Your Secrets Are Safe: How Browsers’ Explanations Impact Misconceptions About Private Browsing Mode

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Your Secrets Are Safe: How Browsers’ Explanations Impact Misconceptions About Private Browsing Mode
Users have misconceptions about private mode
Consider the role of browsers in communicating what private mode actually does i.e., protection from local threats (and not most remote ones)
Disclosure

the explanation that a browser presents when users open a new window in private mode
Disclosures vary
Disclosures vary
Disclosures vary

Private Browsing with Tracking Protection

When you browse in a Private Window, Firefox does not save:
- visited pages
- searches
- cookies
- temporary files

Firefox will save your:
- bookmarks
- downloads

Private Browsing doesn’t make you anonymous on the internet. Your employer or Internet service provider can still know what page you visit.

Tracking Protection

Some websites use trackers that can monitor your activity across the internet. With Tracking Protection, Firefox will block many trackers that can collect information about your browsing behaviour.

Learn more about Private Browsing.
Mobile disclosures vary even more
Survey Methodology

460 participants on Amazon’s Mechanical Turk

30 minutes, $5 compensation

13 conditions

- 12 conditions based on disclosures from the wild
- 1 control condition
Private tabs are not logged in page history. Private tabs and their cookies vanish when the browser is closed. File downloads, new bookmarks, and passwords can still be saved while using a private tab and will not be removed when the private tab is closed. Please note: Even though sites you visit in private tabs are not saved locally, they do not make you anonymous or invisible to your ISP, employer, or to the sites you are visiting.

Pages that you view in incognito tabs won’t stick around in your browser’s history, cookie store or search history after you’ve closed all of your incognito tabs. Any files you download or bookmarks you create will be kept.

However, you aren’t invisible. Going incognito doesn’t hide your browsing from your employer, your Internet service provider or the websites that you visit.

Now you can browse privately, and other people who use this device won’t see your activity. However, downloads and bookmarks will be saved.

Onyx won’t save the following information:
- Your browsing history
- Cookies and site data
- Information related to forms
- Web pages that you visit
- Your employer or school
- Your Internet service provider

Your activity might still be visible to:
- Your computer
- Third parties using browser extensions that can observe your activities

As soon as you close all private windows, all the information connected with them will be erased.

If you want even more privacy – turn on the VPN.

Onyx will keep your browsing history private for all tabs in this window. After you close this window, Onyx won’t remember the pages you visited, your search history, or your AutoFill information.

Your recent activity and search history aren’t available if you’re in incognito.

Onyx blocks parts of the pages that may track your browsing activity. We won’t remember any history, downloaded files and new bookmarks will still be saved to your device.

Onyx won’t save the browsing history of your private tabs.

Onyx won’t remember the pages you visited, your search history or your AutoFill information after you close a tab in Private Browsing Mode.
Control Condition

private browsing mode

Onyx’s private browsing mode protects your privacy and keeps you safe as you browse the Internet.

It was carefully designed by Onyx's engineers to let you stay incognito as you browse.
Survey Content

20 different scenarios

Two sets of questions:

Distinguishing

Comparative

[>, <, ==]
Results
Our participants (n = 460)

Gender
54.6% male
44.6% female
0.8% nonbinary/NA

Tech background
86.5% no background
11.5% worked, educated in tech
2.0% NA

Age Distribution

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Non-misconceptions

89.8% correct

Photos not cached

94.8% correct

History not saved in menu

99.3% correct

Downloaded files remain
Overestimated Protections

56.3% incorrectly believed

...that searches could not be associated (while logged in)

25.2% incorrectly believed

...that IP address could not be collected

40.2% incorrectly believed

...that geolocation could not be estimated
Misconceptions - comparative differences

- 27.1% incorrectly believed that there was a difference in the level of virus and malware protection between modes.
- 30.9% incorrectly believed that the proportion of targeted ads was the same between modes or higher in private mode.
Overestimated Protections - Tracking

Proportion Incorrect (n=460)

ISP: 0% 20% 40% 60%

Government: 0% 20% 40% 60%

Employer: 0% 20% 40% 60%

Standard

Private
Individual disclosure results

**Desktop**

- **Private browsing with tracking protection**
  - When you are not in Private Browsing, Onyx does not store:
    - Cookies
    - Website visits
    - Searches
  - Once exit:
    - Cookies
    - Website visits
    - Searches
  - Private Browsing does not make you anonymous on the Internet. Your employer or Internet service provider can still know what page you visit.

- **Incognito mode**
  - Your recent activity and search history aren’t available when you’re in incognito.

- **Private browsing + tracking protection**
  - Onyx blocks parts of the pages that may track your browsing activity. We won’t remember any history, but download files and new bookmarks will still be saved to your disk.

- **Your secrets are safe**
  - Onyx won’t save the browsing history of your private tab.

- **Private browsing enabled**
  - Once will keep your browsing history private for all tabs in the window. When you close this window, Onyx won’t remember:
    - The pages you visited, your search history, or your dashboard.

**Mobile**

- **Private browsing**
  - As soon as you close all private windows, all the information connected with them will be erased.
  - If you want even more privacy, turn on the DTV.

- **Incognito mode**
  - Your recent activity and search history won’t be available when you’re in incognito.

- **Private browsing enabled**
  - Once will keep your browsing history private for all tabs in the window. When you close this window, Onyx won’t remember:
    - The pages you visited, your search history, or your dashboard.

**Control**

- **Private browsing mode**
  - Onyx’s private browsing mode protects your privacy and keeps you safe as you browse the Internet.
  - It was carefully designed by Onyx’s engineers to let you stay incognito as you browse.

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No different than control
Better than control

You've gone incognito

Now you can browse privately, and other people who use this device won't see your activity. However, downloads and bookmarks will be saved.

Onyx won't save the following information:
- Your browsing history
- Cookies and site data
- Information entered in forms

Your activity might still be visible to:
- Websites that you visit
- Your employer or school
- Your Internet service provider

Chrome v60 (desktop)

You've gone incognito

Pages that you view in incognito tabs won't stick around in your browser's history, cookie store or search history after you've closed all of your incognito tabs. Any files you download or bookmarks you create will be kept.

However, you aren't invisible. Going incognito doesn't hide your browsing from your employer, your Internet service provider or the websites that you visit.

Chrome v59 (desktop)
Key Takeaways
Understanding comes from interaction

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Language matters

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Tracking Protection

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Want to learn more?
Language matters

Opera (mobile)

Firefox Focus (mobile)

Browse like no one’s watching.

Automatically block online trackers while you browse. Then tap to erase visited pages, searches, cookies and passwords from your device.

OK, GOT IT!
Browsers’ disclosures make a difference
RQ: Do disclosures impact misconceptions of private browsing mode? If so, how?

Methodology: 460-participant survey testing 13 disclosures in 20 scenarios

Results: Disclosures have an impact and contribute to many misconceptions