

# Oregon Student Wellness Survey Pilot Study: Web vs. Paper Surveys

*Draft Report - Findings*

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## Key Findings

- When comparing online to paper-pencil surveys, all estimates of ATOD use behaviors (lifetime and past 30-days) are within the margin of error. In effect, that means that there is no difference between the two survey strategies that should not be attributed to chance. Thus, we did not detect a difference between paper-pencil and web-based surveys on ATOD use patterns.
- However, 6th graders consistently reported slightly higher (but non-significant) rates of use across all ATOD categories if they took the online survey. So, while the differences were within the margin of error, all use rates were higher for online compared to paper-pencil.
- For older students, the opposite was true. For both 8th and 11th graders, those who took the paper-pencil survey showed slightly higher (within the margin of error), but consistent, differences.
- This effect appears to be very small but consistent, and interacts with age.
- The randomization worked very well, I had to weight the younger sample slightly to correct for over-representation of ethnic groups. This correction did not have a large impact, but is necessary for comparisons-sake.

Details by grade, missing values, and filter status, follow.

## Sixth Graders

### Demographics

- There were a total of 707 cases post filtering.
- More students took the survey on the web compared to the paper version:  $n = 314$  to  $n = 393$ .
- **Q1.** Groups were not different in terms of age ( $F(1,600) = .85$ ,  $p = .357$ , eta-squared = .001).
  - Average age of web-group: 11.6,  $sd = .59$
  - Average age of paper-group: 11.6,  $sd = .61$
- **Q3.** Groups differed slightly on grade level, with 17 students in the 7th grade for the paper group and 0 7th graders for the web group. Recommend removing all non sixth-graders.
- **Q2.** Groups were not different in terms of the proportion of males versus females ( $\chi^2(1) = 0.99$ ,  $p = .753$ )
  - males: web = 202 (52.5%), paper = 183 (47.5%)
  - females: web = 153 (48.7), paper = 161 (51.3%)
- **Q4.** Groups differed by ethnicity ( $\chi^2(4) = 10.9$ ,  $p = .027$ ). The paper group had a higher proportion of students who indicated “white” compared to the web group. Recommend weighting by race.
- **Q5.** Groups were not different in terms of the proportion indicate hispanic or latino ( $\chi^2(1) = .55$ ,  $p = .46$ ).

### Recommendations

- Remove all non 6th graders.

- Weight by ethnicity to equate the groups as ethnicity has consistently been shown to impact self-reported ATOD rates.

## *Eighth Graders*

### *Demographics*

- There were a total of 533 eighth-grade cases post filtering.
- Slightly more student took the web-based survey (n=285, 53.5%) than took the paper-based survey (n=248, 46.5%).
- **Q1.** Groups did not differ significantly by age ( $F(1,529) = 1.8$ ,  $p = .183$ , eta-squared = .003).
- **Q2.** Both groups had the approximately same proportion of boys (50.2, 51.2) and girls (49.8, 48.8). The difference was not statistically significant (chi square(1) = .055,  $p = .81$ ).
- **Q4.** There was a slightly higher proportion of students who identified as “white” in the paper-survey group. However, this difference was not statistically significant (chi square(4) = 5.2,  $p = .27$ ).
- **Q5.** There was a slightly higher proportion of students who identified as “Hispanic/Latino” in the web-group. However, this difference was not statistically significant (chi square(1) = .82,  $p = .36$ ).

## *Eleventh Graders*

### *Demographics*

- There were a total of 197 eleventh-grade cases post filtering.
- Slightly more student took the paper-based survey (n=105, 53.3%) than took the web-based survey (n=92, 46.7%).
- **Q1.** Groups did not differ significantly by age ( $F(1,195) = .34$ ,  $p = .56$ , eta-squared = .002).
- **Q2.** Both groups had the approximately same proportion of boys (54.3, 55.4) and girls (45.7, 44.6). The difference was not statistically significant (chi square(1) = .026,  $p = .87$ ).
- **Q4.** There was a slightly higher proportion of students who identified as “white” in the web-survey group. However, this difference was not statistically significant (chi-square(4) = 4.14,  $p = .39$ ).
- **Q5.** There was a slightly higher proportion of students who identified as “Hispanic/Latino” in the web-group. However, this difference was not statistically significant (chi square(1) = .60,  $p = .29$ ).

## *Missing Values*

Another way that a web-based survey could differ from a paper-pencil based survey is in patterns of non-response. That is, the survey administration strategy could impact how many questions were left blanks (intentionally or otherwise). These data were analyzed to look for potential differences in missing-ness by administration strategy. We found:

- No statistically significant or meaningful difference in the total number of missing values (i.e., questions that were not answered) was detected ( $F(1,728)=8.4$ ,  $p = .004$ ,  $\eta^2 = .011$ ).
- The following table shows mean, count, and standard deviation of total number of missing values, across administration strategy (web, paper) and grade (8th, 11th).

Administration Strategy	Grade	Mean	N	SD
Paper Survey	8th	22.2	248	16.2
	11th	23.5	105	23.2
	Total	22.6	353	18.5
Web Survey	8th	19.4	285	16.2
	11th	17.6	92	12.5
	Total	18.9	377	15.4
Total	8th	20.7	533	16.2
	11th	20.8	197	19.1
	Total	20.7	730	17.1

- Among 6th graders a statistical difference was detected, however, the effect was very small and likely an artifact of the large sample size. The average number of questions not answered by the web group was 19.7 (sd = 14.1) and the mean number of questions not answered by the paper-pencil group was 22.3 (sd = 14.0). Thus, the paper-pencil group answer fewer total questions. This difference is statistically significant  $F(1,677)=5.7$ ,  $p = .017$ , but not meaningful ( $\eta^2 = .008$ ).

## Validity Check

A variety of validity checks are used to identify respondents who do not complete the survey seriously. There are:

- Surveys are identified as potentially invalid if a respondent marks all 30 day illicit drug use with maximum value (e.g., use in all previous 30 days).
- Surveys are identified as potentially invalid if respondent marks a 30 day illicit drug use but not the same lifetime use (e.g., reporting having used twice in the past month, but never in lifetime)
- Surveys are identified as potentially invalid if a respondent does not respond to any of the 30 day illicit drug use or lifetime illicit drug use.
- Surveys are identified as potentially invalid if a respondent marks an age that is more than one year younger or 3 years older than expected age for grade.

Very few cases are removed using the filter-checks.

- Among 9th and 11th graders, 1.1% of the full-sample cases were removed using the filter checks. The difference between the count of invalid cases between the web survey and the paper survey was not statistically significant ( $\chi^2(1) = .65$ ,  $p = .42$ ).
- Among 6th graders, no cases were removed from either respondents who took the survey via the web, or respondents who took the survey via paper and pencil.

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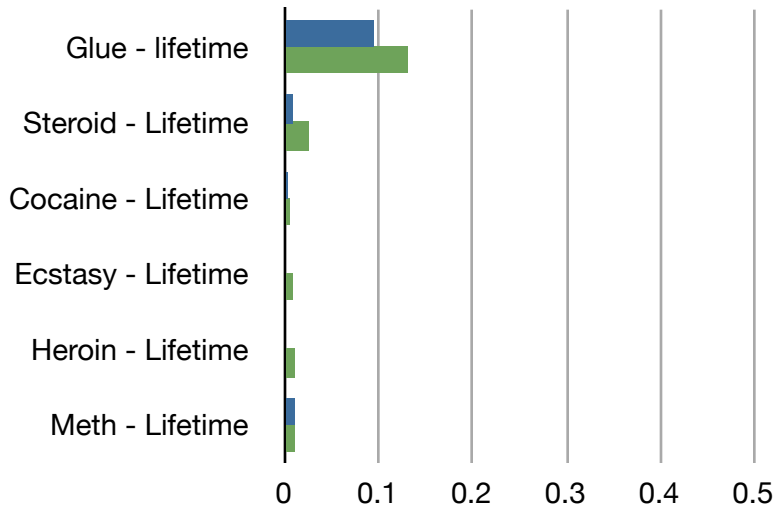
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		Unweighted				Weighted			
		Paper	±CI (95%)	Web	±CI (95%)	Paper	±CI (95%)	Web	±CI (95%)
<b>Eleventh Grade</b>									
	Glue - lifetime	19.0%	7.5%	13.0%	6.9%				
	Steroid - Lifetime	6.7%	4.8%	3.3%	3.7%				
	Cocaine - Lifetime	7.6%	5.1%	5.4%	4.6%				
	Ecstasy - Lifetime	7.6%	5.1%	8.7%	5.8%				
	Heroin - Lifetime	1.9%	2.6%	3.3%	3.7%				
	Meth - Lifetime	5.7%	4.4%	3.3%	3.7%				
	Needle - Lifetime	3.8%	3.7%	2.2%	3.0%				
	Alcohol - 30 days	46.7%	9.5%	30.4%	9.4%				
	Binge - 30 days	33.3%	9.0%	17.4%	7.7%				
	Cigarettes - 30 days	29.5%	8.7%	23.9%	8.7%				
	Other Tobacco - 30 days	24.8%	8.3%	16.3%	7.5%				
	Marijuana - 30 days	32.4%	9.0%	18.5%	7.9%				
	Glue - 30 days	2.9%	3.2%	3.3%	3.7%				
	Cocaine - 30 days	2.9%	3.2%	2.2%	3.0%				
	Ecstasy - 30 days	4.8%	4.1%	3.3%	3.7%				
	Heroin - 30 days	4.8%	4.1%	3.3%	3.7%				
	LSD - 30 days	5.7%	4.4%	3.3%	3.7%				
	Meth - 30 days	3.8%	3.7%	1.1%	2.1%				
	Prescript - 30 days	9.5%	5.6%	10.9%	6.4%				

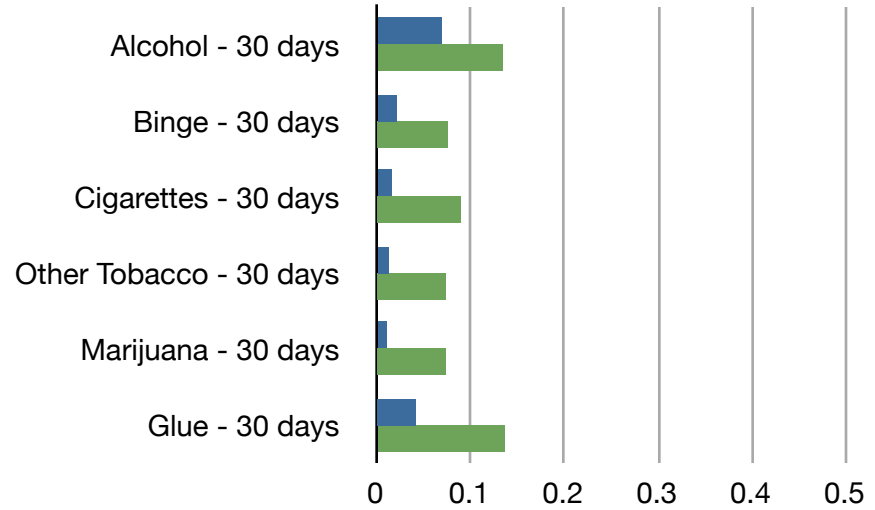
Paper

Web

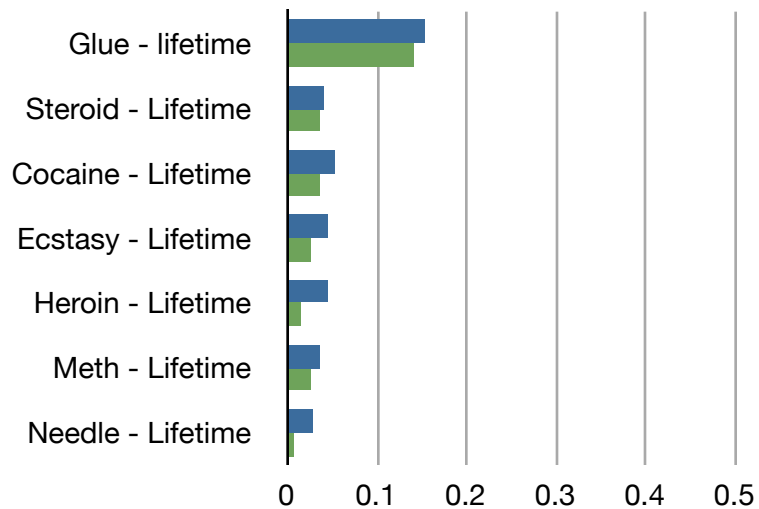
6th Grade (weighted) - Lifetime



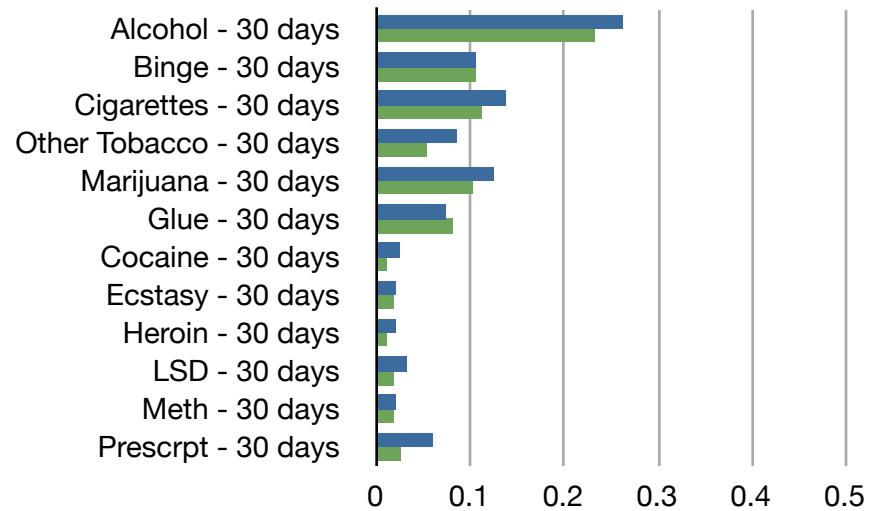
6th Grade (weighted) - Past 30 Days



8th Grade - Lifetime

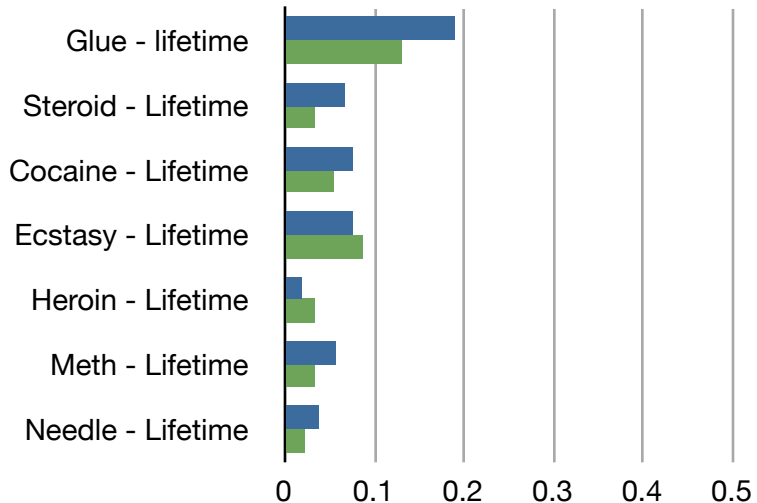


8th Grade - Past 30 Days





**11th Grade -lifetime**



**11th Grade - Past 30 Days**

