



Shining a Light on Dark Patterns

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Dark Patterns

- Colorado law defines **dark pattern** as “a user interface designed or manipulated with the substantial effect of subverting or impairing user autonomy, decision making, or choice.” Colorado Privacy Act of 2021
- Dark patterns tend to discourage deliberative decision-making and thwart users’ considered preferences.
- Typical objectives of dark pattern designers – to prompt consumers to purchase goods or services they are not inclined to purchase or to prompt consumers to surrender personal information they would otherwise not share

Examples of Dark Patterns In the Wild : Confusion

Membership Status

Canceling your membership?

Are you sure you want to cancel your membership? You will no longer receive membership pricing on all our products.

CONTINUE

CANCEL

Confusing Double Negatives

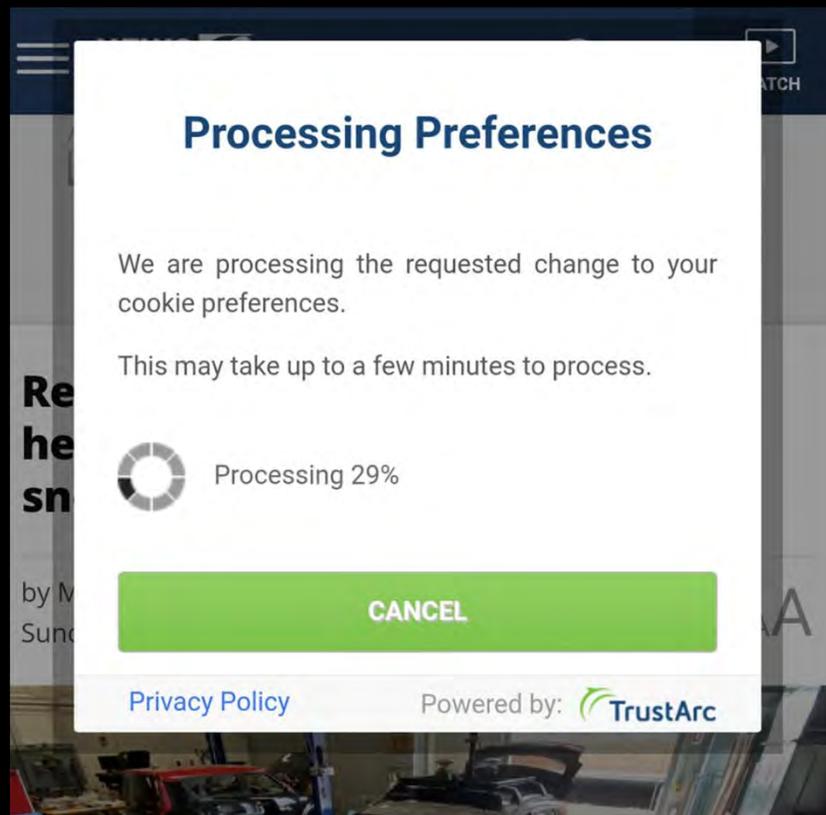
My Health Record

Do you wish for your record **NOT** to be sent to My Health Record?

No

Save and Continue

Different Obstruction Tactics – Unnecessary Delays



Confirmshaming

LOFT

WE'RE GIVING YOU

30% OFF*

YOUR FULL-PRICE PURCHASE

Enter Your Email Here

GET MY 30% OFF

[NO THANKS, I PREFER TO PAY FULL PRICE](#)

The Ticketmaster Purchase Experience

Selection Required

Yes, Protect my Ticket Purchase to Hamilton: The Exhibition at Hamilton: The Exhibition on 26-May-19 (Highly Recommended)

Another Ticketmaster customer protected their ticket purchase a minute ago.

No, do not protect my Hamilton: The Exhibition ticket purchase.

93,829 people protected their tickets in the last 7 days.

"Will never purchase tickets without it again!" - Tanya H., Alpharetta, GA

By continuing past this page, you agree to our Terms of Use.

The Ticketmaster Purchase Experience: Dubious Recommendations, Social Proof

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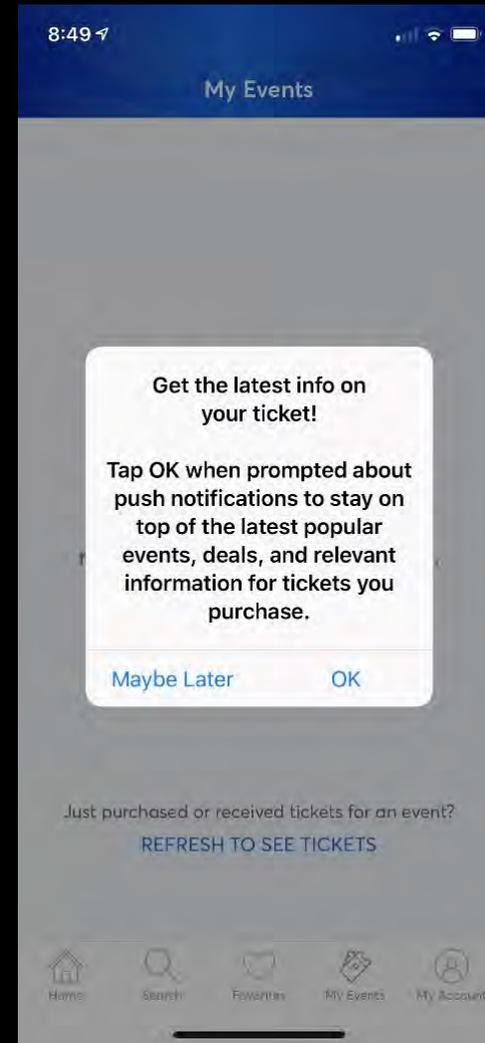
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 Place Order

Ticketmaster App: Nagging



Ticketmaster Purchasing Saga Continues

Ticketmaster Order Number:7-26647/CH5 ×

● ● ●

Your Hamilton: The Exhibition purchase has unlocked a trial set from Harry's. Get a 5-blade razor, handle of your choice, and shave gel for just \$3 shipping. Redeem now!



HARRY'S

You may receive details via email for any selected offer. To skip and view the confirmation page, [click here](#).

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Visual Interference

Ticketmaster Order Number:7-26647/CH5 ×

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You may receive details via email for any selected offer. To skip and view the confirmation page, [click here.](#)

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Preselection, Forced Continuity, Roach Motel, False Hierarchy: by Sony Playstation Plus

Here are your PS PLUS membership options.



Join PlayStation®Plus now!

Your PlayStation Plus Membership Includes:

- ✓ Online multiplayer for your PlayStation®4
- ✓ Free games to play
- ✓ Exclusive discounts from PlayStation®Store
- ✓ Online game save storage



What is PlayStation Plus?

12 MONTHS
+ \$59.99

3 MONTHS
+ \$24.99

1 MONTH
+ \$9.99

FREE TRIAL

PlayStation.Plus +

Obstruction



PS Plus: 1 Month Membership

C Sony Interactive Ent

\$9.99

When you subscribe to this service, [Fund Wallet Automatically] will be set to [Yes]. If your wallet does not have enough funds when an automatic subscription renewal is due, it will be automatically funded from the default payment method on record to cover the renewal cost (at least the minimum funding amount will be added). For details, refer to the Terms of Service and User Agreement.

You can change the automatic funding settings after the purchase is complete by going to [Settings] > [Account Management] > [Account Information] > [Wallet] > [Purchase Settings].

Cancel

Proceed to Checkout

Sony is Perfectly Capable of Designing a Simple Opt Out of Automatic Renewal

PlayStation Subscriptions



PlayStation®Plus
Sony Interactive Entertainment

Title:	PlayStation®Plus 3-Month Membership (3 Month Package)
Charge:	\$24.99
Starts:	2/14/2019
Expires:	5/14/2019
Next Renewal Date:	5/14/2019
Status:	In Use

Extend

Turn Off Auto-Renew

A Taxonomy of Dark Patterns

Category	Variant	Description	Source
Nagging		Repeated requests to do something firm prefers	Gray
Social Proof	Activity messages	Misleading notice about other consumers' actions	Mathur
	Testimonials	Misleading statements from customers	Mathur
Obstruction	Roach Motel	Asymmetry between signing up and canceling	Gray, Mathur
	Price Comparison Prevention	Frustrates comparison shopping	Brignull, Gray, Mathur
	Intermediate Currency	Purchases in virtual currency to obscure cost	Brignull
Sneaking	Sneak into Basket	Item consumer did not add is in cart	Brignull, Gray, Mathur
	Hidden Costs	Costs obscured / disclosed late in transaction	Brignull, Gray, Mathur
	Hidden subscription / forced continuity	Unanticipated / undesired automatic renewal	Brignull, Gray, Mathur
	Bait & Switch	Customer sold something other than what's originally advertised	Gray
Interface Interference	Hidden information / aesthetic manipulation / false hierarchy	Important information visually obscured	Gray, Mathur
	Preselection	Firm-friendly default is preselected	Bösch, Gray
	Toying with emotion	Emotionally manipulative framing	Gray
	Trick questions	Intentional or obvious ambiguity	Gray, Mathur
	Disguised Ad	Consumer induced to click on something that isn't apparent ad	Brignull, Gray
	Confirmshaming	Choice framed in way that seems dishonest / stupid	Brignull, Mathur
Forced Action	Forced Registration	Consumer tricked into thinking registration necessary	Bösch
Urgency	Low stock / high-demand message	Consumer falsely informed of limited quantities	Mathur
	Countdown timer / Limited time message	Opportunity ends soon with blatant false visual cue	Mathur

Relevant Existing Federal Law

- Many dark patterns may violate section 5 of the Federal Trade Commission Act, which restricts unfair or deceptive practices in trade, or the Restore Online Shoppers' Confidence Act (ROSCA), which makes it unlawful to charge consumers without a clear and conspicuous disclosure of transaction's material terms
- Key Case: *FTC v. AMG Capital Mgmt.*, 901 F.3d 417 (9th Cir. 2018)
 - FTC action against payday lender employing visual interference (online fine print), confusing "trick question" prompts, bad default settings, negative option feature (forced continuity), hidden costs
 - Court says "technically correct" disclosures inadequate – consumers acting reasonably likely to be deceived; \$1.27 billion award on summary judgment affirmed. Court doesn't reference "dark patterns" but that's the core of what case is about.

Other Important Dark Pattern Cases

- *FTC v. LeadClick Media*, 838 F.3d 158 (2d. Cir. 2016). Disguised ads and false testimonials are deceptive under section 5 of FTC Act.
- *Fanning v. FTC*, 821 F.3d 164 (1st Cir. 2016). Phony user-generated content deceptive under section 5.
- *Schertzer v. Bank of America* (pending S.D. Cal.). Class action lawsuit against various banks, ATM operators over deceptive user interfaces that prompt unnecessary charges for consumers to check balances.

Federal Trade Commission Focusing on Dark Patterns

- Federal Trade Commission complaint in *In re Age of Learning, Inc.* in September 2020, alleging the company employed various dark patterns including obstruction (roach motel), forced continuity (negative option feature), interface interference (hidden information), confusing cancellation prompts and pathway to increase revenue for its ABCmouse, which sells educational content to children and families
- Consumers seeking to cancel had to navigate through six to nine screens, and it got more difficult over time
- Company hold times for cancellation through calls to customer service exceed 30 minutes, more than 60% of callers hung up without reaching someone

The image shows a screenshot of the ABCmouse website's enrollment process. On the left, there is a promotional banner for a 'Special Offer' of 38% OFF Annual Membership for \$59.95 for 12 months, with a payment option of 4 equal monthly installments of \$19.73 (Save 17%). Below this is a testimonial from a parent stating that 85% of parents who use ABCmouse.com with their children report a significant positive impact on their child's learning. The main part of the image is the 'Easy Enrollment!' form, which is divided into three steps: 1. Create Your Family Account (with fields for Email, Confirm Email, Password, and Confirm Password), 2. Enter Your Payment Information (with fields for Cardholder Name, Credit Card Number, Expiration Date, and Billing Zip/Postal Code, and options for PayPal and Play with ABCmouse), and 3. Agree to the Terms & Conditions (with a checkbox and a 'Submit' button). The form also includes an 'Easy Cancellation' section stating that the family can cancel at any time.

ABC Mouse

The screenshot shows the ABCmouse website interface. On the left is a vertical navigation bar with icons for Home, Back, Search, and Options. The main content area features a blue header 'Before You Go...' followed by a paragraph of text. Below the text are five colorful icons representing different sections: a hamster, a clownfish, a horse, a giraffe, and a red shopping cart. At the bottom of the page are three yellow buttons: 'Back Home', 'No Thanks, I'll Wait', and 'Continue'.

Before You Go...

If you find that your child is not as engaged in ABCmouse.com as you'd like, we find that many children love visiting the Aquarium, Hamster, Zoo, Farm, and the Shopping areas of our site. Every section of ABCmouse.com is educational, so your child will always be learning!

Go to My Hamster Go to My Aquarium Go to the Farm Go to the Zoo Go Shopping

Back Home No Thanks, I'll Wait Continue

ABC Mouse Trap? - \$10 Million Settlement

The screenshot shows the ABCmouse website interface. On the left is a vertical navigation bar with icons for 'Bug' (50), 'Home', 'Back', 'Search', and 'Options'. The main content area features a blue heading 'Before You Go...' followed by a promotional message: 'If you are having difficulty making monthly payments, you may be interested to know that we have a special Upgrade offer that will save you 68% on your subscription price, which works out to be only \$2.50/month!'. Below this is a large orange and red graphic that says 'SAVE 68%' at the top, '12 months' in the center, and 'FOR \$29⁹⁵' at the bottom. A 'Learn More' link is positioned below the graphic. At the bottom of the page are three yellow buttons: 'Back Home', 'No Thanks, I'll Wait', and 'Continue'.

Before You Go...

If you are having difficulty making monthly payments, you may be interested to know that we have a special Upgrade offer that will save you 68% on your subscription price, which works out to be only \$2.50/month!

SAVE 68%

12 months

FOR **\$29⁹⁵**

[Learn More](#)

Back Home **No Thanks, I'll Wait** **Continue**

Have Consumers Consented?

- *Sgouros v. TransUnion*, 817 F.3d 1029 (7th Cir. 2016), Material information displayed on screen that reasonable consumer almost certainly did not see is inadequate to create contractual assent

2021 Regulations Prohibit Dark Patterns under California Consumer Privacy Act (CCPA)

- “A business’s methods for submitting requests to opt-out shall be easy for consumers to execute and shall require minimal steps to allow the consumer to opt-out. A business shall not use a method that is designed with the purpose or has the substantial effect of subverting or impairing a consumer’s choice to opt-out.”
- Regulations are limited to consumer information (privacy) context but the law may become a model for broader regulation of e-commerce

California Regulation Prohibits These Techniques for Securing Consumer Opt-Outs

- The business's process for submitting a request to opt-out shall not require more steps than that business's process for a consumer to opt-in to the sale of personal information after having previously opted out.
- A business shall not use confusing language, such as double-negatives when providing consumers the choice to opt-out.
- A business shall not require consumers to click through or listen to reasons why they should not submit a request to opt-out before confirming their request.
- The business's process for submitting a request to opt-out shall not require the consumer to provide personal information that is not necessary to implement the request.
- The business shall not require the consumer to search or scroll through the text of a privacy policy or similar document or webpage to locate the mechanism for submitting a request to opt-out.

Colorado Prohibits Dark Patterns Under 2021 Colorado Privacy Act

- Statute explicitly prohibits using dark patterns to obtain consumer consent to process personal data (including processing data for sale or for profiling)
- Requires that consent under the Act entail a “clear affirmative act signifying a consumer’s freely given, specific, informed, and unambiguous agreement, such as by a written statement, including by electronic means”
- Law goes into effect: July 1, 2023

European Competition Law

- Directive 2005/29/EC of European Parliament/Council, articles 8 & 9 prohibit “aggressive commercial practices ... that significantly impair the average consumer’s freedom of choice [and] thereby causes ... a transactional decision he would not have taken otherwise” including “onerous or disproportionate non-contractual barriers imposed ... where a consumer wishes to exercise rights under the contract.”

Dark Pattern Empirics



- Teams of researchers have documented the prevalence of dark patterns, Arunesh Mathur and co-authors (2019) (US), and Midas Nouwens and co-authors (2020) (Europe)
- But no academic researchers had previously determined how effective dark patterns are at convincing consumers to “choose” options they might not prefer
- We tested dark patterns experimentally on large, census-weighted samples of American adults. Respondents look like US adult population (race, age, gender, region, education).

Study 1: Our Experimental Set-up

- In a fifteen minute pre-registered experiment, subjects spent the first ten minutes supplying demographic information about themselves and answering a series of survey questions about their privacy preferences
- After this part of the survey was complete, subjects saw a screen that said “Calculating your privacy propensity score ...” Following a short delay, subjects were told that our algorithm had identified them as having a “heighted concern about their privacy”
- Subjects told that using their IP address, phone number, & other information they had supplied, we had identified them
- Subjects told we had partnered with nation’s largest identity theft protection company and signed them up for a data protection plan. After 6 month free trial they would be charged a monthly fee (randomly set to \$2.99 or \$8.99), but they could cancel at any time

Subjects Randomly Assigned to One of Three Conditions

- Control Group
- Mild Dark Pattern
- Aggressive Dark Pattern

Control Group Condition

Using the demographic information you provided at the beginning of the survey and your IP address, we have pinpointed your mailing address. We have partnered with the nation's largest and most experienced data security and identity theft protection company. They will be provided with your answers on this survey. After identifying you, **you will receive six months of data protection and credit history monitoring free of charge**. After the six month period, **you will be billed \$8.99 per month** for continued data protection and credit history monitoring. You can cancel this service at any time.

Accept

Decline

- Following this screen subjects in this condition answered questions about mood, freedom to say no, etc., plus some filler questions to keep experimental time constant across conditions

Mild Dark Patterns Condition

Using the demographic information you provided at the beginning of the survey and your IP address, we have pinpointed your mailing address. We have partnered with the nation's largest and most experienced data security and identity theft protection company. They will be provided with your answers on this survey. After identifying you, **you will receive six months of data protection and credit history monitoring free of charge**. After the six month period, **you will be billed \$8.99 per month** for continued data protection and credit history monitoring. You can cancel this service at any time.

Accept and continue (recommended)

Other options

Other options:

I do not want to protect my data or credit history

After reviewing my options, I would like to protect my privacy and receive data protection and credit history monitoring

- There was a final “tell us why you declined” screen (see next slide) for those selecting the first option on screen 2, but it changed a trivial number of minds in both conditions

Aggressive Dark Patterns Condition – First Two Screens Identical to Mild Dark Pattern

- Do you wish to accept or decline the data protection plan?
 - Accept and Continue (Recommended)
 - Other options
- Selecting “Other options” led to this prompt:
 - I do not wish to protect my data or credit history
 - After reviewing my options, I would like to protect my privacy and receive data protection and credit history monitoring

Combined effect of first two screens similar across conditions, but first screen did more in aggressive condition, second screen did more in mild condition.

Aggressive Dark Patterns – Screens 3 to 5

You indicated that you do not want to protect your data or credit history. We would like to give you a little information so that you can make an informed decision.

What is identity theft?

Identity theft happens when someone steals your personal information to commit fraud.

The identity thief may use your information to fraudulently apply for credit, file taxes, or get medical services. These acts can damage your credit status, and cost you time and money to restore your good name.

You may not know that you're the victim of ID theft immediately.

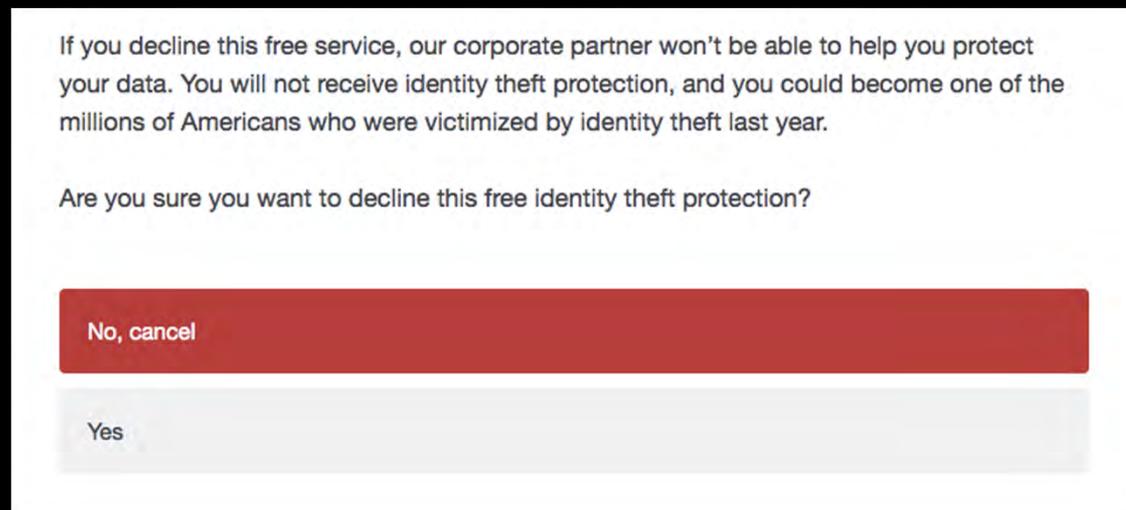
Accept data protection plan and continue

I would like to read more information

- (selecting second box meant subjects would see two additional similar screens with more text, the same options & 10-second countdown timer)

Aggressive Dark Patterns – Screen 6

- Subjects who declined on the third delay screen saw this prompt:



If you decline this free service, our corporate partner won't be able to help you protect your data. You will not receive identity theft protection, and you could become one of the millions of Americans who were victimized by identity theft last year.

Are you sure you want to decline this free identity theft protection?

No, cancel

Yes

- Respondents who selected Yes advanced to a final (tell us why you declined) screen; Respondents who selected “No, cancel” were treated as having accepted the dark pattern

Final Screens Across All Conditions

- Please describe your current mood (using a 7-point Likert scale)
- "Some survey participants may be contacted to do a follow up survey by the same researchers. Are you interested in potentially participating?" (7-point scale of responses)
- "How free did you feel to refuse the offered data protection and identity theft plan?" (7-point scale)
- "Do you have any questions or comments for the researchers?"
- After this screen, all participants were fully debriefed on the experiment, and the purpose of the deception was explained

How Effective Were the Dark Patterns?

Condition	Acceptance Rate	Adjusted Acceptance Rate (treats drop-outs as declines)
Control Group	11%	11%
Mild Dark Pattern	26%	25%
Aggressive Dark Pattern	42%	37%

Acceptance Rate by Stakes

Condition	Overall (% accept)	Low Stakes (\$2.99 / month)	High Stakes (\$8.99 / month)
Control group	11.3%	9.3%	13.3%
Mild	25.8%	26.8%	24.9%
Aggressive	41.9%	40.9%	42.8%

Which Dark Patterns were Most Effective?

- It's the first screen (pre-checked option + "recommended" text + Accept & Continue versus "Other Options") in both conditions that does most of the work
 - Upwards of 75% of those accepting agreed to the data protection plan on the first screen in the mild dark pattern condition
 - Roughly 65% of those accepting agreed to the data protection plan on the first screen in the aggressive dark pattern condition
- Screen two (second chance to accept) prompted 23% of acceptances in mild dark pattern and 10% of those in the aggressive dark pattern condition

Aggressive Dark Patterns Condition

- The three “annoying delay and text overload” screens combined to explain another 13% of the acceptances in the aggressive dark patterns condition
- The confusing “No-Cancel” prompt explains 11% of acceptances in the aggressive dark patterns condition

Susceptibility to Dark Patterns

- We analyzed a host of demographic factors to discover which ones are associated with vulnerability to dark patterns
- We predicted that less educated subjects would be more readily manipulated by dark patterns
- The data supports that hypothesis
 - In the easy condition, education is not significantly correlated with accept / decline decisions
 - In the dark pattern conditions, less educated subjects significantly more likely to accept the plan (mild – 34.1% vs. 21.2%; aggressive -- 49.2% vs. 38.1%)
 - Introducing controls for income and other demographics, less educated subjects are significantly more likely to accept in mild dark pattern condition but not in aggressive dark pattern condition

Some Data on Respondents' Mood, Sentiment, Revealed Preferences

	Control	Mild	Aggressive
Mood (1-5)	M = 2.96; SD = 1.61	M = 3.05; SD = 1.73	M = 3.94; SD = 2.06***
Anger Expressed %	5.70%	6.09%	12.82%***
Exit the Survey %	N/A	1.5%	11.1%***

Do Market Forces Deter the Use of Dark Patterns?

- Subjects who accepted data protection plan did not have moods, willingness to repeat affected by dark pattern treatment; effects generated by subjects who declined the plan
- Means also varied significantly on freedom to refuse question (6.2 control; 5.8 mild; 4.7 aggressive) (7 = perfectly free to refuse).
- External validity – what's missing from the experiment: Many digital platforms have market power, and consumers may be responsive to sunk costs and network effects (e.g., development of network of Facebook friends, data portability limits).

Study 2 – Format

- 3,777 Experimental subjects – once again we used a census weighted sample based on race, age, region, education, and gender
- Each subject sees zero, one, or two dark patterns – order randomly varied. This allows us to see which dark patterns are especially potent
- Testing other prevalent dark patterns (urgency, countdown timer, double negatives, small and harder to see print, social proof)
- Randomly varying cost between \$8.99 and \$38.99 per month, with only one month of free monitoring

Study 2 – 4 Form, 5 Content Conditions

	Control	Recommended	Default	Obstruction
Control				
Scarcity				
Confirmshaming				
Social Proof				
Hidden Information				

Content Conditions – Study 2

- **Hidden Information.** Participants told that they would “receive one month of data protection and credit history monitoring free of charge*”, and that “[t]erms and conditions apply.” At the bottom of the page, the price information was included in small, grey font.
- **Social Proof.** “1,657 other participants have accepted this free month of data protection and credit history monitoring in the last three weeks. Would you like to accept the program and join them?”
- **Scarcity.** “Congratulations! You have been selected to receive one month of free data protection and credit history monitoring. But you must **ACT FAST!** We only have three trial memberships left and this offer will expire in the next 60 seconds.”
- **Confirmshaming.** Option to decline the program was phrased as “I don’t care about protecting my data or credit history.”

Form Conditions – Study 2

- Participants in the control condition could either choose “Accept” or “Decline.”
- Those in the default condition had the “accept” answer preselected.
- Those in the recommendation condition could chose either “Accept (recommended)” or “Decline.”
- Those in the obstruction condition saw the choices as “Accept and continue” or “Other options.”
 - Those selecting “Other options” were randomly assigned to short or long obstruction. Short = Yes / No choice. Long = Two Identity Theft information screens with 15 second countdown timers.

Trick Question – Appeared for Half the Sample

- After making their selection, some respondents were asked: “Would you prefer not to decline this free data protection and credit history monitoring?”
 - Respondents who wish to reject the data protection plan should select “No”
 - Question employs a confusing double negative

Acceptance Rate by Content Condition

Condition	Acceptance Rate (%)	Number of Respondents Accepting
Control Group	14.8%	191 (out of 1289)
Scarcity	14.3% $p = .78$	91 (out of 635)
Confirmshaming	19.6% $p = .008$	120 (out of 612)
Social Proof	22.1% $p < .001$	140 (out of 634)
Hidden Information	30.1% $p < .001$	183 (out of 607)

Acceptance Rate by Form Condition

Condition	Acceptance Rate (%)	Number of Respondents Accepting
Control Group	16.7%	216 (out of 1294)
Recommended	18.1% $p = .39$	156 (out of 861)
Default	20.1% $p = .045$	171 (out of 851)
Obstruction	23.6% $p < .001$	182 (out of 771)

Study 2 – Acceptance Rates by Condition, p -value Compared to Control / Control

	Control	Recommended	Default	Obstruction
Control	13.2%	15.1% $p = .46$	15.0% $p = .49$	19.5% $p = .03$
Scarcity	10.6% $p = .39$	10.8% $p = .41$	18.9% $p = .061$	17.4% $p = .19$
Confirmshaming	20.5% $p = .02$	16.4% $p = .29$	21.0% $p = .012$	20.4% $p = .03$
Social Proof	19.0% $p = .053$	21.0% $p = .01$	21.4% $p = .009$	27.9% $p < .001$
Hidden Information	30.8% $p < .001$	28.7% $p < .001$	26.7 $p < .001$	34.5% $p < .001$

Trick Question Effect

- Percentage of respondents who answered yes in response to trick / double negative question (thereby accepting the service) – 33.4%
 - But only half of these respondents (16.7% of total) reported accepting the program. So half the trick question acceptances were by people who didn't realize what they had done.
- Highly significant increase in acceptance rate ($p < .001$)
- Respondents who spent more time on trick question screen were significantly less interested in doing follow-up research with us
- Respondents who answered the trick question correctly were in a worse mood and less likely to agree to follow-up research

Study 2 – Costs of Service Again Didn't Matter

Acceptance Rate in High Stakes (\$38.99 / month) Condition:

17.3%

Acceptance Rate in Low Stakes (\$8.99 / month) Condition:

19.8%

- This difference is not statistically significant ($p = .09$)
- Stakes had no effect on acceptance rates
- 73.7% of respondents said they were at least somewhat likely to cancel plan after the first month; 21.1% said they definitely would cancel. This probably significantly overstates cancellation levels.

Condition Effects on Mood, Willingness to Participate in Future Studies

- Confirmshaming and social proof had no significant effect on mood, compared to control
- Hidden information and scarcity conditions significantly improved the mood of subjects compared to control
- Content conditions had no effect on self-reported mood
- Form condition (control, recommended, default, obstruction) had no significant effect on mood or willingness to participate in future research

Study 2 – Education Level Again Predicts Susceptibility to Dark Patterns

Education Level	Acceptance Rate in Control Condition (%)	Acceptance Rate in Treatment / Dark Pattern Condition (%)
High school diploma or less	7.2%	17.8%
Some college or associate's degree	16.3%	22.2%
Bachelor's degree or graduate degree	17.8%	22%

Normative Take-aways

- It's the **mild dark patterns that are most insidious**. They significantly increased acceptance of a program with dubious benefits without alienating consumers or causing large numbers of them to log off
- Less educated subjects were particularly vulnerable to dark patterns
- Effects of dark patterns swamp effects of price changes
- Dark patterns vary substantially in terms of potency
- Dark patterns have proliferated because they work
 - We're playing catch up with in-house social scientists.

For More Information, Please See

- Jamie Luguri & Lior Jacob Strahilevitz, *Shining a Light on Dark Patterns*, 13 *Journal of Legal Analysis* 43 (2021).
- You can download the article for free here:
 - bit.ly/darkpatternspaper (all lower-case)
 - bit.ly/darkpatternsarticle (all lower-case)

Or just type “Shining a Light on Dark Patterns” into your favorite search engine and download the paper from SSRN or the *Journal of Legal Analysis* website. It’s an open-access journal.



Thank you!