A WEEK TO REMEMBER

THE IMPACT OF BROWSER WARNING STORAGE POLICIES

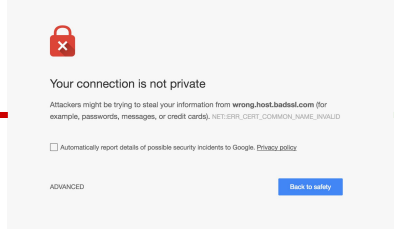
JOEL WEINBERGER & ADRIENNE PORTER FELT

When someone clicks through an HTTPS warning, how long should the browser store that decision for?

WHY DO WE CARE?

REAL ATTACK:

forget the decision as soon as possible

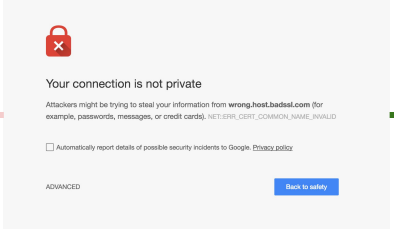


FALSE ALARM:

save the decision as long as possible

REAL ATTACK:

forget the decision as soon as possible



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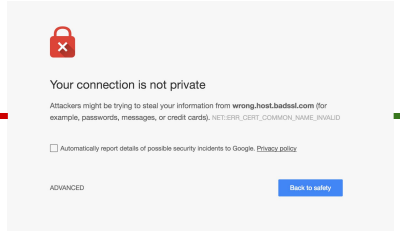

FALSE ALARM:

save the decision as long as possible

WHICH STORAGE POLICY SHOULD CHROME USE?

NO CLEAR CONSENSUS

Chrome 44	Windows	Browser session
Safari 9	Mac	Browser session
UC Browser 10	Android	Browser session
Edge 20	Windows	Browser session

Firefox 44	Windows	Permanent (or session)
Safari 9	iOS	Permanent
UC Browser 2	iOS	Permanent
UC Mini 10	Android	Never

a good policy should reduce the cost of a mistake & number of false alarms

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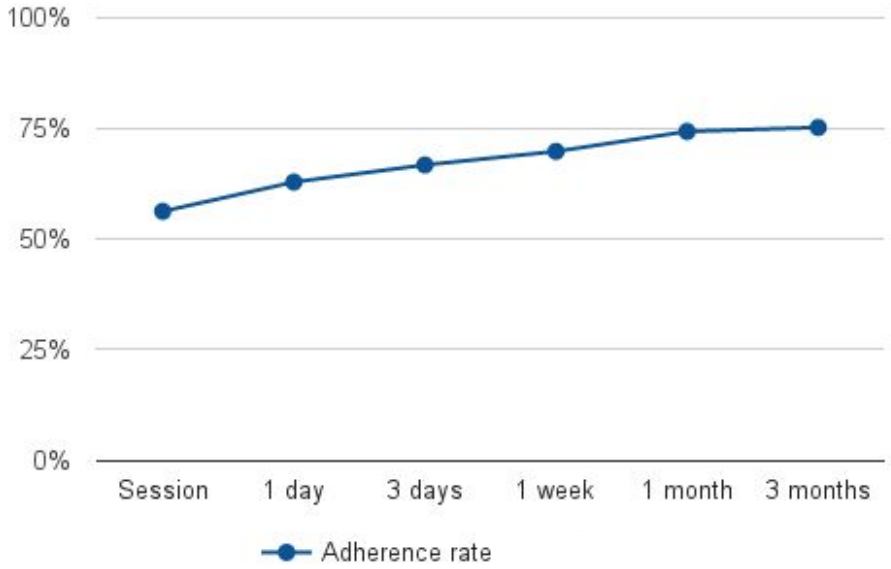
HOW DO PEOPLE REACT TO DIFFERENT STORAGE POLICIES?

6 EXPERIMENTAL GROUPS

ADHERENCE RATE

Rate at which people heed the warning's advice

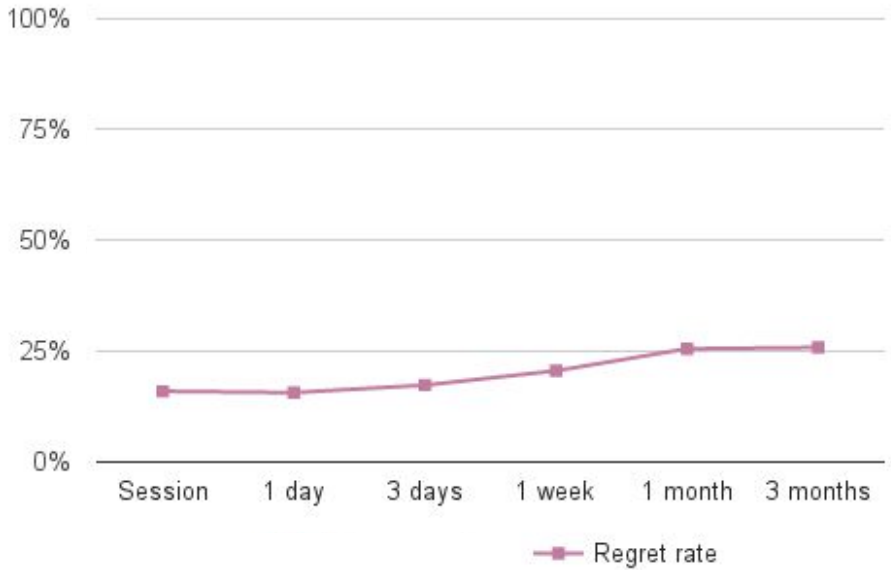
EFFECT ON ADHERENCE



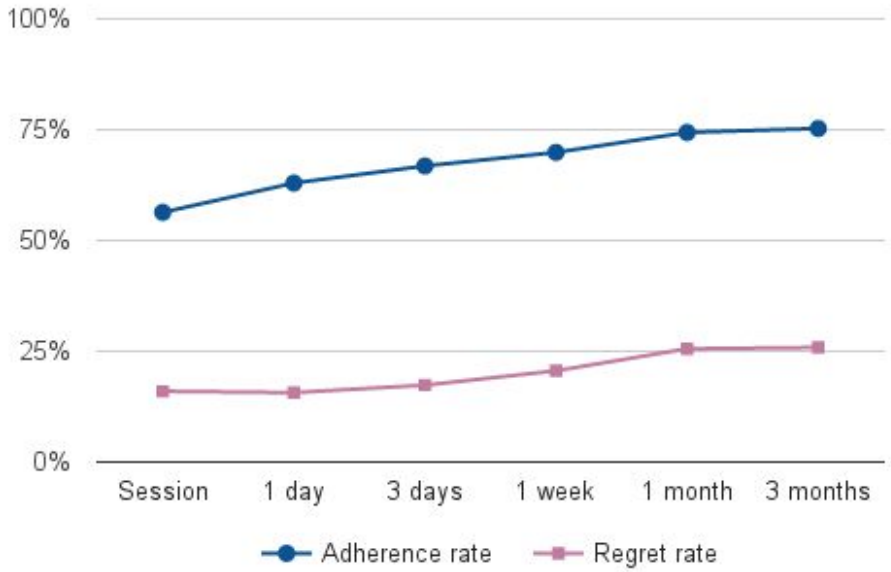
REGRET RATE

Rate at which people change their minds about a warning

EFFECT ON REGRET



CORRELATED RATES



CHOOSING A RATE

	Session	1 Day	3 days	1 week	1 month	3 months
Adherence	56.35%	63.96%	66.82%	69.88%	74.38%	75.28%
Regret	15.98%	15.67%	17.35%	20.59%	25.56%	25.86%
Δ Regret	-	-0.31	1.37	4.61	9.58	9.88

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the one-week policy is working well in practice

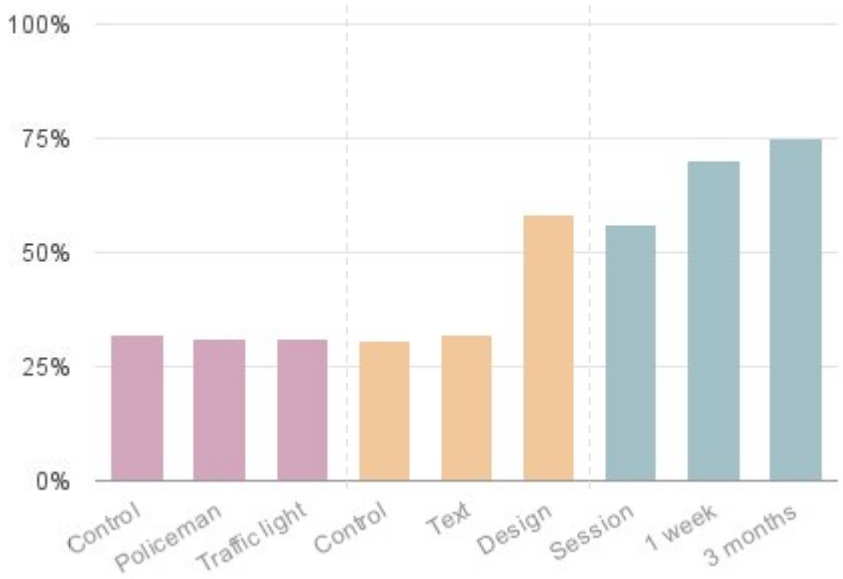
ALSO CLEAR DECISION IF:

1. User asks to forget
2. User clears browsing history
3. Client sees a valid chain

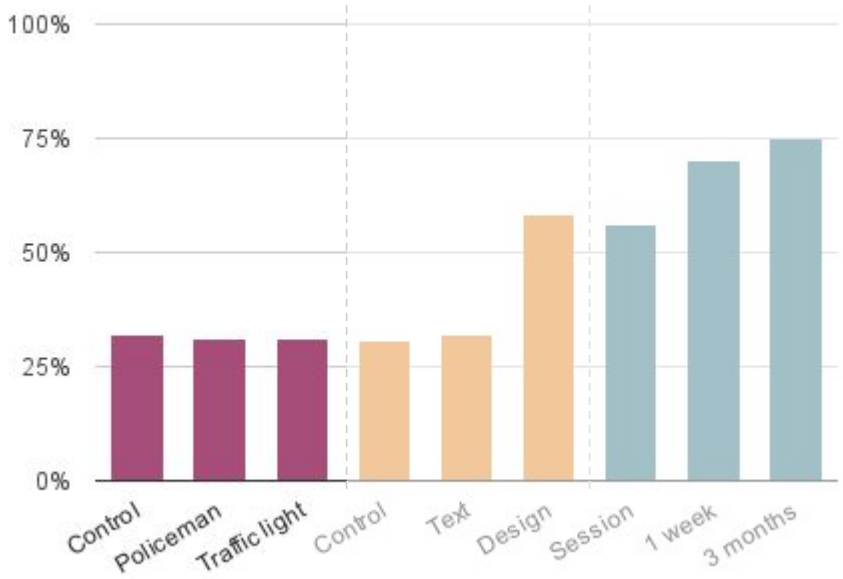
4 LESSONS LEARNED

1. Storage policies have a large effect on adherence

EFFECT IN CONTEXT



EFFECT IN CONTEXT



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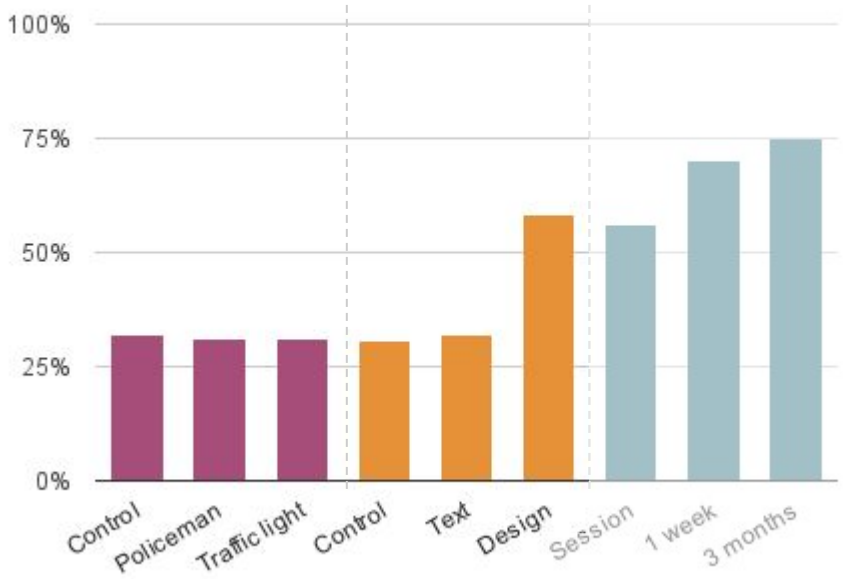

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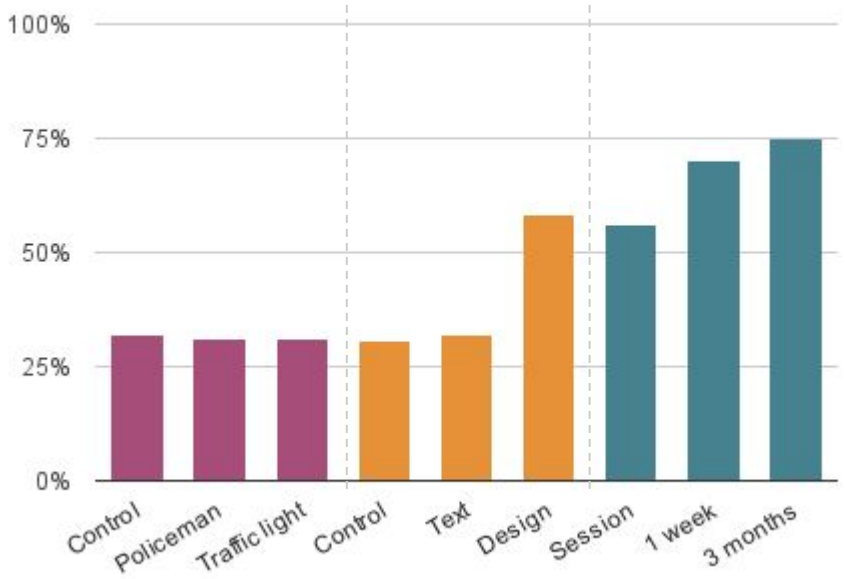
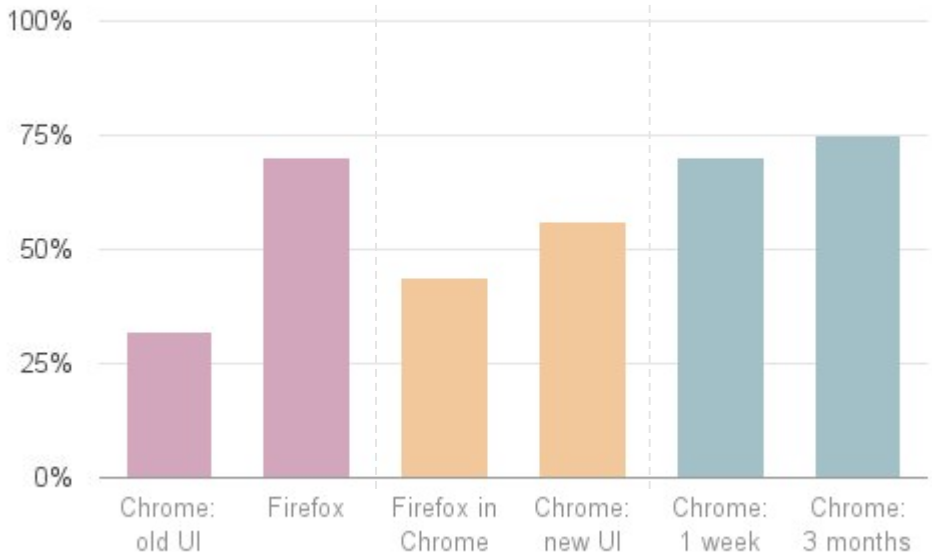
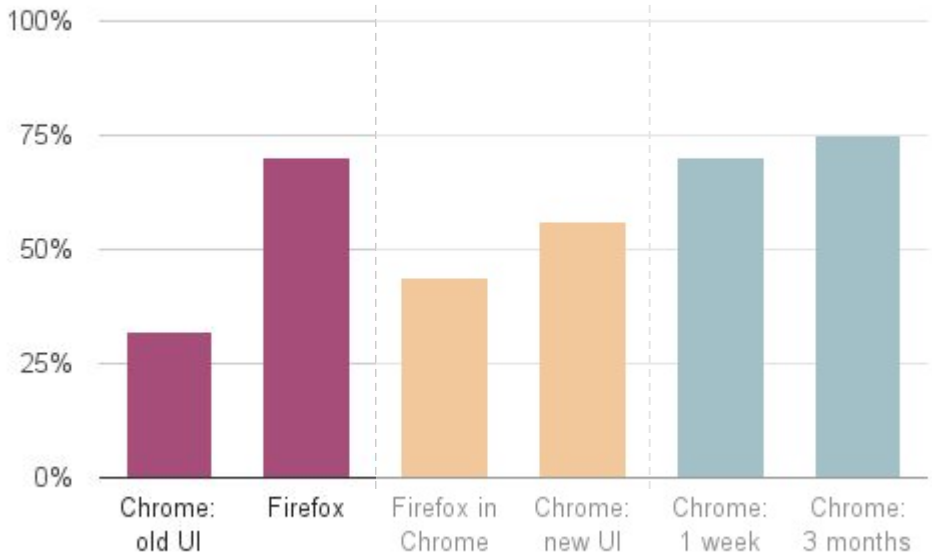


2. Storage policies account for difference between Chrome & Firefox

CHROME & FIREFOX



CHROME & FIREFOX



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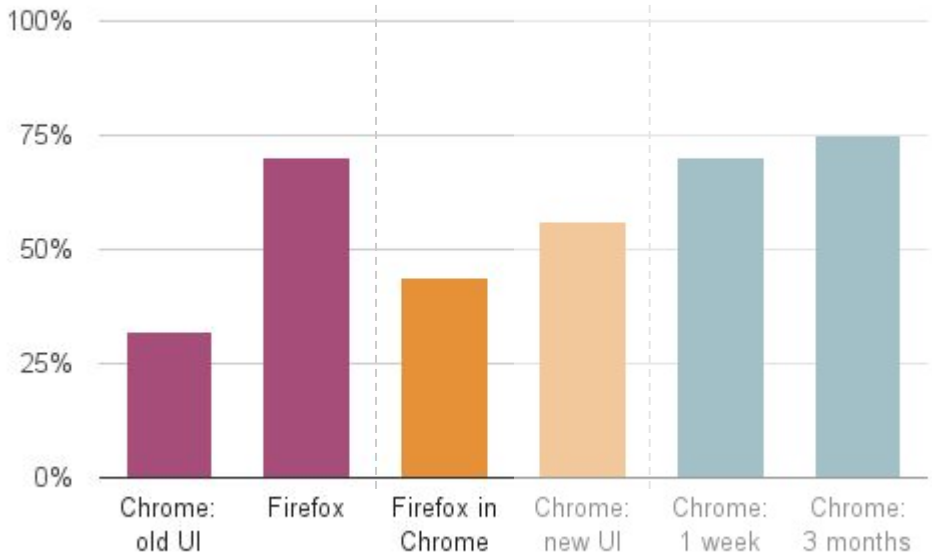

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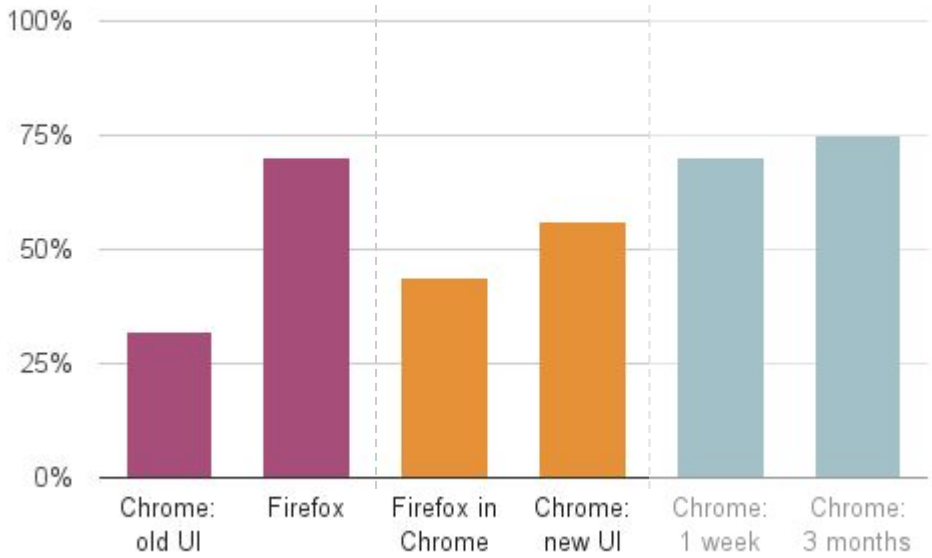

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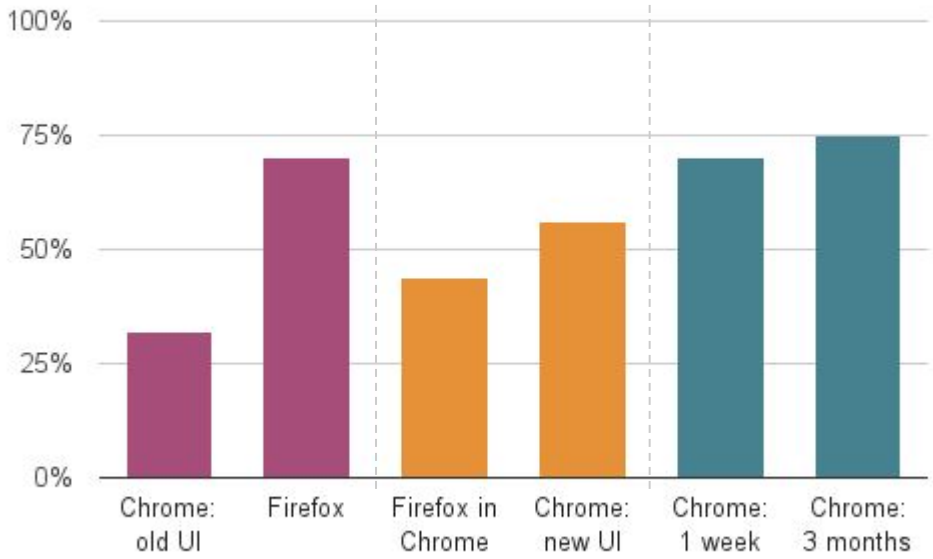

3. Storage policies are confusing

4. Researchers & browsers should study storage policies

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