

Tapping community opinions in 4-H program planning

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Well aware of traditional 4-H activities, the public is less aware of other projects



A continuing strength of the 4-H program has been its capacity to respond on a local level to the populations it serves. County 4-H staff have generally kept abreast of local needs and trends through contacts with parents, teachers, youth program staffers, and community opinion leaders. Increasingly, they are also using formalized survey procedures. Most 4-H surveys thus far, however, have polled populations already functioning within the 4-H system, such as youth members or volunteer adult leaders. A source that has not been systematically tapped is the general community within each county. This report describes a project aimed at reaching this group.

The Cooperative Extension staff in Yolo County identified several key areas in which information from the community was needed for charting future directions in the county 4-H program. The staff wanted, first, to gauge community feelings about the educational topics most needed for young people. Second were some fairly specific marketing concerns, such as assessing general public awareness and understanding of 4-H, and determining the most useful information outlets. The specific questions were:

- What is the degree of basic familiarity with 4-H in Yolo County, including name recognition and knowledge of the program's ties to the University of California?
- How does the community perceive the range of educational projects that 4-H offers young people — that is, what is the 4-H "image"?
- How important does the community judge the presently available 4-H projects to be?
- What sources would parents use to find out more about the 4-H program?

We set out to design a questionnaire to be administered by telephone survey. In determining the content and drafting the questions, we solicited the opinions of 4-H volunteer leaders through group meetings at different stages of the project. Several important refinements and edits resulted.

Selection of the sample

The unit of analysis for the survey was the individual household. The overall sample size was targeted at 240 respondents, which would provide what we felt was the best balance between accuracy and feasibility of data collection.

A representative sample of county households was identified through systematic sampling of the county's telephone directories. We rejected the alternative sampling method, random digit dialing, in consideration of our volunteer interviewers' time, since practice shows that up to 75 percent of the telephone numbers produced through that method are unassigned or unusable. To ensure that the probability for selection into the sample was equal for all households in the sampling frame, we calculated a standard sampling interval and applied it for all directory listings, including those that incorporate both Yolo and non-Yolo communities (with only eligible entries being retained). This process resulted in a random sample stratified by geographical community.

An original sample of 500 was drawn and randomly ordered. Interviews proceeded down the list of selected telephone numbers until, after three sessions, the desired total was reached. Since the list was randomly ordered, terminating it before all numbers were called did not weaken the statistical randomness of the sample.

The interviews

The telephone interviews took place in three sessions in November 1984: Tuesday evening, Wednesday evening, and Saturday midday, all during a single week. Those are among the times that produce the highest proportions of telephone interview completions, according to previous studies.

The interviewing team consisted of 5 professional 4-H staff members, 14 adult volunteer club leaders, and 6 members of 4-H between the ages of 14 and 17. The staff members worked at all three sessions; adult leaders and youth typically worked at only one or two. The calls were made from the Yolo County Cooperative Extension office.

Because most of the interviewers were inexperienced, we were particularly careful in structuring the calling sessions and providing training. All interviewers strictly followed the written script for the introduction and body of the interview and were monitored while calling, receiving informational feedback when appropriate. Records were kept of each calling attempt and its result (completion, refusal, no answer, busy signal, and the like). In the case of busy signals and no answers, three attempts to reach the number were made.

By the end of the three calling sessions, 246 completed interviews had been obtained. The interview completion rate was high: 71 percent of the households contacted provided completed interviews. We analyzed completion rates of the three groups of interviewers and found no difference among them in levels of cooperation from respondents. We also found no differences across the three calling sessions either in completion versus refusal

or in contact versus noncontact. These results gave us some confidence that the collection procedure had not inadvertently influenced our data.

The results were examined for two groups: all 246 households in the sample and the 57 households that had children of 4-H-eligible age (9 to 19 years old), hereafter referred to as the "4-H-eligible families." For the full sample, 103 (42 percent) of the interview respondents were male, and 143 (58 percent) were female. For the 4-H-eligible households, 24 (42 percent) of the respondents were male and 33 (58 percent) female. Seventeen respondents (7 percent of the full sample) reported participation in 4-H by their children, either currently or in the past. We found that, in general, children participated to a moderate degree in organized youth activities: In 26 of the 57 4-H-eligible families, at least one child was currently in either 4-H or another group, most frequently Scouts or organized team sports.

Knowledge about 4-H

A very large proportion of the community (91 percent) had heard of 4-H, but far fewer (30 percent) knew of its affiliation with the University of California. These figures were similar for the 4-H-eligible families: 86 and 35 percent, respectively.

The results regarding awareness of specific 4-H subject areas show large differences among the entries (table 1). In the full sample, the percentage of respondents who were aware of specific subjects ranged from 84 percent (for animal-raising) to 15 percent (for computers). For the 4-H-eligible families, the order of rankings was similar, but there was relatively more awareness reported for most subjects, especially those at the lower end of the list (27 percent for the least-known subject, computers). The topics recognized by over 50 percent of the sample tended to be the ones most closely associated with 4-H in the past.

Ratings of subjects

In the full sample, the average ratings of importance for the subject areas taught in 4-H ranged from a high of 2.70 for consumer skills to a low of 2.25 for creative arts, such as photography (table 2). The activities judged most important by both the full and the restricted samples were leadership skills, coed activities for teens, consumer skills, and computers, although not in identical order for the two samples. The activities judged least important by both groups were sports clubs and creative arts.

There was a fair degree of overlap between respondents' ratings of subject importance and their awareness of the top-

ics' coverage by 4-H: In both the full and the restricted samples, three of the four most highly rated subjects were associated with more than 60 percent of respondents being aware of their presence in the 4-H curriculum.

Information about 4-H

When asked where they would go for more information about 4-H, the sample showed little consensus. The source mentioned most often was the county Cooperative Extension office (the 4-H office), cited by 15 percent of the sample, followed by the local school (14 percent), the telephone directory (11 percent), and 4-H members and leaders (10 percent). Among the 4-H-eligible families, the most frequent responses were the local school (19 percent), 4-H members and leaders (16 percent), the telephone directory (14 percent), and the Cooperative Extension office (12 percent).

A pertinent finding from these responses was that two of the most frequently cited information sources — the Cooperative Extension office and 4-H members and leaders — required prior familiarity with the program, either with its administrative structure or with its participants. We conjectured that those families who were aware of these 4-H information sources might also be the ones who were most knowledgeable about the

program itself — the ones who needed information the least, so to speak. This hypothesis was confirmed when we tested it statistically. Stated another way, this finding indicates that households with little knowledge about 4-H tended also to be unaware of important sources of program information.

Conclusions

One of the most clear-cut findings of the survey involved the community's conception of what 4-H does. The overall awareness of the individual subject matter areas can be viewed as defining one component of the general "4-H image" held by the public, namely, what youth can learn from participating in the program. As had been initially suspected, public perceptions do correspond to the more traditional part of the 4-H program. The three topics most closely associated with an agricultural/home economics curriculum — animal-raising, plants, and consumer skills — all placed within the top five subjects on "respondent awareness," both for the full sample and the 4-H-eligible subsample. Indeed, these subject areas still occupy an important place within 4-H. It would also benefit the program, however, to increase public awareness of the other activities it offers.

The ranking of subject matter areas with regard to their importance for youth

TABLE 1. Percent of respondents aware of specific topics being taught by 4-H

| Topic | Full sample (N=246)* | 4-H-eligible families (N=57)†‡ |
|---------------------------|-------------------------|--------------------------------------|
| | % | % |
| Animal raising | 84 | 86 |
| Leadership skills | 73 | 71 |
| Plants and soil sciences | 71 | 77 |
| Coed activities for teens | 62 | 61 |
| Consumer skills | 61 | 68 |
| Outdoor camping trips | 48 | 51 |
| Creative arts | 38 | 45 |
| Engineering topics | 36 | 46 |
| Sports clubs | 19 | 30 |
| Computers | 15 | 27 |

* The 95% confidence interval for each of these estimates is, approximately, plus or minus 6.2%.

† The 95% confidence interval for each of these estimates is, approximately, plus or minus 12.9%.

‡ Families with children 9 to 19 years old.

TABLE 2. Community ratings of importance for topics taught by a community youth organization*

| Topic | Full sample (N=246) | 4-H-eligible families (N=57) |
|---------------------------|------------------------|------------------------------------|
| Consumer skills | 2.70 | 2.67 |
| Leadership skills | 2.66 | 2.77 |
| Coed activities for teens | 2.63 | 2.70 |
| Computers | 2.56 | 2.62 |
| Animal-raising | 2.51 | 2.48 |
| Engineering topics | 2.51 | 2.56 |
| Outdoor camping trips | 2.41 | 2.44 |
| Plants and soil sciences | 2.41 | 2.55 |
| Sports clubs | 2.32 | 2.26 |
| Creative arts | 2.25 | 2.27 |

NOTE: The differences between these ratings were examined by means of paired t-tests. For the full sample, differences between subject areas of .09 point or more are, in most cases, statistically significant ($p < .05$). For the 4-H-eligible sample, differences of .18 point or more are, in most cases, statistically significant ($p < .05$).

* Scale, 1 = not important; 2 = important; 3 = very important.

programs provides an understanding of current public perceptions. Three of the top four — consumer skills, leadership skills, and computers — might all be viewed as related to general lifestyle survival skills that are increasingly important in society today. Some of the more specific, and perhaps career-oriented, topics — animal-raising, engineering, plants and soil sciences — were judged only moderately important. Activities that might be viewed (perhaps narrowly) as leisure-related or just for fun — outdoor camping, sports clubs, and creative arts — were ranked low. The subject “coed activities for teens,” which received a relatively high ranking, was the sole exception to this interpretation, but its high position is easily understandable in light of continuing media attention to problems of adolescent development.

If there is a pattern to these rankings, it seems to be that respondents felt youth need to be spending their out-of-school time seriously developing self-reliance skills for the future. In a broader context, the public might be starting to view community youth programs as legitimate educational adjuncts to schools, with the important task of guiding the development of those essential skills.

The results also carry some clear implications for 4-H in the increasingly important area of program marketing. First, despite the very high name recognition of 4-H, 70 percent of the public was not aware of one of the major factors making 4-H unique as a youth-serving program — its administrative home in the University of California. Because of the strong educational and scientific support resulting from this link, wider knowledge of the relationship would most probably stimulate program growth. Second, respondents were largely unclear about where to go for further information. None of the possible sources was mentioned by more than 19 percent of the sample, indicating that no one information source will reach or be used by most of the community. Two of the top four sources frequently mentioned could be classified as “in-house,” in that they required some prior program knowledge.

It may be concluded that eligible families, even interested ones, will remain largely unaware of the program if left to their own resources. Taken in combination, these results suggest that potential members must be reached through active efforts aimed at increasing general program visibility, informing the public on selected substantive points, and publicizing available information channels.

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Monitoring peach twig borer by standardized trapping methods

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The economic thresholds need reconsideration

The peach twig borer, a pest of California almond and stone fruit orchards, can be monitored by following male adult emergence with sex pheromone traps. The ability to use such traps effectively and reliably year after year against this insect, *Anarsia lineatella* Zeller, depends upon standardization of factors that can affect their performance. Our study included two factors: the optimum field life of the commercially available peach twig borer pheromone dispenser, and the optimum density of traps. All of the dispensers used in the following field trials came from stock supplies and were kept frozen until used.

Aging trials

From July 16 to September 16, 1981, we aged individual lots of seven pheromone dispensers (rubber septa) in a Madera County almond orchard, so that septa were zero, two, four, six, eight, and nine weeks old. For aging, we placed each lot of dispensers in a Pherocon 1C pheromone trap without a sticky liner and hung it in the northeast quadrant of a tree at a height of 5 to 7 feet. This aging process exposed the rubber septa to actual field conditions of fluctuating temperature and humidity, wind currents, and ultraviolet light. A hygrothermograph in a weather shelter adjacent to the aging site recorded daily temperatures.

After aging, the septa were individually placed on sticky liners in Pherocon 1C traps and installed in a Fresno County almond orchard. The test plot covered 8.3 acres near the center of a 494-acre orchard. A completely randomized design, involving seven replicates, was used in which the septa of five different ages were compared with unaged septa. The traps were hung as described previously and set out in a 6-by-7 matrix, separated by 100 to 120 feet from one another. All traps were re-randomized daily and, after

five days, the number of male peach twig borer moths per trap was recorded.

We also conducted an aging trial in the spring of 1982 in Kern County to determine if lower temperatures would affect septa longevity. Aging was conducted weekly for seven weeks as described previously, beginning April 23, with a new batch of septa produced on April 6, 1982. The test plot covered 6.4 acres and was near the north side of a 119-acre almond orchard.

We used eight treatments, including an unaged control, replicated five times and set out in a completely randomized design. On June 12, the traps were placed in a 5-by-8 matrix 100 feet apart from one another. All traps were re-randomized daily and, after one week, the number of male moths caught was recorded.

In both trials, aging significantly affected ($p < .05$) attractiveness of rubber septa to male peach twig borer moths (fig. 1 and 2). In the 1981 trial, there was no statistically significant difference between two-week-old septa and fresh septa in male moths caught. Four-week-old septa, however, caught only 34.3 percent as many moths as fresh septa. Traps baited with septa aged six weeks or more caught virtually no moths at all.

In the 1982 trial, traps baited with one- or two-week-old septa were not significantly ($p < .05$) different from each other, although they were significantly different from traps containing fresh septa, having caught 73 and 64 percent as many moths, respectively. Of more importance from a pest management standpoint was the finding that traps baited with three-week-old septa caught only 22 percent as many moths as those with fresh septa, and, as in the 1981 trial, traps containing septa aged for six or seven weeks caught almost no moths.

Despite the higher temperatures during the 1981 summer aging period, the de-