



SIP THE DIFFERENCE: DRIVING CONSUMER WEB TRAFFIC WITH A/B TESTING & GOOGLE ANALYTICS

MIDS 241: Final Project Presentation

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RESEARCH CONTEXT

Current marketing landscape

- Holistic wellness and lifestyle messaging is trending
- Products and services advertised as tools to enhance mental, physical, and emotional wellness

About Vyu

- Launching new specialty supplement drink line
 - Nootropics, adaptogens, and vitamins targeted to boost energy levels and focus
- Partnership generates insights into growing B2C space to inform Vyu team on future campaign development





RESEARCH QUESTION

Does a Google SEO ad campaign with holistic wellness and lifestyle messaging generate more Vyu site traffic than a campaign with productivity and success-oriented messaging?

Operationalization:

- Design two distinct sets of ad copy:
 - wellness messaging
 - productivity messaging
- Performance metric: click-through rate of each campaign



HYPOTHESIS

Wellness-focused ads will yield higher click-through rates (CTR) to the product site than productivity-focused ads.




EXPERIMENTAL DESIGN

- **Comparative analysis (A/B testing)** of two **distinct ad treatments** on Google Ads platform
 - Treatment A (Productivity-centered)
 - Treatment B (Wellness-focused)
- **Outcome measurement:** CTR for Treatment A vs. CTR for Treatment B



AD TREATMENTS

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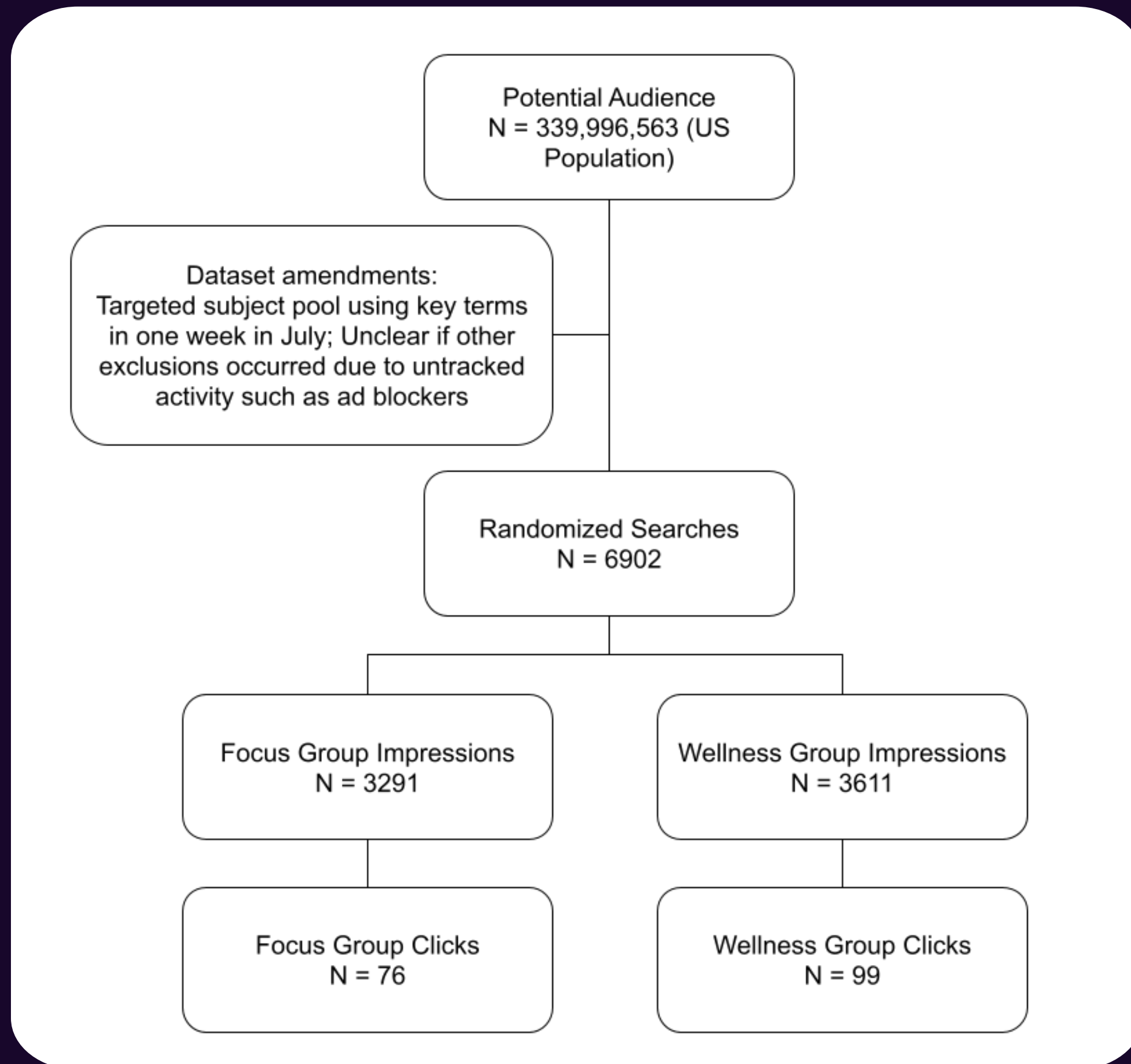
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Vyu | a blend of nature's powerhouses, crafted for your health and well-being. Vyu | harmonize your body and mind with the earth's natural rhythms.

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PROCESS OVERVIEW: CONSORT DOCUMENT





RESULTS & ANALYSIS



MODEL

Did the ad treatment groups have different click-through-rates?

- **Objective:** Compare proportions of clicks per ad impression (CTR) for Treatment A vs. Treatment B
- **Test:** Two-sample proportions test
- **Result:** click-through-rates did not significantly differ based on the treatment condition



2-sample test for equality of proportions with continuity correction

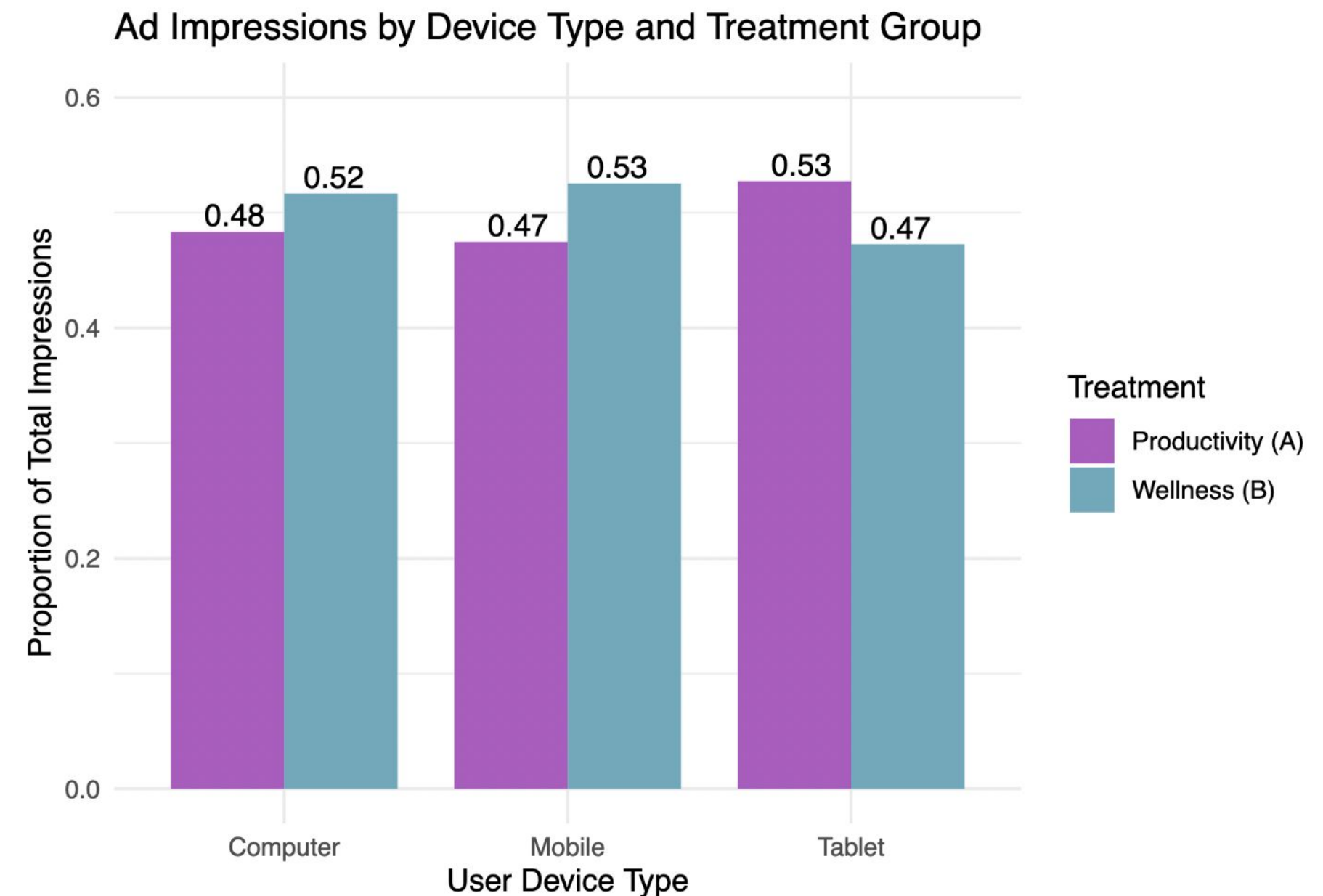
```
data: clicks out of trials
X-squared = 1.133, df = 1, p-value = 0.2871
alternative hypothesis: two.sided
95 percent confidence interval:
 -0.01200927  0.00336338
sample estimates:
   prop 1    prop 2 
0.02309328 0.02741623
```



RANDOMIZATION CHECK: User Device Type

Were the ad treatments delivered to demographically comparable groups of users?

- **Objective:** Compare counts of impressions per device type for Treatment A vs. Treatment B
- **Test:** Pearson's Chi-squared
- **Result:** impressions by device type did not significantly differ based on the treatment group



Pearson's Chi-squared test

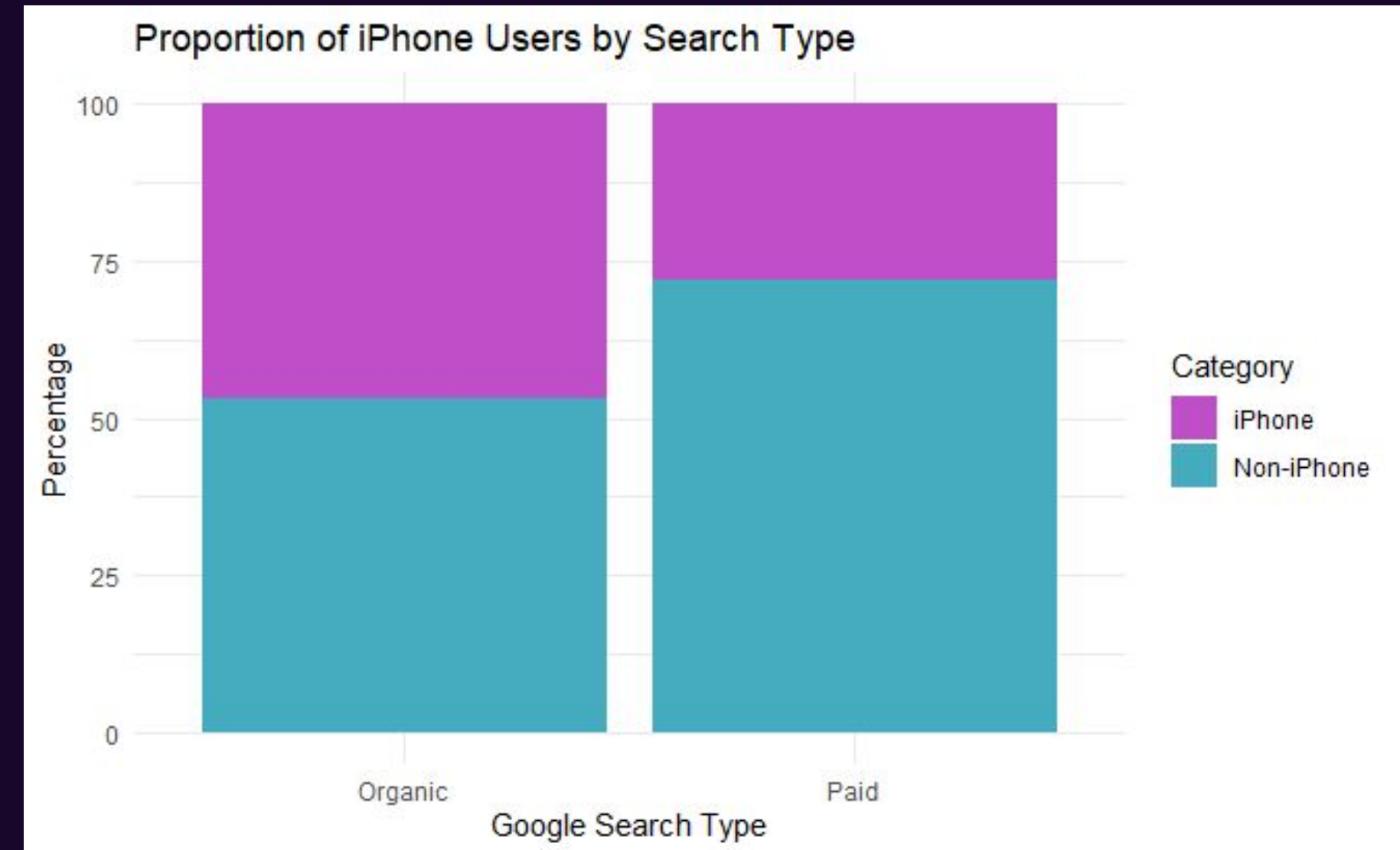
```
data: device_data  
X-squared = 1.7446, df = 2, p-value = 0.418
```



PAID VS. ORGANIC SITE TRAFFIC: iPhone Users

Is there a significant difference in the proportion of iPhone users for organic vs. paid Google search users?

- **Objective:** Compare proportion of iPhone users for utm source and medium google/cpc vs. google/organic
- **Test:** Two-sample proportion test
- **Result:** Organic Google users have a significantly higher proportion of iPhone users



```
2-sample test for equality of proportions with continuity correction
data:  c(paid_iphone, organic_iphone) out of c(paid_users, organic_users)
X-squared = 17.52, df = 1, p-value = 2.842e-05
alternative hypothesis: two.sided
95 percent confidence interval:
 -0.2774148 -0.1061280
sample estimates:
  prop 1    prop 2 
0.2810458 0.4728171
```

PAID VS. ORGANIC SITE TRAFFIC: Compare Page Views & Time on Site

- **Organic users** spent significantly **more time on the site** than paid users
- **Paid users** viewed significantly **more pages** than organic users
- Important differences between paid and organic groups might affect viability of paid search as a long-term strategy for driving purchases





NEXT STEPS

Increase budget and continue experiment

Refining the Research:

- What other steps can we take to analyze the aggregated data?
- Covariate balance checks

Thank you for joining our presentation!

We welcome any questions or feedback.