quite interesting. Tables 13a and 13b report only the BSI scores that demonstrate statistical significance, but the PSP group decreases more than the control group on every global score and symptom dimension on the BSI between time 1 and time 3. The PSP group's symptom scores at time 3 are significantly lower than the control group's scores on the GSI, PSDI, PST and two symptom dimensions: anxiety and paranoia (Table 13a). In addition, the change scores from time 1 to time 3 (Table 13b) show that PSP decreases while the control group increases significantly on all three global scores and six of the nine symptom dimensions:

Table 13a: Cohort 1 BSI Scores at Time 1, 2 and 3 (N=71).

BSI	TIME 1		TIME 2		TIME 3	
SCORE	PSP	CONTROL	PSP	CONTROL	PSP	CONTROL
GSI	55.40	53.79	53.77	55.79	53.79	60.86**
PSDI	54.00	57.86	52.88	59.50*	52.71	61.79**
PST	53.33	52.00	52.18	53.07	52.36	58.14*
Anxiety	55.09	51.00	52.30	51.21	52.98	60.07*
Paranoia	56.42	59.93	56.60	61.57*	54.79	64.86***

Table 13b: Cohort 1 Change Scores for BSI (T3-T1; N=71).

BSI	TIME 3 - TIME 1	
SCORES	PSP	CONTROL
GSI	-2.20	7.07 ***
PSDI	-1.54	3.93 *
PST	-1.41	6.14 **
Obsessive-Compulsive	-1.14	6.50 ***
Depression	-1.07	5.64 *
Anxiety	-2.43	9.07 **
Hostility	-2.36	3.86 *
Phobia	-2.70	6.50 **
Paranoia	-1.89	4.93 **

* The T-test for the difference between the PSP and Control groups is significant at the .05 level.

** The T-test for the difference between the PSP and Control groups is significant at the .01 level.

*** The T-test for the difference between the PSP and Control groups is significant at the .001 level.

obsessive-compulsive, depression, anxiety, hostility, phobia and paranoia.

When Table 13b is examined carefully, we can see that the major difference between the PSP and control groups is accounted for by the increase in symptoms in the control group rather than the reduction of symptoms in the PSP group. This seems to indicate that PSP's primary goal of preventing symptoms is being accomplished. The symptom reduction in the PSP group is not that dramatic, but if the control group's scores are any indication of what the PSP group's scores would have looked like had PSP parents not had the benefit of PSP, then PSP has in fact done these parents a remarkable service. The mean scores for the control group are so high at time 3 that the entire sample is near the cut-off point (64 on the GSI or on any two symptom dimensions) that most clinicians would regard as a diagnostic case. In fact only 57% of the parents in the Cohort 1 control sample score higher than that cut-off point and would be regarded as diagnostic cases, but the rest are very close to it.

On the other hand, 43% of the PSP parents score positively on the case variable at time 3, and the others are considerably below the cut-off point. As can be seen from Table 13a, the time 3 scores for the PSP group are nearer the average for the general adult population (50) than the case variable cut-off. This is particularly remarkable since the PSP group started off at time 1 with higher scores than the control group on the BSI.

The paired t-tests on the change scores within the groups in Table 14a and 14b show that the symptom reduction within the PSP

Table 14a: Cohort 1: Paired T-tests on BSI Change Scores at Time 1, 2 and 3 for PSP Group (N=57).

BSI SCORE	TIME 2-1	TIME 3-2	TIME 3-1
GSI	-1.63	-0.41	-2.20 *
PSDI	-1.12	-0.09	-1.54
PST	-1.16	-0.11	-1.41
Obsessive-Compulsive	-2.70 *	1.61	-1.14
Anxiety	-2.79 *	0.41	-2.43 *
Hostility	-1.72	-0.6[illegible]	-2.36 *
Phobia	-3.49 *	0.86	-2.70 *
Paranoia	0.18	-2.07 *	-1.89
Psychoticism	-2.79 *	1.09	-1.75

Table 14b: Cohort 1: Paired T-tests on BSI Change Scores at Time 1, 2 and 3 for Control group (N=14).

BSI SCORES	TIME 2-1	TIME3-2	TIME 3-1
GSI	2.00	5.07 *	7.07 **
PSDI	1.64	2.29	3.93
PST	1.07	5.07 **	6.14 **
Obsessive-Compulsive	3.57	2.93	6.50 **
Depression	0.64	5.00 *	5.64
Anxiety	0.21	8.86 **	9.07 *
Phobia	3.36	3.14	6.50 *

* The T-test for the difference between the intervals is significant at the .05 level.

** The T-test for the difference between the intervals is significant at the .01 level.

group is significant, even if not particularly dramatic. Table 14a also shows that most of this symptom reduction occurred between time 1 and time 2 in the PSP group. Between time 2 and 3 the PSP group decreased less on most symptom dimensions (except paranoia), and actually increased on several symptom dimensions. On the other hand, Table 14b shows that the control group's symptoms increase slightly from time 1 to time 2 and significantly from time 2 to time 3. What this indicates is that PSP's effects change over time. In the first fifteen months of the program, PSP actively works to reduce symptoms, while in the next fifteen months, <u>or after termination from the program</u>, PSP continues to have a stabilizing effect by preventing further symptoms from developing.

This does not necessarily mean that only a short time in PSP will be effective to reduce parents' symptoms and prevent further symptom development. In fact, the regression analysis indicates that this is not the case. When we examined the Cohort 1 PSP group only, we found that the longer parents stayed in the program, the greater their symptom reduction. This was not true for control group parents. Control parents in both cohorts tended to stay in the child care center longer than PSP parents, but when the control group is included in the regression analysis of the full sample, length of stay in the child care center has a <u>positive</u> effect on symptoms. What this indicates is that PSP parents derive their greatest reduction in symptoms from their initial stay in the program (the first 12 to 15 months), but they continue to derive benefit from the program for longer periods of time. Accessibility of child care alone may slow symptom development in parents in the first few months by relieving a great deal of stress and providing crucial instrumental support, but this is not enough to prevent symptom development over longer periods of time.

Summary Table 15 gives a brief look at the important differences in the PSP and Control groups of Cohort 1 from time 1 to time 3. We note that the PSP parents start out at time 1 with more symptoms than control parents. They reduce their stress level slightly and their support level also decreases over time (but less than the control group). By time 3, these changes, along with participation in PSP, have led to a significant reduction in symptoms. The control group starts out with lower symptoms, increases slightly in stress, decreases greatly in support and ends up at time 3 with extremely high symptom levels.

A comparison of Table 4 and Table 13a on the BSI scores for the full sample and for Cohort 1 parents respectively, shows that the Cohort 1 PSP parents faired better than the Cohort 2 PSP parents in terms of their level of functioning. The Cohort 1 PSP parents started out with lower symptoms at time 1 and maintained lower symptoms at time 2 than the Cohort 2 PSP sample. The change scores for the Cohort 2 sample, however, were greater; that is, although the Cohort 2 parents had higher symptom levels, they decreased more in symptoms over the time interval. This pattern is very different in the control group. Control parents in the cohort 1 sample started out with lower symptom levels at time 1 than Cohort 2 control parents. By time 2, however, cohort

SUMMARY TABLE 15: COHORT 1 PSP VS. CONTROL GROUP

GROUP	TIME 1 GSI	STRESS CHANGE	SUPPORT CHANGE	TIME 3 GSI
PSP	55.40	-3.46	-10.15	53.79**
CONTROL	53.79	2.71	-49.14	60.86

** The difference between the PSP and Control groups on the Global Symptom Index at Time 2 is significant at the .01 level.

1 control parents had increased significantly in symptoms, while Cohort 2 parents decreased slightly. Again, it is this pattern in the control group that yields such highly significant statistical differences between the Cohort 1 PSP and control groups. So, at first glance, it looks like PSP had more direct effects on Cohort 2 parents than it did on Cohort 1 parents (who were better off to begin with).

Examination of the differences between geographic areas within the PSP group, however, gives us a different picture (see Table 16). Overall PCDCI decreases the most in symptoms of any PSP group in the sample. Recall (Table 9) that PCDCI parents actually increased slightly in the full sample (which means than Cohort 2 parents increased quite a bit). Most of the decrease in symptoms for Cohort 1 PCDCI parents happened during the first fifteen months of the program (T2-T1=-5.00). Companeros Cohort 1 parents' symptoms decreased tremendously in the first phase of the study (T2-T1=-6.13), but increased during the second phase (T3-T2=4.94), while Cohort 2 parents' symptoms only showed a slight reduction in the first phase. The 1985-87 period at Companeros and at PCDCI was apparently a much more successful period for PSP than the 1987-88 period.

On the other hand, Cohort 2 parents from Marin decreased more on symptoms than Cohort 1 parents during the phase 1 period, and Cohort 1 parents decreased more in the phase 2 period than in phase 1. This indicates that the 1987-88 PSP season was just as successful or even more successful than the 1985-87 period in Marin. The Wu Yee figures seem to indicate that 1987-88 was a

Table 16: Cohort 1 GSI Scores by Area for Time 1, 2 and 3 Plus Change Scores (T3-T1; N=71).

AREA	TIME 1	TIME 2	TIME 3	CHANGE (T3-T1)
PCDCI	62.00	57.00	55.43	-6.57
Marin	58.68	58.20	56.76	-1.92
Companeros	59.19	53.06	58.00	-1.19
Wu Yee	34.44	40.22	33.50 *	-1.25
Control	53.79	55.79	60.86	7.07
Total Sample	55.08	54.17	55.07	-0.34

* One case is missing from the Wu Yee group at Time 3.

much more successful period than 1985-87. (This is judging from the increase of symptoms in the Cohort 1 group during the phase 1 period and the significant decrease during phase 2, as well as the significant difference in the full sample for phase 1. The symptoms of Wu Yee parents, however, may be considerably greater than the BSI scores indicate, because of the cultural reticence to report symptoms among the Chinese sample.)

The level of participation in PSP activities at the various centers may account for some of the differences in symptom levels between these two time periods. Table 17a shows that the Cohort 1 parents who remained involved in this study decreased their level of participation in PSP activities from phase 1 to phase 2. Both the percentage of parents participating and the average number of times they participated decreased for all groups in the sample, except Marin. In Marin, although fewer parents participated in PSP, they participated more frequently during phase 2 than during phase 1. Cohort 2 participation measures show that, again, Marin parents participate with a greater average frequency than other PSP parents, although a greater percentage of Wu Yee parents participated. Cohort 2 participation levels are lower than Cohort 1 levels during the phase 1 period for all groups.

These statistics do not represent actual participation at PSP centers. They represent the number of PSP Participation Indices returned for each activity. What we can gather from this data is that at least one of three things happened during the 1987-88 period at all PSP cente s, but especially the non-Marin

TABLE 17a: Cohort 1, Phase 1 and 2 PSP Participation *

AREA	Total Number of Parents in Program		Number of Parents Participating		Number of Cases of Participation		Average Number of Times Participated	
(PHASE)	1	2	1	2	1	2	1	2
PCDCI	15	7	13 (87%)	2 (29%)	16	2	1.23	1.00
Marin	31	25	28 (90%)	14 (56%)	208	112	7.43	8.00
Companeros	30	16	20 (67%)	1 (6%)	71	1	3.55	1.00
Wu Yee	18	9	17 (94%)	3 (33%)	78	8	4.59	2.67
TOTAL	94	57	78 (83%)	20 (35%)	373	123	4.78	6.15

TABLE 17b: Cohort 2, Phase 1 PSP Participation *

AREA	Total Number of Parents in Program	Number of Parents Participating	Number of Cases of Participation	Average Number of Times Participated
PCDCI	13	9 (69%)	9	1.00
Marin	19	13 (68%)	84	6.46
Companeros	26	3 (12%)	9	3.00
Wu Yee	17	15 (88%)	25	1.67
TOTAL	75	40 (53%)	127	5.73

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* These figures are based only on PSPPI returns for those parents in the study.

centers: (1) the centers reduced the number of their activities, (2) parents participated less frequently at the PSP activities that were offered and/or (3) PSP staff did not have time to get parents to fill out the PSPPI forms for the parents who did participate. We suspect that all three of these things happened to varying degrees at all of the centers, especially the non-Marin centers. This suspicion is based on the qualitative data we gathered from PSP center directors and coordinators about the effects of budget cuts during the past year at their centers. This important information will be evaluated in the qualitative section of this report.

C. Summary of Quantitative Findings

The results of the PSP Evaluation indicate that the Parent Services Project is having a significant impact on the lives of the parents it serves. The short-term impact can be seen in the reduction of stress and psychological symptoms demonstrated in the PSP group of parents (including the entire Cohort 1 and 2 samples) during the fifteen month interval after entry into the program. The Control group did not demonstrate such high levels of stress and symptom reduction over the same time period. Since time, economic status, ethnicity and child care arrangements have been controlled by matching, these reductions in stress and symptoms can be attributed primarily to the effect of the PSP program.

The longer term impact of the PSP program is seen in the prevention of symptoms in the Cohort 1 group of PSP parents during the fifteen months following their second interview. The

Control parents increased dramatically in symptoms over this period, while the PSP parents stabilized at a relatively "normal" level of symptoms. This symptom reduction in the first fifteen months and stabilization in the last fifteen months was accomplished in the PSP group even with an overall reduction in the level of support from the parents' networks outside of PSP. Stress levels were also reduced in the PSP group over the time period of this study.

These changes indicate that the Parent Services Project is having its intended effect. The goal of PSP is to help parents cope to the best of their ability with stress and develop a sense of empowerment in their lives. This should help maintain parents' functioning at a healthy level, thus improving the developmental environment of their children. In terms of the stress-buffering model, PSP is improving the lives of highly stressed and socially isolated parents by providing supportive interventions in an informal setting that help to reduce and prevent psychological symptoms. PSP is having a buffering effect on symptoms <u>and</u> a direct effect in reducing stress that leads to symptom development.

The support parents found within the PSP program, however, did not translate into support-seeking behavior outside of the PSP program. That is, parents tended to rely less and less on their social support networks outside of PSP over the course of this study. This may be an important point for PSP to address in the future. Parents are only involved in PSP for a short period of time (an average of about 2 to 2 1/2 years). If they are to continue to benefit from social support after terminating from the PSP program, they must develop their own networks in order to maintain a high level of support in their lives. Perhaps family resource programs, like PSP, need to focus more on developing parents' skills of seeking and maintaining informal social support networks outside of the program. Another way to accomplish this would be to help parents who are about to graduate from the program to organize and develop semi-formal support networks (on the order of self-help groups) with each other and with other program alumni. Both of these methods of maintaining program benefits can and should be incorporated into family resource programs.

Another way of evaluating the effectiveness of PSP is through a finanacial cost/benefit analysis. That is, does spending money on primary prevention programs like PSP save money in the long term? Paul Harder (1985) did a cost/benefit analysis of PSP to determine the potential savings if the state of California funded PSP programs on a state-wide level. In his estimates, PSP programs could save the state of California a total of $415 per family served. This is a net annual savings in 1985 dollars after the minimal cost ($215 per family) of funding the program had been subtracted (see Harder, W. Paul. "An analysis of the potential savings of state funds associated with the Parent Services Project" for Zellerbach Family Fund, March, 1985.). Harder's estimates were based on subjective data gathered from PSP parents and estimates from PSP staff of the amount of problems that PSP prevented in the lives of parents.

The "problems" included child and spouse abuse, emotional stress, physical illness, substance abuse and child-care related unemployment.

Our study did not measure incidence rates of family dysfunctions, but we can corroborate Harder's estimates of stress prevention. The PSP staff estimated that PSP helped prevent an average of 16.9% of the "emotional stress" that parents would otherwise have experienced. This is a subjective estimate, but it turned out to be fairly accurate. When we looked at the actual levels of stress in the lives of parents, we found that the PSP group (full sample) decreased an average of 28.7% in stress level in the first fifteen months in the program. The Control group decreased only 5.5% over the same time period. Thus the amount of stress that PSP can claim to have prevented is a net of 23.2%. Harder's concept of "emotional stress", however, is probably better operationalized by our concept of psychological symptoms or "emotional distress". If we look at prevention of symptoms over the long term (i.e., the GSI scores for Cohort 1 parents from time 1 to time 3), we see that PSP parents decreased an average of 4.0% in symptoms, while Control parents increased an avearage of 11.8%. This yields a net difference of 15.8% of symptoms that PSP may claim to have prevented. While these measures are not exact, they are very close to the original staff estimate of 16.9%.

We cannot determine in this study whether this symptom prevention actually translated into reduced costs for the state via reduced incidence of family violence, substance abuse, etc.

or a decline in the frequency with which parents sought treatment for such family dysfunctions. We can only state here that high levels of stress and symptoms in combination with social isolation have been found to have direct positive relationships with family violence and a host of other family dysfunctions. A reduction of stress and symptoms should lead to a decline in incidence rates of these family dysfunctions and therefore a decline in the rate of seeking treatment. This, of course, would mean a substantial financial savings for the state. Regardless of the public financial benefit, this symptom reduction clearly represents a public health benefit and a qualitative improvement in the lives of the families served.

An important question for future research on family resource programs such as PSP, is whether symptom reduction in the short-term translates into parent empowerment in the long term. Will PSP parents continue to demonstrate reduced levels of symptoms and healthy personal functioning five years from now? Will the children of PSP parents benefit in the future from a healthier developmental environment in their homes today? Are the effects of family resource programs like PSP lasting or are they limited to only a short period of time? A final assessment of the impact of family resource programs awaits future research, which should include a longitudinal, multi-generational perspective.

IV. Qualitative Evaluation of PSP

A final evaluation of the PSP program cannot be complete without a description of the organizational environment in which the evaluation has been conducted. The PSP parents and staff have been extremely cooperative and helpful to the PSP Evaluation team throughout this study. The evaluation would have been rendered much more difficult to conduct without this enthusiastic cooperation. Parents and staff from the control centers have also given generously of their time. Other aspects of the environment of the PSP evaluation, however, include external impacts on the PSP program itself. Of particular concern this year are budget cuts that have had important impacts on all of the PSP centers (especially the non-Marin agencies), and therefore on the outcome of the PSP evaluation. The cultural diversity of the PSP program is another important factor, integral to the program itself, which has had continuing impacts on the conduct and results of this evaluation. These two issues and their effects on the PSP program and evaluation will be discussed in the following sections.

A. Organizational Issues

The Parent Services Project has a rather loose organizational structure. There are nine separate agencies involved which receive funding from different sources. The PSP programs of the five agencies in Marin County were originally funded by the San Francisco Foundation and are currently funded by the Marin Community Foundation. These agencies have consistently received a high level of funding for their programs, even during the transition period while funding sources were changing. The non-Marin agencies have never had as high a level of funding as the Marin agencies. The Zellerbach Family Fund has consistently been the major source of agency funds for PSP programs in San Francisco and Oakland. The non-Marin agencies have also applied for smaller grants from other sources for their agency specifically. During the past year, the San Francisco and Oakland agencies have had their grants from Zellerbach Family Fund reduced by over 50%. This obviously has had significant impacts on the PSP programs at those centers during the past year.

The following information about the PSP program budget cuts at the non-Marin agencies was derived from reports from the directors and coordinators at Wu Yee, Companeros del Barrio and Parent Child Development Centers, Inc. (PCDCI). Directors were asked to describe the amount of the cuts in their working budgetsand how the allocations were distributed between the various activities of the PSP program. They also described the effects that the budget cuts have had on staff and parent morale and on the administration of PSP within their agencies. The figures on budget cuts have been confirmed by budget allocation information from Zellerbach Family Fund. These figures do not include the allocation for membership in PSP, Inc., which covers the overhead costs of the PSP, Inc. Board of Directors; nor do they include smaller private grants that the agencies may have received from other sources.

The type of impact that these budget cuts have had varies by center. This variation exists partially because of the loose structure of the PSP program. PSP programming decisions are made from the bottom up, that is by the parents and staff at each agency rather than by the directors and coordinators of PSP as a group. PSP is structured more in the form of a coalition of agencies than an actual organization. Directors and coordinators share experiences, ideas and information, jointly write grants, and make decisions about any joint activities of the agencies, but how each agency spends their limited funds is up to the parents and staff of that agency. The parents and staff of the San Francisco and Oakland agencies have developed their own creative ways of maintaining their PSP programs during this period of shrinking funds.

Parent Child Development Centers, Inc. (PCDCI)

PCDCI's first response to the 59% reduction in their working budget was to decrease administrative and overhead costs of the program. This strategy led to salary cuts for all of the administrative personnel involved with PSP. They also reduced costs by moving meetings and activities to the satellite centers rather than their central location, which required expenditures for room rental, and by serving lighter meals at activities. Unfortunately, these measures were not enough to absorb the budget cuts, so activities had to be cut as well. They reduced their monthly PSP planning meetings to quarterly meetings, and their offerings of respite care from once every two months to three times per year. Travel reimbursement for conferences was cut by 75%, the parent options fund by 38%, and counseling services were eliminated. Overall, the budget for activities was decreased by 43%.

These cuts have had effects on the level of parent participation in PSP simply because there have been fewer activities, and because there has been a reduction in parent and staff morale due to the cuts. Beyond the fact that fewer parents are participating in fewer activities, center staff are pressed to do more work surrounding PSP activities with less help from the parent coordinator and other administrative staff. As a result, the PSPPI is often forgotten at the end of activities, so our measure of PSP participation is lower than the actual level of participation. Although our measures are not adequate under these circumstances, it is clear that there has been a reduction in the level of PSP participation at PCDCI during this year of budget cuts. This reduction in participation coincides with an increase in symptoms in the Cohort 2 group of parents, and a relatively small reduction in symptoms of Cohort 1 parents during the past year. Compared to the tremendous reduction of symptoms for Cohort 1 parents during their first year in PSP, the contrast is startling. The PCDCI sample indicates that when funding levels are high, symptoms are positively effected. Without adequate levels of funding, however, PSP has not been able to significantly improve the lives of the parents it serves.

Companeros del Barrio

Companeros del Barrio lost their full time PSP project coordinator when their budget was cut by 57% this year. That loss has been deleterious to the PSP program. There are no paid PSP staff at Companeros, and center staff must take up the duties of the parent coordinator. This has not been good for staff morale, given that childcare staff already have more duties than they can comfortably handle. The number of activities has decreased by 20% during the past year at Companeros. Parents and staff have been very selective about the types of activities cut. The social and recreational activities were the first to go as the parents and staff decided that educational activities related to survival and growth were more crucial. As a result, the mothers' quilting group became a major focus, and has grown to the point of becoming an economic cooperative that produces income for the mothers involved. There have been fewer family gatherings, however, and the annual trip to Aguas Calientes had to be cancelled. This decrease in activities has led to a reduction in parent morale at the center. Fund raising activities are now receiving greater emphasis, and Companeros hired a grant writer, using a technical assistance grant from San Francisco Foundation, who assisted them in getting two small grants this year.

Due to the loss of the project coordinator, PSPPIs did not get handed out to parents at the end of activities this year, except on a very sporadic basis. As a result we have no real measure of parent participation at Companeros del Barrio during the past year. It is clear, however, that the level of parent participation has decreased along with the number of PSP activities. This decrease in participation coincides with an increase in symptoms in the Cohort 1 group during the past year and a slight decrease in symptoms in the Cohort 2 group. (This pattern is just the reverse of the Oakland group.) Again, the contrast with the tremendous reduction in symptoms demonstrated by the Cohort 1 parents during their first year in the program is remarkable. It seems clear that PSP would have had a much more beneficial effect on the parents at Companeros if the program had adequate funding and a full time parent coordinator. There may also be some important cultural factors affecting the symptom patterns in the Companeros group, which will be discussed in the next section.

Wu Yee

The patterns of participation and symptoms at Wu Yee have been different for a number of reasons. Although Wu Yee also experienced a 54% cut in their working budget, activities were not decreased during the first half of 1988 (while this study was in process). Instead, the administrative costs of PSP were shifted onto the childcare program budget. This has resulted in decreased salaries for all childcare staff as the childcare program is also operating with limited resources. There is concern, however, that if resources continue to dwindle, the quality of childcare will suffer. Wu Yee has been actively seeking other sources of funding for its own program, and will be seeking more funding for PSP. During the latter part of 1988, parents and staff had to face the prospect of cutting back on PSP activities. They have done this by cutting out the more expensive activities, such as those which involve transportation and admission costs, and substituting similar but less expensive types of family activities. In cases where a relatively expensive activity was particularly popular, parents have elected to contribute the extra money needed themselves or have volunteered to go "next time" so that another parent can have a chance to attend that activity. It's clear that the parents and staff at Wu Yee believe that PSP is such a crucial component of their childcare center that they are willing to make sacrifices to keep their PSP program.

According to the PSPPI returns, parent participation at PSP has decreased somewhat over the past year at Wu Yee. But the reduction in participation has not been as dramatic as at the other non-Marin agencies. In fact, the percentage of parents participating at Wu Yee was comparable to the percentage of parents participating in Marin. Wu Yee parents, however, participated with less frequency than Marin parents. The symptom patterns of Wu Yee parents reflect this difference in participation. Wu Yee parents in both cohorts decreased significantly in symptoms over the past year. This contrasts with an increase in symptoms in the Cohort 1 parents during the first year of the study. These patterns are just the reverse of the other non-Marin agencies. Cultural factors may again play a role in this seeming paradox.

The Marin agencies have not experienced the budget cuts suffered by the non-Marin agencies, but they have had to cut costs due to the fact that their budget allocations have not kept up with inflation. The cuts have mainly effectd administrative overhead costs, and staff have had to stretch their food budgets by shopping for bargains whenever possible. In general, however, the Marin agencies have been fortunate to have adequate funding. This difference is reflected in the level of participation at Marin centers and in the patterns of symptoms demonstrated by the parents. Parents participated with much greater frequency in Marin than at any of the non-Marin agencies, especially over the past year. A greater percentage of parents participated in Marin than at the other agencies. Not surprisingly, symptom levels decreased in both cohorts of parents in Marin during the past year. With an adequate level of funding, PSP has significant impact on the lives of parents. Without an adequate level of funding, however, over-worked childcare staff have great difficulty providing the level of support needed by parents to reduce and stabilize symptom levels.

The budget cuts have also had an effect on the directors and coordinators of PSP as a group. There do not appear to be resentments harbored by the non-Marin agencies toward the Marin agencies because of the funding differential. It has been difficult for this group to maintain their morale, however, when they are working so hard at finding alternative funding sources and time seems to be running out. An enormous amount of effort was expended on the campaign for the PSP bill in the state legislature. The failure of the bill for the third time was demoralizing. A great deal of energy and considerable financial resources have been directed toward the dissemination of the PSP model in the hopes that new funding sources would be attracted and that other childcare agencies would begin developing their own PSP programs. Some of the directors are finding such efforts and expenses difficult to justify when some of the original PSP agencies are losing their own funds. With the development of PSP, Inc., new agencies are coming to PSP, Inc. Board meetings with hopes of developing PSP but with even more difficulties in securing funds. More time is spent at Board meetings on fund raising issues that could be spent on other PSP functions and activities. The PSP directors and coordinators are an extremely dedicated group of people, but the danger of demoralization and burn out is apparent in this time of limited resources.

B. Cultural Issues

The cultural and linguistic diversity of the parent population is one of the Parent Services Project's strongest assets, creating a cultural richness experienced by few programs of this type. Meeting the needs of this heterogeneous parent population, however, is no easy task. PSP has met this challenge remarkably well through flexible programming and proactive planning around issues of cultural and linguistic diversity. They have done this by providing bilingual and bicultural staff where appropriate and by providing activities that have cultural relevance to the parents at each center. When parents of several ethnic and linguistic groups are present in the same center, the staff and parents make strong efforts to include all parents in an activity, even if that means translating communications into several languages. This is, perhaps, one of the most important measures of PSP's success as a community resource program.

The PSP Evaluation staff has attempted to meet this challenge in similar ways: by hiring bilingual and bicultural interviewers, by translating and back-translating the questionnaires, and by using instruments with as much cultural sensitivity as possible. No single questionnaire, however, can be relevant to every cultural group, and for some cultural groups the process of interviewing itself seems foreign and threatening. This problem is compounded when parents have less education and cannot read the questionnaires or have difficulty understanding the questions. In these cases, interviewers had to read the questions to the respondent and record the responses by hand. This, of course, reduces the level of anonymity offered by pencil and paper questionnaires. Most of the parents who had difficulty reading the questionnaires spoke languages other than English, so the already alien process of being interviewed may have been even more frightening for them. The nature of the questions in this study is personal. Some respondents felt very embarrassed and found it difficult to respond to specific questions due to differing cultural mores.

The problems with the interviewing process just described were especially true in the Chinese community. In general, Chinese parents were much less willing to respond to questions on the Life Events Questionnaire and the Brief Symptom Inventory than parents from any other cultural group. Further, Chinese parents had difficulty understanding the concept of social support, and many felt they had no social support at all. Fortunately, the Chinese parents overcame some of their reticence to respond as they became familiar with the interviewers and the interview process. By the time of their second and third interviews, parents had become much more comfortable during the interview and seemed to have a better understanding of what the study was about. Under these conditions they were more willing and able to respond to personal questions, especially about stress and symptoms. As a result, the symptom scores for the follow-up interviews are more accurate, especially for Cohort 1 parents.

When the study was new to all parents and staff at Wu Yee (during the first interview with Cohort 1 parents), the parents gave extremely low response rates to the questions on the BSI. We do not believe that symptoms among the Chinese parents were that low. The symptom levels at time 2 and 3 for the Cohort 1 parents are more accurate, but they are still probably well below the actual symptom levels. We believe this explains the increase in symptoms at time 2 in the Cohort 1 group. By time 3, the scores have decreased. This second change score is more reflective of the effects of PSP than the change over the first period. The Cohort 2 parents seem to have been better informed about the study from the beginning. This is reflected in their higher symptom scores at both time 1 and time 2 (relative to the Cohort 1 group). The significant difference in symptoms between the Wu Yee sample and the Chinese control group can be attributed to the effects of the PSP program.

Although at first glance these statistics seem to indicate that Wu Yee parents faired better in the latter part of the study

(1987-88) than in the first few years, we believe that the explanation for this difference lies in the fact that they were better informed about the study during this latter period. The PSP funding cuts described in the last section, therefore, did not have a beneficial effect on the parents at Wu Yee.

In general, parents with less education had more difficulty understanding the questions and were more likely to have been interviewed orally. Some of the questions were less culturally relevant to black and Hispanic parents than to white parents, while others were more relevant to the Chinese and Hispanic parents than to the white or black parents. In general, white and black parents were easier to interview and their answers are probably more reliable simply because they have had more previous exposure to these types of questionnaires. Hispanic parents had to be interviewed orally more frequently, thus reducing the level of confidentiality of the interviews. We have reason to suspect that some Hispanic parents were also more distrustful of the interview process because of their need to hide their legal status in this country. Although their were no questions about legal status on the questionnaire, there were questions about country of origin and length of stay in the United States on the Demographic Profile. Some of the Hispanic parents may have found these questions threatening.

In fact, we believe that the issue of legal status is one of the major stressors for many parents in the Hispanic community. As we were completing the last round of interviews, the final date for filing for amnesty under the Simpson-Rodino bill was approaching. Many parents were extremely nervous about this issue, and were able to indicate this privately (and "off the record") to the interviewing staff. There are probably far more parents who were too frightened of being discovered to even mention the issue during the interview. One parent was very worried about finding employment because of the new laws preventing employers from hiring illegal aliens. Another parent was jailed and deported before we had the chance to do a final interview. Understandably, this type of intense stress is likely to increase the symptom levels of these parents. We were not surprised to find that there was an increase in symptoms in the Cohort 1 parents at Companeros from time 2 to time 3. The symptom levels of Cohort 2 parents decreased during the same period, but not as much as Cohort 1 parents in their first years in PSP.

Without data on legal status and amnesty, we cannot determine to what extent this stressor has elevated symptoms in the Hispanic group. We do suspect there is a bimodal distribution of symptom levels, however, dependent on the attainment of amnesty during the past year. Specifically, those parents who attained amnesty would have lower symptom levels than those parents who were ineligible. We were able to get some data regarding amnesty from private reports volunteered by the parents, and by deducing eligibility from length of stay in the country. Of the five parents who mentioned they had received amnesty this year, three scored negatively on the case variable of the BSI, while 40% had high enough symptom levels to score positively. Of the nine cases we could determine were ineligible for amnesty, seven (or 78%) scored positively on the case variable.

There may be many more cases of ineligibility for amnesty, because parents may not have given accurate reports of their length of stay in this country and because they may not have the records necessary to prove their eligibility. In general, the more recent immigrants (those who have immigrated in the last six years, the limit of the amnesty law) tend to be from Central or South America as opposed to Mexico. Many of these immigrants are political refugees who fear for their safety if they are deported to their home countries. When we looked at the symptom data by country of origin, we found that 56% of the parents from Central and South America scored positively on the case variable compared to 33% of the Mexican parents.

Parents at Companeros seem to have had a great deal of catastrophic stress in their lives during the period of this study, many of them facing war, the loss of their homes and families and the possibility of deportation. Unfortunately, these types of stressors are not measured in our Life Events Questionnaire, so the levels of stress recorded in this study are much lower than the actual levels for this group. The symptom levels of Cohort 1 parents at Companeros were higher than any other group, which we attributed to Post Traumatic Stress Disorder. The reduction in symptoms for Cohort 1 parents by time 2 could have been due simply to the effects of time in relieving these high levels of stress. The increase in symptoms from time

2 to time 3 could simply be the result of the higher level of stress with the increasing possibility of deporation. Overall, however, the Companeros group decreases in symptoms much more than the control group, which is well-matched in the full sample. This difference can be attributed to the effects of PSP.

C. Qualitative Summary of the Evaluation

The challenge of evaluating a program as culturally and linguistically diverse as PSP required flexibility in staffing and interviewing procedures. We scheduled interview times and places that were convenient to parents, and provided child care and assistance with the interviews, and hired bilingual/bicultural interviewers. We used the most culturally sensitive questionnaires that were available, and translated them into Spanish and Chinese. Since we wanted to make cross-cultural comparisons and evaluate the PSP program as a whole, we used the same instruments for each cultural group. Because of our desire to maintain the broad scope of the study, we chose research methods that were the most generalizable, rather than strategies that would provide a more complete description of each specific culture. There are always costs and benefits to every research strategy. We believe that the benefits of demonstrating the effectiveness of the PSP program for all cultural groups were greater than the advantages of a more focussed approach to each group.

The effects of the budget cuts and the resulting loss of PSP activities on the outcome of the PSP program are difficult to measure. Given that we were studying the PSP program in a time of decline, the positive results of the evaluation suggest that PSP could be even more effective than we could demonstrate at this time. It seems clear that the effectiveness of any support program can be better demonstrated when the program is developing and expanding and the staff is hopeful and enthusiastic than when the program is in its terminal stages and staff and parent morale is ebbing. Programs like PSP have their own developmental cycles, and evaluation of the programs should reflect the range of those cycles, not just a single phase. It would be beneficial to plan for evaluations in the original design and implementation of new programs, so that the program's evaluation does not merely reflect the slow periods in its life cycle.

V. Conclusion and Policy Recommendations

The Parent Services Project is a family resource program that offers supportive interventions to parents in a child care setting. The basic philosophy of PSP is that if parents can maintain a healthy level of functioning in their own lives, they will enrich and improve the lives of their children. PSP provides supportive activities in a natural environment to help parents maintain that healthy level of functioning. In addition, parents are involved in developing and executing PSP activities, which contributes to a sense of empowerment. The development of parent leadership and empowerment is a crucial component of the PSP model and program.

The PSP philosophy is expressed well in analytical terms by the "stress-buffer theory of social support". This theoretical model suggests that stress reduces people's physical or emotional defenses and leaves them vulnerable to disease states or other pathology. Social support, however, buffers this stress by helping people to cope and adapt, thereby decreasing the likelihood of symptoms developing while helping to maintain optimal functioning. According to this model, there is an interaction effect of stress and social support on psychological symptoms. Thus, social support should be most effective when stress levels are high. When stress levels are low, social support should have few major effects on symptom development.

Family resource programs, like PSP, that operate on the stress-buffer model make an implicit assumption that their target group of families are, in fact, under high levels of stress. If stress levels in these families were not high, the model suggests that social support programs would not be very helpful or cost effective to those families. PSP, then, assumes that the parents served are at high risk for the development of psychological symptoms, child abuse and other family problems. PSP's ultimate goal is to prevent the development or continuation of these family problems and promote the development of parent empowerment.

The Parent Services Project Evaluation is designed to evaluate the effectiveness of the PSP program and to test the validity of the assumptions behind the PSP model. With this dual goal and by utilizing experimental design in a longitudinal study, the PSP Evaluation is able to bridge the gap between analytical and applied research in the field of social support. The PSP Evaluation measures levels of stress, informal support and psychological symptoms, as well as supportiveness of PSP interventions over time. Parents receiving the intervention from PSP constitute an experimental group, and parents not receiving the intervention but who are matched in other ways (economic status, ethnicity, and access to similar child care resources) to PSP parents constitute a control group. This provides us with outcome measures of psychological and social functioning, which can be attributed to the individual's support network as well as to the PSP intervention. As a prospective, longitudinal study, the PSP Evaluation substantially contributes to analytical as well as applied research.

The PSP Evaluation found that PSP parents did indeed constitute a high risk group for the development of pscyhological symptoms and family dysfunction at the time of their entry into the program. Because of their initial high stress and low social support scores, we were not surprised to find that both PSP and control groups were demonstrating high levels of psychological symptoms at the time of the first interview. The first assumption behind the PSP model, i.e. that the target group was at high risk for symptom development, was confirmed. Since the control group was also highly stressed and socially isolated, as well as having similar economic status and cultural diversity, the PSP Evaluation team was assured that PSP and control parents were well-matched.

By the second interview, the PSP parents showed significant reductions in stress and symptom levels, even though their informal social support networks also decreased in size. The control parents, however, lost even more people from their support networks during this initial period, and demonstrated only slight reductions in stress and symptoms. The fact that stress and symptom levels both decreased during the first fifteen months makes sense in terms of the stress-buffer theory, because stress has a direct positive relationship to symptoms. Reductions in support, however, should not lead to reductions in symptoms according to the model. The fact that the control parents had slight reductions in symptoms even with large losses of social support attests to the fact that access to child care itself is a crucial support to parents. This instrumental support relieves some of the immediate financial, employment and emotional stresses that most parents face, and thus produces modest symptom reductions in the short term. The significant symptom reductions demonstrated by the PSP group, even while their informal networks were decreasing in size, however, can only be attributed to the increased levels of support provided by the PSP program itself. PSP has proven to have significant positive impacts on the lives of parents even in the short term.

In the long term, PSP's impacts may be even greater. This is demonstrated by the stabilization and prevention of further symptom development in the PSP group during the last fifteen months of the study. The control group, however, lost all of the short term benefits provided by access to child care arrangements and increased dramatically in symptoms during the final phase of the study. Control parents also lost much of their support and increased in stress during this period, while the PSP group had very slight decreases in stress and support. The stress, support and symptom patterns of parents in the control group follow the stress-buffer model; i.e. high stress and low support are shown to increase symptoms. The PSP group deviates from the stress-buffer model only because PSP provides the crucial support lacking in the parents' own social support networks. In other words, PSP is augmenting the support networks of these parents, and thus preventing a significant increase in symptoms. <u>PSP's primary goal of symptom prevention is clearly being met.</u>

An important question for the evaluation of the PSP program, however, is whether PSP is being used as a <u>substitute</u> for the support that parents need to receive from their own networks. The continued decline in the size and supportiveness of the parents' networks over the period of this study indicates that this may be happening to a modest degree. This could represent a danger to the PSP program. PSP cannot meet its goal of fostering parent empowerment if parents are instead becoming dependent on the program to provide the support they must find in their own lives. The significant gains of the PSP program could be short lived when parents again have to face the stresses of daily life without the support provided by PSP. They must learn to develop and maintain strong support systems of their own. The control parents lost even more support over the course of this study, but had no institutionalized support program to replace this loss. As a result, their symptoms increased dramatically. PSP parents who do not develop strong support networks outside of PSP could follow a similar symptom trajectory after leaving the PSP program.

We strongly recommend, therefore, that PSP concentrate on educational and supportive activities that promote the development of parents' skills in acquiring and expanding the social support resources available. PSP could train parents to organize and develop parent support groups in conjunction with schools and other organizations in which their children continue to be involved. Such parent action groups, facilitated by PSP but run by alumni parents, could serve as a continuous form of social support for alumni families. Training parents to develop their own social support networks outside of PSP <u>prior</u> to leaving the program is crucial to maintaining and capitalizing on the benefits of the PSP program on a long term basis.

Another aspect of the PSP program that makes it unique is its cultural and ethnolinguistic diversity. This is in fact one of the strongest assets of the PSP program, creating a cultural richness exhibited by few programs of this type. PSP has met the challenge of providing services to this heterogeneous population with great flexibility by hiring bilingual/bicultural staff when appropriate and by planning culturally relevant activities. Although, we have found important cultural variations in the patterns of stress, social support and symptom development, PSP is successfully reducing symptoms in each cultural group represented. Since such a diverse population has diverse needs, PSP has taken a "smorgasboard" approach to planning activities. Many different types of activities are planned which provide a balance of the four types of social support: instrumental, informational, emotional and evaluational. This approach has been quite successful in meeting the needs of most of the parents in the program, and so we recommend that it be continued.

A final finding of the PSP Evaluation is that the budget cuts experienced by the non-Marin PSP agencies during the past year have had a deleterious effect on the PSP program. The relatively modest impact of the PSP program on symptom levels during the final phase of this study can largely be attributed to these budget cuts and the subsequent decline in participation at PSP activities. Fewer parents participated in fewer activities at the non-Marin centers during the past year, and there have been corresponding declines in the levels of symptom reduction generated. Minor budget reductions in family resource programs such as PSP can have major deleterious organizational and client impact. Therefore, support by public and private foundations should be conceptualized as a long rather than short-term commitment. We strongly recommend that PSP continue to receive funding at levels that are adequate to preserve the integrity and therapeutic benefits of the program.

The effects of the budget reductions on the outcome of this evaluation are difficult to measure. Given that we were studying the PSP program in a time of decline, the positive results of the evaluation suggest that PSP's impacts may be even greater than we could measure. It seems clear, however, that the effectiveness of any support program can be better demonstrated when the program is developing and expanding than when it is in its terminal stages. We recommend that an evaluation component be incorporated in the design of new family resource programs at the beginning of the program development phase.

The PSP Evaluation has found the Parent Services Project to be beneficial to public health because of its significant impacts on stress and symptom levels in the parents studied. Paul Harder (1985) found the PSP program to be cost-effective to the state because of its potential to prevent emotional stress, family violence, substance abuse and other family dysfunctions. All of these negative outcomes are costly to the state. Because of PSP's proven cost-effectiveness and public health benefits, we recommend that existing PSP legislation be adopted and expanded as a demonstration project by the state department of education. We further recommend that the PSP model be disseminated nationally, and that PSP provide technical assistance to new child care agencies entering PSP, Inc. and to the control centers that participated in this study in the hopes of developing PSP programs of their own.

In conclusion, the PSP Evaluation finds that the PSP program is effective in reducing parents' symptom levels in the short term and preventing symptom development on a longer term basis. This symptom reduction promotes the development of parent empowerment and healthy family functioning, which are crucial to the healthy development of children. Those children who have had the benefit of a healthy developmental environment, especially during their preschool years, are more likely to develop into healthy adults and parents themselves. Thus PSP has the potential of breaking the cycle of family violence and dysfunction so prevalent in this society and creating positive outcomes for future generations. Whether this potential will be realized depends on the extent to which social support levels can be maintained by parents after they leave the PSP program. The policy recommendations outlined are intended to insure that the benefits gained from family resource programs such as PSP are maximized and maintained. Future research on the children of PSP parents may determine the "final" outcome of the PSP program.

APPENDIX: VARIABLE DEFINITIONS

STRESS VARIABLES:

Number of Life Events = Number of events marked on Life Events Questionnaire.

Effect of Negative Life Events = Total degree of effect of all events that the subject judged as having a negative impact on his or her life.

Effect of All Life Events = Weighted effect of all life events marked. The weighting counts the negative events as twice as stressful as the positive events.

SOCIAL SUPPORT VARIABLES:

Average Frequency of Contacts = Average number of times the subject has contact with each network member (rated on a scale of 1 to 5, with 5 being most frequent).

Average Duration of Relationships = Average amount of time the subject has known each network member (rated on a scale of 1 to 5, with 5 being the longest duration).

Number in Network = Total number of people the subject felt were significant enough to him or her to be considered part of his/her network.

Functional Support = Total amount of support received from all members of the subject's network.

PSYCHOLOGICAL SYMPTOMS:

Number of symptoms = Number of symptoms reported on the Brief Symptom Inventory.

PSDI = Positive Symptom Distress Index; the average degree of distress experienced for each symptom.

GSI = Global Symptom Index; total degree of distress experienced from all symptoms combined, standardized for Non-patient Adult Population.

Case Variable = A score of 64 or more on the GSI or on two symptom dimensions of the BSI; generally predictive of a need for psychological counseling.

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