

**Data Memo**

**BY: Research Assistant Paul Hitlin and Director Lee Rainie (202-419-4500)**  
**RE: Teens, technology, and school**  
**August, 2005**

*Teen use of the internet at school has grown 45% since 2000*

*The vast majority of teens and their parents believe that use of the internet helps students in the classroom and in their studies, but some teens believe too many of their peers use the internet to cheat*

The internet is an important element in the overall educational experience of many teenagers. Schools are a common location where online teens access the web, although very few online teenagers rely exclusively on their school for that web access. Further, there is widespread agreement among teens and their parents that the internet can be a useful tool for school. However, 37% of teens say they believe that “too many” of their peers are using the internet to cheat. And there is some disagreement among teens and their parents about whether children must be web-literate by the time they begin school. Additionally, large numbers of teens and adults have used the web to search for information about colleges and universities.

The results reported here were gathered through telephone interviews conducted by Princeton Survey Research Associates for the Pew Internet & American Life Project between October 26 and November 28, 2004, among a sample of 1,100 parent-child pairs. Teens in these surveys are young people between the ages of 12 and 17. For results based on the total parent or teen sample, one can say with 95% confidence that the error attributable to sampling and other random effects is +/- 3%. For results based on online teens or online parents, margin of sampling error is +/- 4%.

***Internet accessibility at school***

The most recent Pew Internet Project survey finds that 87% of all youth between the ages of 12 and 17 use the internet. That translates into about 21 million people. Of those 21 million online teens, 78% (or about 16 million students) say they use the internet at school. Put another way, this means that 68% of all teenagers have used the internet at school.

This represents growth of roughly 45% over the past four years from about 11 million teens who used the internet in schools in late 2000. In the Pew Internet Project survey in

late 2000, we found that 73% of those ages 12 to 17 used the internet and that 47% of those in that age cohort used the internet at school.

For a growing portion of the online teen population, schools have become an important venue for internet use for a significant number of teens. About one in five online teens (18%) who use the internet from multiple locations list school as the location where they go online most often. This figure is up from 11% in December 2000.

Still, while these figures suggest greater internet penetration and use in schools, they also show that 32% of all teens do not use the internet at school at all, despite the fact that 99% of public schools have access to the internet.<sup>1</sup>

Interestingly, less than 1% of online teenagers who go online from school say that school is their only location of access. This means that while many teenagers do go online at school, very few rely exclusively on their school's internet connections. These teens find additional locations outside of school to connect online, even if they are not wired at their own home. For the teenagers who reported that they go online at school (N=758), 87% also go online from their home, 75% go online from someone else's house, 61% go online from a library, and 11% from a community center of some kind.

Internet Access for Teens Who Also Go Online from School	
Of the teens who go online from school, the percentages who say they also go online from this additional location.	
Location	% online
Home	87%
Someone else's house	75%
A library	61
A community center	11

Source: Pew Internet & American Life Project October-November 2004 survey. N=1,100 12-17 year-olds. Margin of error for teens who go online from school (N=758) is ± 4 percentage points at 95% confidence level.

Just 13% of teens who connect to the web from school do not also have web access at their home. These teens tend to be online much less often than all online teens who have access from home *and* school. Twenty-eight percent of teens who go online at home and school report going online several times a day and 28% go online about once a day. Of the teens who go online at school and not from home, only 7% say they go online several times a day and 15% say they go online about once a day. While school can be a location that allows teens to get access to the web when they do not have access as readily elsewhere, those teens with online access at home are able to go online much more frequently.

Of all the teens who do not go online at school, either because they do not go online at all or they go online elsewhere (N=342), 23% live in a household with an income of less than \$30,000 per year while 31% live in a household with an income of \$75,000 or greater. This would suggest that the reason that some teens do not go online at school is

<sup>1</sup> *Digest of Education Statistics, 2003*, from the National Center for Education Statistics. Available online at [http://nces.ed.gov/programs/digest/d03/ch\\_7.asp](http://nces.ed.gov/programs/digest/d03/ch_7.asp)

not necessarily economic. Perhaps these teens choose not to go online at school because their school's access is inconvenient due to old machines, filtering, or limited availability of computers.

### ***Views about the internet, school, and cheating***

There is agreement among teens and their parents about the role that the internet plays in teens' education. Eighty-six percent of teens, and 88% of online teens, believe that the internet helps teenagers to do better in school. Eighty percent of parents and 83% of parents of online teens agreed with that proposition.

There is more of a disagreement when it comes to use of the internet for cheating on schoolwork. Some 37% of teens said that "too many" teens today use the internet to cheat on schoolwork. That compares to 27% of parents who say the same thing. In December 2000, 18% of teens said that they knew someone who had used the internet to cheat on schoolwork. Notably, in our recent survey there is practically no difference between teens who are online and those who are not as to whether they believe too many teens cheat using the web.

There is an even more substantial difference in opinion between parents and teenagers about the need for children to use the web by the time they have started school. One-quarter of teenagers agreed that if a child is not using the internet by the time they start school, they will fall behind their peers while 44% of parents believed the same thing. While most parents and teens view the internet as a helpful academic tool, parents are more likely to believe that children must be familiar with the web by the time they start school.

### ***Instant messaging and school work***

Three-quarters of online teens use instant messaging – that represents close to 16 million youth. Of those 16 million, 78% say they use IM from time to time to talk about homework, tests or schoolwork. Online girls are more likely than online boys to do this, and older girls (those ages 15-17) are the most likely of all to do this. Teens with broadband connections at home are more likely than dial-up internet users to use IM this way.

### ***Use of the internet to search for colleges and other schools***

The internet is a common tool that many teens use to search for information on colleges or other schools. Fifty-seven percent of online teens have gone online to get information about a college, university, or other school they were thinking about attending. Our November 2004 survey of adults showed that 45% of online adults have done the same thing. Among teens, girls are more likely to search for schools on the internet than boys, 61% to 53%. The likelihood that a teenager has searched online for school information increases with age. About a quarter (27%) of 12-year-old internet users have done this, compared with 85% of 17-year-old internet users. There is no significant difference between the percentages of teens who have looked for such information with dial-up connections and those with broadband connections.

## Schools-related questions in the survey

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### Parents & Teens 2004 Survey

Final Topline

12/14/04

Data for October 26 – November 28, 2004

Princeton Survey Research Associates International  
for the Pew Internet & American Life Project

Sample:  $n = 1,100$  parents of 12-17 year-olds

1,100 12-17 year-olds [971 online teens, 129 offline teens]

Interviewing dates: 10.26.04 – 11.28.04

Margin of error is plus or minus 3 percentage points for results based on parents

Margin of error is plus or minus 4 percentage points for results based on parents of online teens

Margin of error is plus or minus 3 percentage points for results based on teens

Margin of error is plus or minus 4 percentage points for results based on online teens

Unless otherwise noted, questions Q5 – MODEM are based on all parents [N=1,100]

Q22 Overall, do you think that email and the Internet have been a GOOD thing for your child, a BAD thing, or haven't they had much effect one way or the other?

**Based on parents of online teens [N=907]**

	<u>CURRENT</u>		<u>DEC 2000</u>
%	67	Good thing	55
	5	Bad thing	6
	25	No effect one way or the other	38
	3	Don't know/Refused	1
			[n=754]

**Q23** Parents have different opinions about the impact of the internet on children today. Please tell me if you agree or disagree with each of the following statements...

	AGREE	DISAGREE	DON'T KNOW REFUSED
a If a child isn't using the internet by the time they start school, they will fall behind their peers			
All parents	44	53	3
Parents of online teens [n=907]	46	52	3
b Most teens are not careful enough about the information they give out about themselves online			
All parents	82	13	5
Parents of online teens	81	13	6
c Teens who use the internet to stay in touch with their friends have better social lives than teens who don't use the internet to do this			
All parents	31	62	7
Parents of online teens	34	59	7
d Teens waste a lot of time online, when they could be doing more important things			
All parents	73	22	4
Parents of online teens	71	25	4
e The internet helps teens do better in school			
All parents	80	17	4
Parents of online teens	83	14	3
f Too many teens today use the internet to cheat on their schoolwork			
All parents	27	50	24
Parents of online teens	25	53	23
g Most teens do things online that they wouldn't want their parents to know about			
All parents	65	28	6
Parents of online teens	62	32	6

Unless otherwise noted, questions K1 – K40 are based on all teens [N=1,100]

K3 Do you ever go online...

Based on online teens [N=971]

	YES	NO	DON'T KNOW REFUSED
a From home			
Current	87	13	0
Dec 2000 [n=754]	90	10	*
b From school			
Current	78	22	0
Dec 2000	64	36	*
c From someone else's house, like a friend or relative's house <sup>2</sup>			
Current	74	26	0
Dec 2000	64	36	*
d From a library			
Current	54	46	*
Dec 2000	36	64	*
e From a community center of some kind, like a Boys' or Girls' Club or a church youth center			
Current	9	91	0
f From someplace else I haven't mentioned			
Current	4	96	*

K4 Where do you go online MOST often?

Based on online teens who go online from more than one place [N=903]

	CURRENT		DEC 2000
%	76	Home	83
	18	School	11
	7	Someplace else	5
	*	Don't know/Refused	1
			[n=659]

<sup>2</sup> In Dec 2000, this item read "at a friend's house."

**K7** People have different opinions about the impact of the internet on kids today. Please tell me if you agree or disagree with each of the following statements...

	AGREE	DISAGREE	DON'T KNOW REFUSED
a If a child isn't using the internet by the time they start school, they will fall behind their peers			
All teens	26	72	2
Online teens [n=971]	25	73	2
b Most teens are not careful enough about the information they give out about themselves online			
All teens	78	20	2
Online teens	79	20	1
c Teens who use the internet to stay in touch with their friends have better social lives than teens who don't use the internet to do this			
All teens	47	51	2
Online teens	48	51	2
d Teens waste a lot of time online, when they could be doing more important things			
All teens	70	28	2
Online teens	70	29	2
e The internet helps teens do better in school			
All teens	86	13	1
Online teens	88	11	2
f Too many teens today use the internet to cheat on their schoolwork			
All teens	37	60	3
Online teens	36	62	3
g Most teens do things online that they wouldn't want their parents to know about			
All teens	64	34	3
Online teens	62	35	3

**Based on teens who use instant messaging [N=736]**

**IM23** Not everyone uses instant messages the same way. What about you...?  
Have you ever used instant messages to...?

	YES	NO	DON'T KNOW REFUSED
a Keep in touch with friends who don't live nearby or who don't go to your school			
Current	90	10	0
Dec 2000 [n=560]	90	10	*
b Make plans with your friends			
Current	80	20	0
Dec 2000	82	18	*
c Ask someone to go out with you			
Current	20	80	0
Dec 2000	17	82	1
d Break up with someone			
Current	19	81	*
Dec 2000	13	86	1
e Play a trick on someone by pretending to be somebody different			
Current	39	61	0
Dec 2000	26	73	1
f Write something that you wouldn't say to somebody's face			
Current	31	69	0
Dec 2000	37	62	1
g Talk about homework, tests or schoolwork			
Current	78	22	0



## Methodology

### **Parents & Teens 2004**

Prepared by Princeton Survey Research Associates International  
for the Pew Internet and American Life Project

November 2004

#### **SUMMARY**

The Parents & Teens 2004 Survey sponsored by the Pew Internet and American Life Project obtained telephone interviews with a nationally representative sample of 1,100 teens 12 to 17 years-old and their parents living in continental United States telephone households. The interviews were conducted in English by Princeton Data Source, LLC from October 26 to November 28, 2004. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is  $\pm 3.3\%$ .

Details on the design, execution and analysis of the survey are discussed below.

#### **DESIGN AND DATA COLLECTION PROCEDURES**

##### Sample Design

The sample was designed to represent all teens ages 12 to 17 in continental U.S. telephone households. The sample is also representative of parents living with their teenage children.

The telephone sample was pulled from previous PIAL projects fielded in 2004 and 2003. Households with a child age 18 or younger were called back and screened to find 12 to 17 year-olds. The original telephone samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. These samples were drawn using standard *list-assisted random digit dialing* (RDD) methodology.

## Contact Procedures

Interviews were conducted from October 26 to November 28, 2004. As many as 10 attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample.

Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each household received at least one daytime call in an attempt to find someone at home. In each contacted household, interviewers first determined if a child age 12 to 17 lived in the household. Households with no children of the proper age were deemed ineligible and screened out. In eligible households, interviewers first conducted a short interview with a parent or guardian. Then interviews were conducted with the target child.<sup>3</sup>

## WEIGHTING AND ANALYSIS

Weighting is generally used in survey analysis to compensate for patterns of nonresponse that might bias results. The interviewed sample was weighted to match national parameters for both parent and child demographics. The parent demographics used for weighting were: sex; age; education; race; Hispanic origin; marital status and region (U.S. Census definitions). The child demographics used for weighting were gender and age. These parameters came from a special analysis of the Census Bureau's 2003 Annual Social and Economic Supplement (ASEC) that included all households in the continental United States that had a telephone.

Weighting was accomplished using Sample Balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables using a statistical technique called the *Deming Algorithm*. Weights were trimmed to prevent individual interviews from having too much influence on the final results. The use of these weights in statistical analysis ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the national population. Table 1 compares weighted and unweighted sample distributions to population parameters.

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<sup>3</sup> In households with more than one 12 to 17 year-old interviewers asked parents about, and conducted interviews with, a child selected at random.

**Table 1: Sample Demographics**

	<u>Parameter</u>	<u>Unweighted</u>	<u>Weighted</u>
<b><u>Census Region</u></b>			
Northeast	18.6	16.9	18.8
Midwest	22.6	27.0	23.7
South	35.7	36.5	36.7
West	23.1	19.6	20.8
<b><u>Parent's Sex</u></b>			
Male	44.2	41.4	43.4
Female	55.8	58.6	56.6
<b><u>Parent's Age</u></b>			
LT 35	10.2	8.7	10.1
35-39	20.7	15.7	18.8
40-44	29.4	29.1	30.3
45-49	23.7	26.2	24.1
50-54	11.2	12.5	11.8
55+	4.7	7.9	4.8
<b><u>Parent's Education</u></b>			
Less than HS grad.	13.4	4.4	9.4
HS grad.	35.5	30.0	36.2
Some college	23.3	27.1	24.6
College grad.	27.7	38.5	29.8
<b><u>Parent's Race/Ethnicity</u></b>			
White, not Hispanic	67.5	82.3	71.6
Black, not Hispanic	11.3	8.7	11.4
Hispanic	15.3	5.1	11.1
Other race, not Hispanic	5.8	3.9	5.9
<b><u>Parent's Marital Status</u></b>			
Married	83.3	80.0	82.5
Not married	16.7	20.0	17.5
<b><u>Kid's Sex</u></b>			
Male	50.7	50.0	51.7
Female	49.3	50.0	48.3
<b><u>Kid's Age</u></b>			
12	16.7	17.1	16.9
13	16.7	14.9	15.9
14	16.7	16.5	16.0
15	16.7	17.8	16.9
16	16.7	17.3	17.2
17	16.7	16.4	17.1

## Effects of Sample Design on Statistical Inference

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. PSRAI calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or *deff* represents the loss in statistical efficiency that results from systematic non-response. The total sample design effect for this survey is 1.26.

PSRAI calculates the composite design effect for a sample of size  $n$ , with each case having a weight,  $w_i$  as:

$$deff = \frac{n \sum_{i=1}^n w_i^2}{\left( \sum_{i=1}^n w_i \right)^2} \quad \text{formula 1}$$

In a wide range of situations, the adjusted *standard error* of a statistic should be calculated by multiplying the usual formula by the square root of the design effect ( $\sqrt{deff}$ ). Thus, the formula for computing the 95% confidence interval around a percentage is:

$$\hat{p} \pm \left( \sqrt{deff} \times 1.96 \sqrt{\frac{\hat{p}(1 - \hat{p})}{n}} \right) \quad \text{formula 2}$$

where  $\hat{p}$  is the sample estimate and  $n$  is the unweighted number of sample cases in the group being considered.

The survey's *margin of error* is the largest 95% confidence interval for any estimated proportion based on the total sample—the one around 50%. For example, the margin of error for the entire sample is  $\pm 3.3\%$ . This means that in 95 out every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 3.3 percentage points away from their true values in the population. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording and reporting inaccuracy, may contribute additional error of greater or lesser magnitude.

## RESPONSE RATE

Table 2 reports the disposition of all sampled callback telephone numbers ever dialed. The response rate estimates the fraction of all eligible respondents in the sample that were ultimately interviewed. At PSRAI it is calculated by taking the product of three component rates:<sup>4</sup>

- Contact rate – the proportion of working numbers where a request for interview was made – of 86 percent<sup>5</sup>
- Cooperation rate – the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused – of 69 percent
- Completion rate – the proportion of initially cooperating and eligible interviews that agreed to the child interview and were completed – of 83 percent

Thus the response rate for this survey was 49 percent.<sup>6</sup>

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<sup>4</sup> PSRAI's disposition codes and reporting are consistent with the American Association for Public Opinion Research standards.

<sup>5</sup> PSRAI assumes that 75 percent of cases that result in a constant disposition of "No answer" or "Busy" over 10 or more attempts are actually not working numbers.

<sup>6</sup> The response rates for the original surveys that provided the callback sample averaged approximately 32 percent.

**Table 2: Sample Disposition**

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Total Numbers dialed	7708	
Business	109	
Computer/Fax	153	
Other Not-Working	1156	
Additional projected NW	120	
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Working numbers	6170	80.0%
No Answer	26	
Busy	15	
Answering Machine	451	
Callbacks	235	
Other Non-Contacts	118	
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Contacted numbers	5325	86.3%
Refusals	1669	
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Cooperating numbers	3656	68.7%
No child in HH	2230	
Language Barrier	98	
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Eligible numbers	1328	36.3%
Interrupted	228	
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Completes	1100	82.8%
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Response Rate	49.1%	

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