

# Recruiting and Retaining Young Participants: Strategies from Five Years of Field Research

Elizabeth Foss, Allison Druin, Mona Leigh Guha  
Human-Computer Interaction Lab  
University of Maryland  
College Park, MD 20742

efoss@umd.edu, allisond@umiacs.umd.edu, mona@cs.umd.edu

## ABSTRACT

This paper discusses the challenges inherent in conducting field research with young participants. Based on a series of three studies with children ranging in age from 7-17 as examples, the paper contains descriptions of participant recruitment approaches and challenges. Also included is a discussion of issues surrounding the retention of participants for longitudinal studies, including specific issues for participant retention and loss. Overall, this paper provides detailed experiences of the challenges of large-scale long-term field work with children, and provides guidance for others who are in similar research situations.

## Categories and Subject Descriptors

H.5.m [Information Interfaces and Presentation (e.g., HCI)]: Miscellaneous.

## Keywords

Longitudinal, child, adolescent, recruitment, retention, methods

## 1. INTRODUCTION

Recruiting children for research studies of all types can prove to be challenging. The relationships the child has with their families and teachers [11] can define how available they are to participate in research, as parent level of involvement in the research and partnerships between schools and researchers affect the child as a participant. If a study includes specific boundaries restricting the participant pool (e.g. autistic, at-risk, etc.) challenges of recruitment can be more intricate [1]. When considering longitudinal studies specifically, the issue of participant retention through the length of the research becomes important.

Explorations into why families choose not to participate or to not have their children participate in research include privacy concerns such as video recording or home visits [5], scheduling conflicts, and mistrust of researchers [13]. Prior research also discusses many strategies for retaining participants over the course of a research project: the use of incentives [6, 13], flexible scheduling [6, 10], frequent reminders or other contact [6, 10, 13], and respect for participants [6].

In this paper, using the context of a longitudinal field study with children and adolescents ranging in age from 7-17, we will describe how we have overcome difficulties in finding participants and re-enrolled the same participants in a follow-up study after a span of years. We then make generalizations about

recruitment and retention that are hopefully helpful to other researchers in different contexts.

## 2. CONTEXT

Beginning in 2008, and lasting one full year, we conducted a home study of how children ages of 7, 9, or 11 searched for information on the Internet. At the conclusion of this study, we had worked with 83 child participants as well as at least one parent participant per child [4]. In 2011, following the study with children, we conducted a second examination Internet searching in the home with adolescents between the ages of 14-17, again including at least one parent per adolescent [3]. In a third iteration beginning in 2012, we returned to the original 83 children and re-enrolled as many as possible in a longitudinal panel examination (same participants involved over time [12]). The data collection for this longitudinal study has just been completed, with a re-enrollment rate of 59%, or 49 children and at least one parent per child. Overall, the recruitment efforts of the studies resulted in 348 total participants. There are 233 unique participants (as some participants are re-enrolled or are parents with multiple children in the studies). These studies will be referred to as the “child study” for the initial work with 7, 9, and 11 year olds, the “adolescent study” for the work conducted with 14-17 year olds, and the “longitudinal study” in which the child study participants re-enrolled.

### 2.1 Initial Approaches

At the beginning of the child study, researchers had no intent to conduct additional research with adolescents or to return longitudinally. Our sampling approach therefore was simply to target typical child participants [9]. Our recruitment plan as approved by the University’s Institutional Review Board (IRB) allowed for us to make contact with parents in public forums, by word-of-mouth, or by posting flyers. We did not plan to recruit via schools, as our research focused on Internet use in the home. Additionally, we have found in the past that there is a barrier to entry for research in public schools; in the state of our University, for researchers to approach public schools requires approval by the city or county school board. Our specific participation boundaries were that the children be of the ages 7, 9, or 11 and have home Internet access.

Early in the child study, two graduate assistants (Masters Students) worked on the project supervised by a faculty member. We decided to create a shared email account for all study-related communications with access for both graduate assistants (GAs), as this would allow for the flexibility of either GA handling responses to interested parents, sending out recruitment emails, or managing the calendar connected with the account. One GA generally became the primary email contact with a parent, retaining the same written “voice”, developing familiarity with a parent, as well as representing an organized research team.

Additionally, the two GAs on the project decided that it was necessary to share their personal online calendars with each other.

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By sharing personal calendars, and trying to leave one GA free each afternoon and evening during the school week and most of the day on weekends, GAs were able to schedule according to the constraints of the participating family rather than allowing personal availability conflicts of the GAs to impact recruitment. This also made scheduling extremely rapid, as the researchers had access to the calendars online and did not need to be in constant communication with one another.

## 2.2 Geographic Advantages

We found that there was an advantage to spreading recruitment opportunities across as large a geographic area. By including participants from a range of locations, GAs were able to provide a more representative sample of youth, as Internet penetration and home technology ownership rates vary according to location, affecting the experience, comfort, and skill levels of the participants with the Internet.

Spreading the study geographically meant that GAs focused recruitment up to a driving range of approximately 1.5 hours one-way for the counties and cities surrounding the University. Additionally, one of the GAs central to the studies maintained a primary residence in an adjacent state. This provided contrasting locations for conducting the research: suburban neighboring a large city as compared to more rural with no nearby urban center.

The demographics of the two geographic areas differed. For example, for the county surrounding the University, the median household income is \$73,447 and 23.5% of the population of roughly 871,000 people is under the age of 18 [14]. For the other area of concentrated recruitment, a city rather than county, the median household income is \$42,757 and 19.4% of the population of roughly 24,000 people is under the age of 18 [14]. In a comparison of Internet access for the two states in question, data shows that Internet access is slightly more prominent for the state housing the University, with 81% of surveyed individuals living in a household with Internet access, as compared to 76% of people for the other state included in the study [15].

## 3. RECRUITMENT

In conducting research with children outside of the school setting, it is often difficult to find ways to tap into the network of parents who would be willing to allow their children to participate. One long-term study to be conducted in the homes of participants left note cards in two public locations with a link to online information and a short survey, responses to which were used to refine the pool of possible participants [2]. Other studies discuss finding participants through child-care centers or community centers [7, 8].

### 3.1 Recruitment Strategies

For the child study, the authors decided to leverage many methods of recruitment. The University's IRB approved all of the strategies discussed. Researchers posted flyers around the University and additionally handed out flyers on campus directly to adults who indicated they knew a young child. Researchers also sent emails to campus listservs hoping that the message would be forwarded to parents. However, these early recruitment attempts resulted in only 7 interviews between October and December 2008.

In another recruiting attempt, researchers set up a table at a public library on a Saturday and passed out flyers about the study, and allowed parents to sign up if they were interested in participating. This effort resulted in 26 parents signing up, but only two of these parents followed through with participation in the research.

Coming to the understanding that we needed to leverage existing networks of adults who were parents allowed us to begin to recruit more productively. During the child study, we contacted the Parent Teacher Associations (PTA) affiliated with public schools within our driving range by compiling a list of all the public schools, then visiting their web pages or calling the school to find contact information for the PTA representatives. We then contacted the PTA representatives, requesting that our information be sent through listservs or included in PTA newsletters to parents. This strategy led to many more responses from willing parents; for example, we conducted 17 interviews during the first month this strategy. During the adolescent study, as we knew to begin our recruitment using PTA groups, we were able to conduct a comparable 13 interviews during the first month of the study.

We were also able to successfully use our personal networks of friends and families to find some willing participants through word-of-mouth. During the child study, personal networks contributed 25% of the participants. For the adolescent study, we were acquainted with 29% of the adolescents or their parents. However, knowing a participant or their parent did not guarantee retention during the longitudinal study, as only 52% of the personally-known participants re-enrolled. We additionally observed that recruiting via personal networks was more difficult for adult researchers who had no children, as their friends, siblings, and acquaintances tended to also be childless.

Other recruitment methods employed with mixed results were to find neighborhood-level listservs via Internet searches, and then to request permission from administrators to post our study information. We also attempted snowball sampling, described as having one participant name other people fitting the profile of a potential participant [9] or in our case, based on IRB, simply passing our information along to the potential participant. This met with little success, as parents did not follow through with providing our information to other parents.

For the adolescent study, we offered an incentive for participation of a gift card in the amount of \$10. We decided to offer incentives during the adolescent study as some parents during the child study contacted us to inquire about any reward, and then declined to participate upon learning that we were not offering incentives.

### 3.2 Recruitment Challenges

We were somewhat constrained by our child study boundaries as children had to be 7, 9, or 11 years old in order for us to be able to observe meaningful differences in their searching behaviors. This caveat had some drawbacks, as many parents contacted us with children who were not in the correct age range but were willing to participate. Researchers carefully noted dates of birth and, as the study was conducted over the course of a year, respond to parents when their children aged into one of our brackets.

Our method of using existing parent networks such as the PTA proved to be extremely effective during the school year. However, during the summer months of June and July when children were out of school, we completed only 19% of the child interviews and one adolescent interview. For interviews conducted during the summer holiday, we relied more heavily on personal networks to continue the research.

An ethical question posed by our recruitment methods has been to determine how many times we could re-contact the same source of participants. During our child and adolescent studies, we followed the rule of not re-contacting the same PTA, posting flyers or emailing listservs more than twice, and we ensured that our contacts were spaced by a period of months. In leveraging

personal networks, we felt there was more flexibility, as friends often would forget our requests or to pass our recruitment flyer along. For the longitudinal study, the number of contacts has been more sporadic, ranging from first-contact re-enrollment, to up to four contacts using both phone and email. Reasons for the more frequent contacts have been, for example, reaching a family member on the phone at a bad time and then not being able to reach them again later or that family members responded to our request initially but then failed to schedule without indicating their withdrawal from the study.

For the longitudinal study, recruitment has been hampered by the lack of updated contact information due to the long span of time between the child study and the longitudinal study (three or four years, depending on whether the interview occurred at the beginning or end of the year-long child study). Many families disconnected their home phone lines, relying on mobile phones instead. Additionally, some of the contact email addresses were hosted by domains that have become unpopular in the intervening time, and so are not frequently checked, or were for parents' work and they had changed jobs. To address this problem, it was useful that researchers knew some of the participants personally, as we were able to find updated information for families.

## 4. LONGITUDINAL STUDIES

The length of time for research to continue for a study to be considered longitudinal varies within the literature [12]. Longitudinal studies are those that continue over a period of time and which consider change as a primary area of interest [8]. Within an analysis of IDC literature, there is a call for more longitudinal studies, "The difficulty of deploying and evaluating a system over a longer period of time cannot be underestimated, however neither can the importance of doing so" [16].

### 4.1 Re-contact

For the child study and the adolescent study, we maintained contact with the families when major developments happened with the project. Follow-up emails were sent upon the publication or presentation of any research concerning the project. Other than the infrequent email updates (roughly yearly), we have not stayed in contact with our participants. However, we have maintained an updated website concerning the research, linking new publications, press coverage, and updating the list of involved researchers. Through this webpage it would be possible for our participants to contact us.

### 4.2 Retention

It is difficult to ascertain why families chose to re-enroll their children in our longitudinal study. There are more younger children than older children re-enrolled. Factors possibly involved are that of parents exerting more direction to re-enroll on their young children than on their adolescents, or that adolescents are not as motivated to participate, especially without incentives. The percentages of children by age in the longitudinal study are 45% 10 and 11-year-olds, 31% 12- and 13-year-olds, and 24% 14- and 15-year-olds. It is also possible that boys are more motivated to participate in our longitudinal study, as 57% of participants are male and 43% are female. In the child study, 51% of participants were male and 49% were female.

In contrast to the idea that parents are simply re-enrolling their children if they are younger and allowing the children to decide if they are older, a number of parents of children of all ages responded to contact emails stating that they would ask their children about participating in the longitudinal study. Parents then generally responded with a decision about scheduling after

speaking with their children. Also, it is possible that parents are allowing their children to decide about re-enrollment without imparting this information to researchers.

## 4.3 Rates of Loss Longitudinally

In the longitudinal study, the most common reason for attrition was parents not responding to our phone or email contacts. We received no response from 16% of the original families, representing 17 individual children (4 sibling pairs). The second most common reason for attrition was families moving away. 7% of child study families moved, representing 9 individual child participants (3 sibling pairs). However, these families did respond to our efforts to re-enroll them by letting us know that they were no longer available. The other explicit reasons participants gave for not re-enrolling were busy schedules (2 15 year old boys) or that they were not interested (15 year old boy). Prior work has shown that scheduling with adolescents can be difficult because they have commitments outside of school, such as jobs or sports that crowd their schedules [17].

## 5. RECOMMENDATIONS

We are able to develop suggestions to researchers who are working with children in a variety of research contexts. These pertain first to planning aspects of the research project. Also discussed are how to approach recruitment efforts, and retention strategies for long-term or longitudinal studies.

### 5.1 Planning

#### 5.1.1 Plan for Collaboration

Due to the cooperative nature of most research projects, we recommend that the research team be aware that recruiting participants, scheduling, data management, and analysis will require multiple researchers have access to the same information. It is not always feasible to use cloud-based sharing applications, as this is not a confidential way to store personally identifiable information pertaining to participants.

#### 5.1.2 Plan for Evolution

The recruitment strategies employed are likely to change as the research study progresses. Preparing IRB permissions for targeting the population of interest through a variety of venues can reduce time delays and wasted effort in a single strategy, as researchers can ethically move on if access proves difficult through one avenue. Likewise, it is possible that the researchers on the project will change as well. In these events, it is essential that information regarding the study be retained in locations accessible to other researchers, such as in shared email accounts or workplace hard drives.

### 5.2 Recruitment Recommendations

#### 5.2.1 Leverage Existing Groups

During recruitment, it is a good approach to be aware of existing groups structured around the population of interest. These groups are likely have an existing way to disseminate information about research to their organization. For example, to study children with specific disabilities, there are likely informal parent groups with email lists or websites that would be willing to help disseminate information. This might be more effective than approaching institutions such as care centers, schools, or doctors' offices, as institutions may have policies in place preventing solicitation.

#### 5.2.2 Awareness of Population

It is also useful to be aware that the preferred method of communication of the participant group might vary among different populations or geographic areas. In more rural or

economically disadvantaged areas with less Internet penetration and incomplete cell phone coverage, land-line phone calls may be preferred over email or mobile phone use. In some contexts, setting up in-person visits to explain the purpose of the planned research may help to make inroads to a previously closed community. In less-tech savvy populations, even opening email attachments can be problematic.

### 5.2.3 Rapid Response

When responding to participant contact, if researchers are able to respond to phone calls or emails immediately, it is likely that the potential participant will be in a position to provide needed information or to schedule participation right away, decreasing drop-off. For example, it is likely with immediate return emailing, a potential participant will still be online and in a location with access to a calendar for scheduling an interview.

### 5.2.4 Geography

Populations under examination in a study can vary depending of the geographic context. Ascertaining if a certain sample is representative based on local differences can increase the generalizability of study results. Additionally, if researchers have the ability to spread recruitment widely, there are more potential participants.

## 5.3 Retention Recommendations

### 5.3.1 Start Big

The pool of potential participants at the beginning of a study is huge when compared to the pool of participants for a longitudinal panel study, due to the additional boundary in longitudinal panel research of being an original participant. Depending on research contexts, studies should recruit as many initial participants as resources allow, ensuring that re-enrollment will be significant enough to make use of findings.

### 5.3.2 Stay in Contact

Longitudinal participants may appreciate update emails or calls if they are timed appropriately. These updates could be to distribute publications or to provide participants with their personal results. Participants can easily overlook emails with generic subject lines. Instead, using names of participants in email subject lines can be a way to ensure an email is read. Researchers can also use recontact to keep updated phone and email information for participants.

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## 7. REFERENCES

- [1] Alper, M., Hourcade, J.P., and Gilutz, S. 2012. Interactive technologies for children with special needs. In *Proc. of IDC*, June 2012, Bremen, Germany, ACM Press, New York, NY, 363-366.
- [2] Fernaeus, Y., Håkansson, M., Jacobsson, M., and Ljungblad, S. 2010. How do you play with a robotic toy animal? A long-term study of Pleo. In *Proc. of IDC 2010*, June 2010, Barcelona, Spain, ACM Press, New York, 39-48.
- [3] Foss, E., Hutchinson, H., Druin, A., Yip, J., Ford, W., and Golub, E. 2013. Adolescent search roles. *J. of the American Society for Info. Sci. and Tech.*, 64, 1, 173-189.
- [4] Foss, E., Druin, A., Brewer, R., Lo, P., Sanchez, L., Golub, E., and Hutchinson, H. 2012. Children's search roles at home: Implication for designers, researchers, educators, and parents. *J. of the American Society for Info. Sci. and Tech.*, 63 3, 558-573.
- [5] Heinrichs, N., Bertram, H., Kuschel, A., and Hahlweg, K. Parent recruitment and retention in a universal prevention program for child behavior and emotional problems: Barriers to research and program participation. *Prevention Sci.*, 6, 4, 275-286.
- [6] Hooven, C., Walsh, E., Willgerodt, M., and Salazar, A. 2011. Increasing participation in prevention research: Strategies for youth, parents, and schools. *J. of Child and Adolescent Psychiatric Nursing*, 24, 137-149.
- [7] Hourcade, J.P., Crowther, M., and Hunt, L. 2007. Does mouse size affect study and evaluation results? A study comparing preschool children's performance with small and regular-sized mice. In *Proc. of IDC 2007*, June 2007, Aalborg, Denmark, ACM Press, New York, 109-116.
- [8] Hourcade, J.P., Perry, K.B., and Sharma A. 2008. PointAssist: Helping four year olds point with ease. In *Proc. of IDC 2008*, June, 2008, Boulder, CO, ACM Press, New York, 202-209.
- [9] Miles, M.B. and Huberman, A.M. 1994. *Qualitative data analysis: An expanded sourcebook*. Sage Publications Inc, Thousand Oaks, CA.
- [10] Nicholson, L.M. et al. 2011. Recruitment and retention strategies in longitudinal clinical studies with low-income populations. *Contemporary Clinical Trials*, 32, 353-362.
- [11] Read, J.C., and Bekker, M.M. The nature of child computer interaction. *Proc. of the 25th BCS Conf. on HCI*, July 2011, Newcastle-upon-Tyne, UK, 163-170.
- [12] Saldana, J. 2003. *Longitudinal Qualitative Research: Analyzing Change through Time*. AltaMira Press, Blue Ridge Summit, PA.
- [13] Skogrand, L., Reck, K.H., Higgenbotham, B., Adler-Baeder, F., and Dansie, L. 2010. Recruitment and retention for stepfamily education. *J. of Couple & Relationship Therapy*, 9, 48-65.
- [14] U.S. Census Bureau. State and county quickfacts. <http://quickfacts.census.gov/qfd/index.html>.
- [15] U.S. Census Bureau. 2010. Computer and internet use in the United States: 2010. Table 3A [www.census.gov/hhes/computer/publications/2010.html](http://www.census.gov/hhes/computer/publications/2010.html).
- [16] Yarosh, S., Radu, I., Hunter, S., and Rosenbaum, E. 2011. Examining values: An analysis of nine years of IDC research. In *Proc. of IDC*, Ann Arbor, MI, June 2011, ACM Press, New York, 136-144
- [17] Yip, J.C., Foss, E., and Guha, M.L. 2012. Co-designing with adolescents. *Proc of the Designing Interactive Technology for Teens Workshop at NordiCHI*. Copenhagen, Denmark.