Attention spans

Consumer Insights,
Microsoft Canada

Foreword

Think digital is killing attention spans? Think again.

As more and more facets of Canadians' lives go digital, we felt it was important to understand what impact today's digital lifestyles are having on consumers and their attention, and what that means for marketers. Hence, this research was born. I can honestly say this study proves you don't always get what you expect…

It is no surprise that increased media consumption and digital lifestyles reduce the ability for consumers to focus for extended periods of time. But, I never would have guessed that tech savvy consumers are actually getting better at processing information and encoding that information to memory. If there's no need to stay tuned in, why not move onto the next new and exciting thing for another hit of dopamine?

I would have thought spending more time online or with media in general would heighten one's ability to filter out distractions. Wrong again, not the case. No matter what environment humans are in (be it the plains of Africa or a crowded street in New York), survival depends on being able to focus on what's important — generally what's moving. That skill hasn't changed, it's just moved online.

Today, multi-screening is a given, so it's reassuring to know that multiple screens don't reduce the (potential) impact of advertising. Since consumers turn to their secondary screens to fill in those in-between moments when they might otherwise drop off completely, they're more engaged overall and already primed for immersive experiences.

While these results certainly held some surprises for us, they are all good surprises. Rest assured, digital won't be the cause of our (at least attentional) downfall.

Alyson Gausby
Consumer Insights Lead, Microsoft Canada

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"We are moving from a world where computing power was scarce to a place where it now is almost limitless, and where **the true scarce commodity is increasingly human attention"**

- Satya Nadella

Executive summary

For readers without the attention span (or time) to read the full report, here are the need-to-knows:

Good news! It's not as bad as you think.

Attention is obviously a necessary ingredient for effective advertising, but Canadians' digital lifestyles are changing the brain, decreasing the ability for prolonged focus and increasing their appetite for more stimuli.

Marketing too must evolve:

- Don't believe everything you read: there's a lot of variance beyond the <30 year old digital natives. Media consumption, frequency of multi-screening, and social media usage are the main indicators of attention span variance.
- Overall, digital lifestyles deplete the ability to remain focused on a single task, particularly in non-digital environments. But, all is not lost. Connected consumers are becoming better at doing more with less via shorter bursts of high attention and more efficient encoding to memory.
- Multi-screening trains consumers to be less effective at filtering out distractions – they are increasingly hungry for something new. This means more opportunities to hijack attention but also that brands need to work harder to maintain it.

What can marketers do?

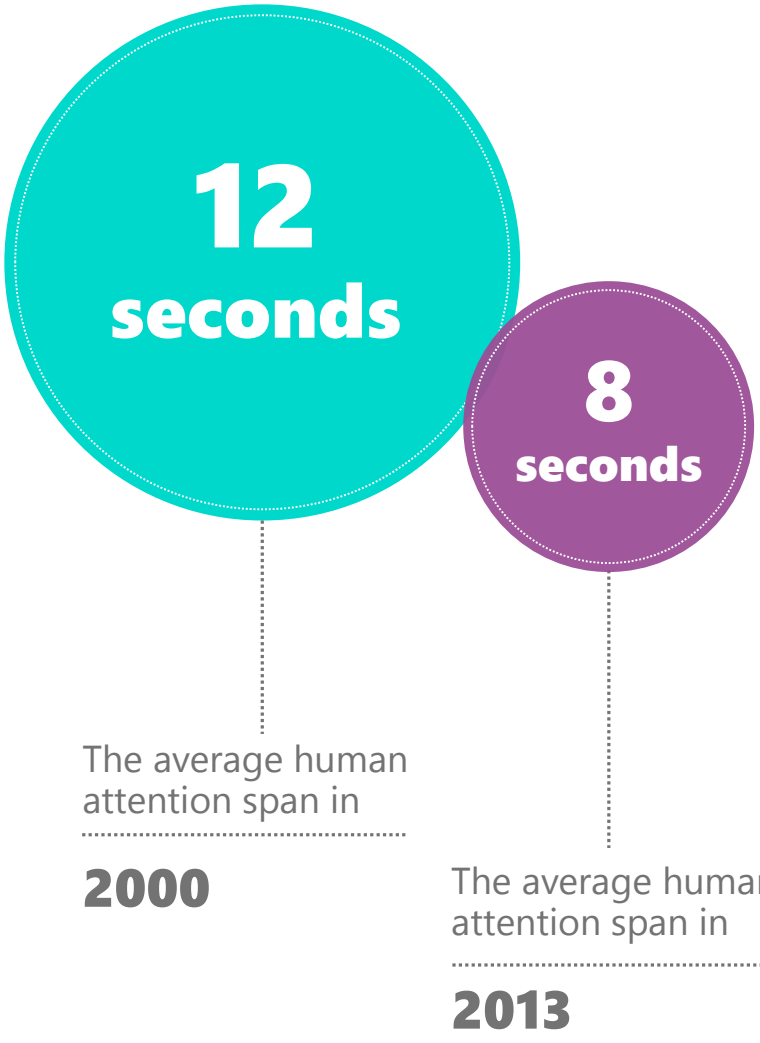
- Be clear, personal, relevant and (quickly) get to the point
- Defy expectations, leverage rich media and movement to grab attention
- Embed calls to action, be interactive, use sequential messaging, and build cohesive, immersive experiences across screens

Report

Our environment is rapidly changing and we're **adapting**

Consumers' lives are increasingly digital - at work, home and everywhere in between. With news reduced to 140 characters and conversations condensed to emojis, how is this affecting the way Canadians see and interact with the world?

We know human attention is dwindling



The average human attention span in

2000

The average human attention span in

2013

The average attention span of a

goldfish

Source: Statistic brain

Addictive technology behaviours are evident, particularly for younger Canadians

(% agree)	18 to 24	65+
When nothing is occupying my attention, the first thing I do is reach for my phone	77%	10%
I check my phone at least every 30 minutes	52%	6%
The last thing I do before I go to bed is check my phone	73%	18%
I often use other devices while watching TV	79%	42%
I watch more TV programs through catch-up/streamed TV than live	74%	13%
I often watch a number of episodes of a show back-to-back	87%	43%

From Microsoft's Cross-Screen Evolution research, we know consumers' relationships with their devices (particularly their phones and TVs) are continuing to evolve.

"[What information consumes is] the attention of its recipients. Hence a wealth of information creates a **poverty of attention**."

- Herbert Simon
Nobel winner, Economics (1978)

The goal for this research is to understand what impact technology and today's digital lives are having on attention spans.

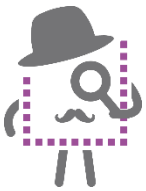
Theory: brain plasticity

The brain has the miraculous capability to change itself over time. It is able to rewire and form new capabilities throughout the course of one's life. This ability allows humans to adapt both to new, or changing situations in their environment.

An academic framework: Sohlberg & Mateer's model of attention

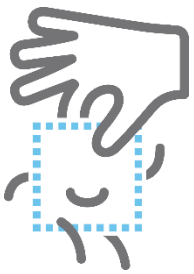
This study breaks attention into three parts because we don't think that attention can be simply characterized as how long people can concentrate — different tasks, devices, and lifestyles require different sets of attention types.

3 types of attention:



Sustained

Prolonged focus
Maintaining prolonged focus during repetitive activities



Selective

Avoiding distraction
Maintaining response in the face of distracting or competing stimuli

Alternating

Efficiently switching between tasks
Shifting attention between tasks demanding different cognitive skills

Methodology

To understand the changing nature of attention, we used a multi-phase approach:

Quantitative survey to gauge overall attention and gauge habits and perceptions

+

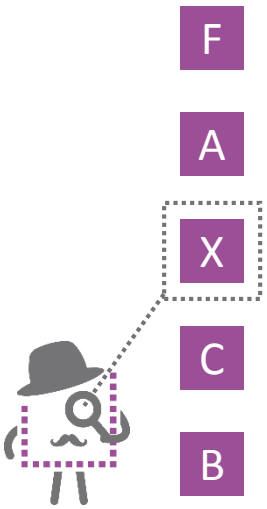
Neurological research for finer measurement of attention spikes and to gauge connection and encoding to memory

Part 1: Online quantitative survey

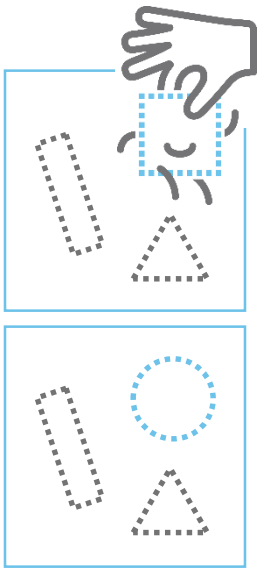
Gameified online quantitative survey | 2,000 Canadian respondents | fielded Q4 2014

The survey and games were designed to assess consumers' attention capacities. They also included a range of metrics on digital lifestyles that academic evidence suggests could have an impact on attention and broader cognitive functioning.

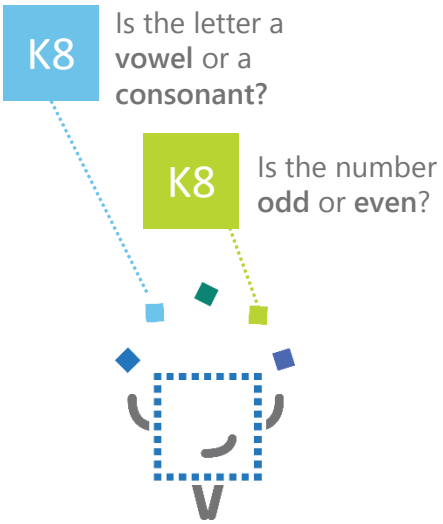
Respondents were divided into three equal sized groups based on performance – low, medium, and high attention – each representing 1/3 of the sample.



Sustained
Responding to patterns



Selective
Spotting differences



Alternating
Classifying numbers and letters

sparkler

*See Appendix for additional methodological information

Part 2: Neurological research (neuro deep-dive)

Tracked activity stations and gamefied survey
112 Canadian respondents | fielded December, 2014

Participant brain activity was recorded and behaviour filmed as they interacted with different media and performed various activities across devices and in different environments.

Attention levels were captured via portable electroencephalograph (EEG) and activities were mapped against tasks and behaviours to understand how attention varies by screen, task, content type, and structure.

Results were reported as ACE (Attention, Connectivity, Encoding) scores, as well as number of attention bursts (individual instances where the attention activity in the brain breached the top quartile of brain activity for the task).

*See Appendix for additional methodological information

Glossary

(just for reference, here are some key terms you'll see throughout this report)

ACE

Neuro research EEG output score (acronym for attentional resources, connection, encoding)

Connection

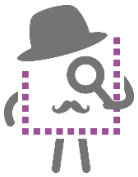
The measured emotional connection to stimuli (one of three ACE scores)

Encoding

The ability to encode stimuli to memory (one of three ACE scores)

Alternating attention

The ability to shift attention between tasks demanding different cognitive skills



Sustained attention

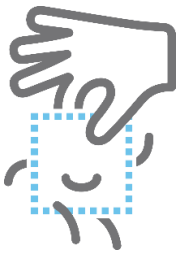
The ability to maintain prolonged focus during repetitive activity

Attention

The allocation of mental resources to visual or conceptual objects

Attention bursts

A count for the number of times attentional activity reaches the 75th percentile for an individual



Selective attention

The ability to avoid distraction and maintaining responses in the face of competing stimuli

Findings

It's **not** just 'kids these days'.

Top factors that impact attention:

- Media consumption
- Social media usage
- Technology adoption rate
- Multi-screening behaviour

These factors affect different aspects of different types of attention, in different environments.

So how, why, and what does this mean for marketers?

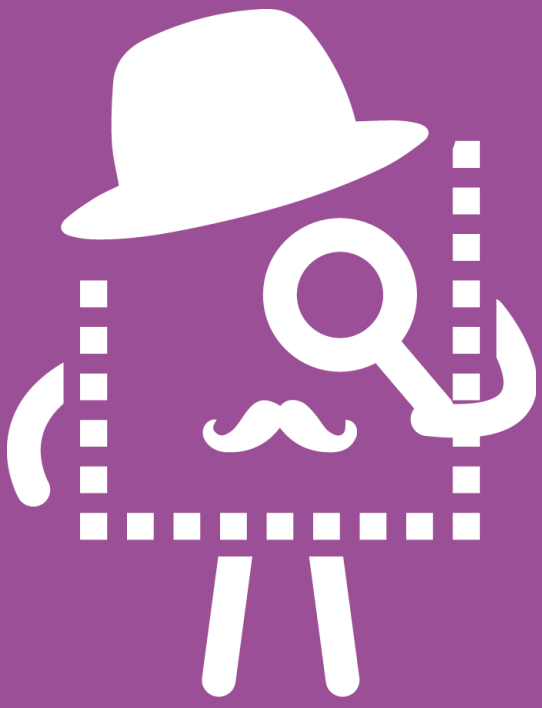
Types of attention

Sustained

Selective
Alternating

Prolonged focus

The ability to maintain prolonged focus during repetitive activities



Canadians struggle to keep their attention focused. This has a significant impact on work-life balance, particularly for tech and media savvy consumers

At work/school
(% agree)

44%

of Canadians really have to concentrate hard to stay focused on tasks

Higher among:

68% early tech adopters

67% heavy social media users

67% 18-24 years old

57% heavy multi-screeners

55% high volume media consumers

45%

get side tracked from what they're doing by unrelated thoughts or day dreams

Higher among:

66% early tech adopters

65% heavy social media users

61% 18-24 years old

60% heavy multi-screeners

55% high volume media consumers

37%

don't make the best use of their time so sometimes they have to work late/weekends

Higher among:

71% 18-24 year olds

62% early tech adopters

62% heavy social media users

51% heavy multi-screeners

48% high volume media consumers

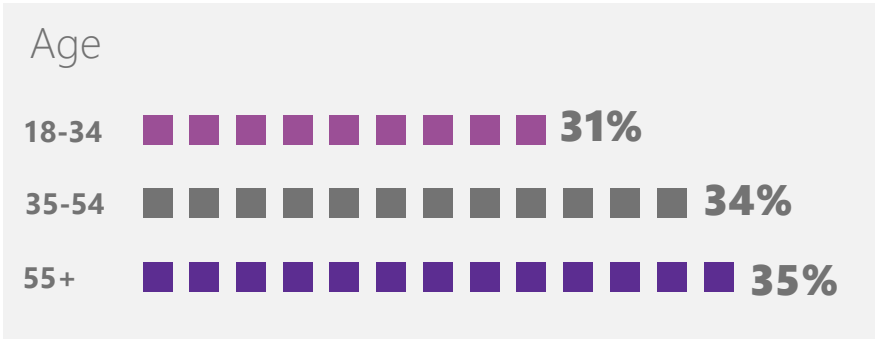
The ability to remain focused on a single task is most correlated with:

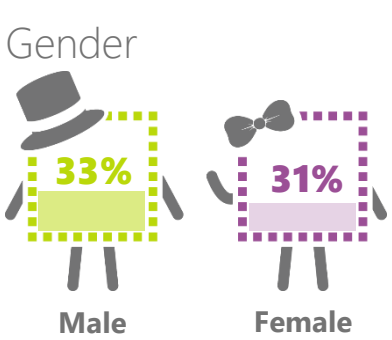
1. Volume of media consumption
2. Social media usage
3. Multi-screening behaviour
4. Adoption of technology

Not surprisingly, these behaviours are also highly correlated with each other as well. While age is also correlated with these behaviours, it isn't significantly tied to sustained attention.

Sustained attention spans age & gender

% high sustained attention by demographic





Long-term focus erodes with increased digital consumption, social media usage, and tech savviness

% high sustained attention by behaviour

Web browsing

Light	39%
Medium	33%
Heavy	27%

Multi-screening while online

Light	36%
Medium	33%
Heavy	27%

Social media usage

Low	36%
Medium	29%
High	23%

Tech adoption

Late	35%
Medium	31%
Early	25%

Neuro readings show higher usage of social media increases short bursts of high attention

While they may have lower sustained attention overall, moderate to heavy social media users have more intermittent bursts of attention (high intensity for short durations) in the short-term. As time lapses, this advantage gets smaller.

Index: average number of peaks (bursts*) in attentional behaviour by timeframe (seconds)

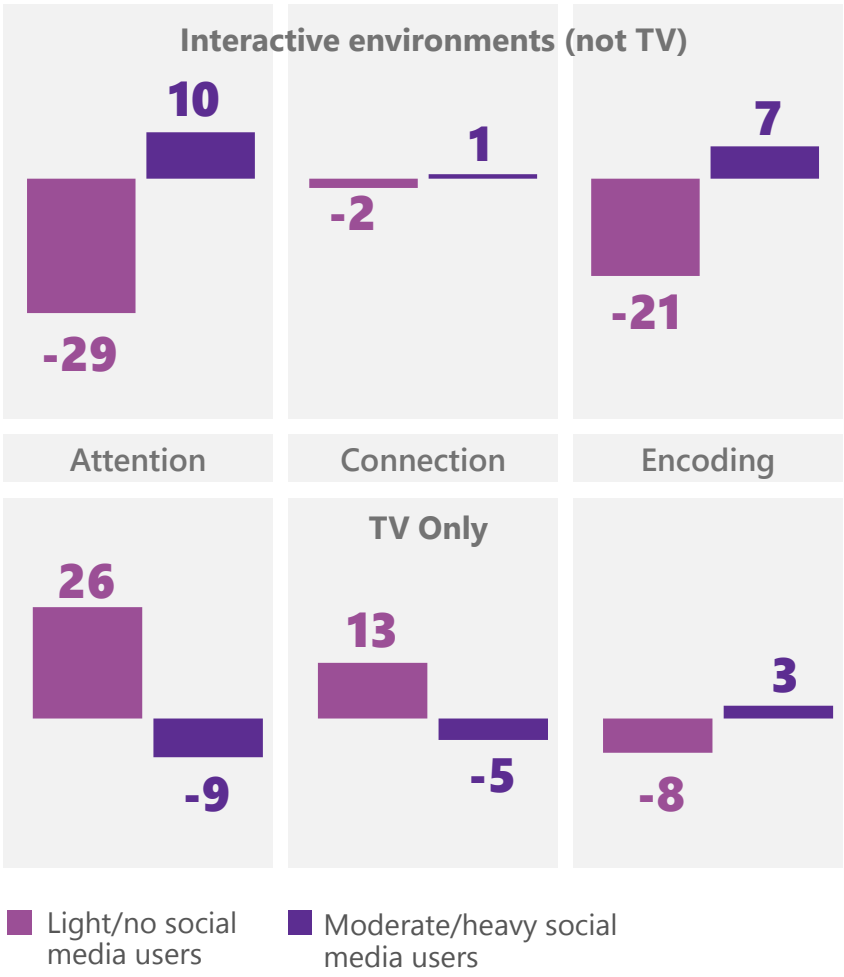
*A burst occurs each time attentional activity reaches the 75th percentile for an individual

The impact social has on sustained attention is different in different environments

Heavier social media users pay more attention in interactive (digital) environments, but their attention scores are lower than lighter users in more passive experiences (TV).

In both environments, their bursts of attention allow heavier users of social media to process information and encode it to memory more efficiently.

Index: overall performance across **attention** (concentration), **connection** (emotional) and **encoding** (memory)



Early tech adopters have more bursts of high attention

Similar to heavy social media users, early tech adopters have lower sustained attention in the long run but more bursts of high attention in the short term. Again, this advantage erodes over time.

Index: average number of peaks in attentional behaviour by timeframe

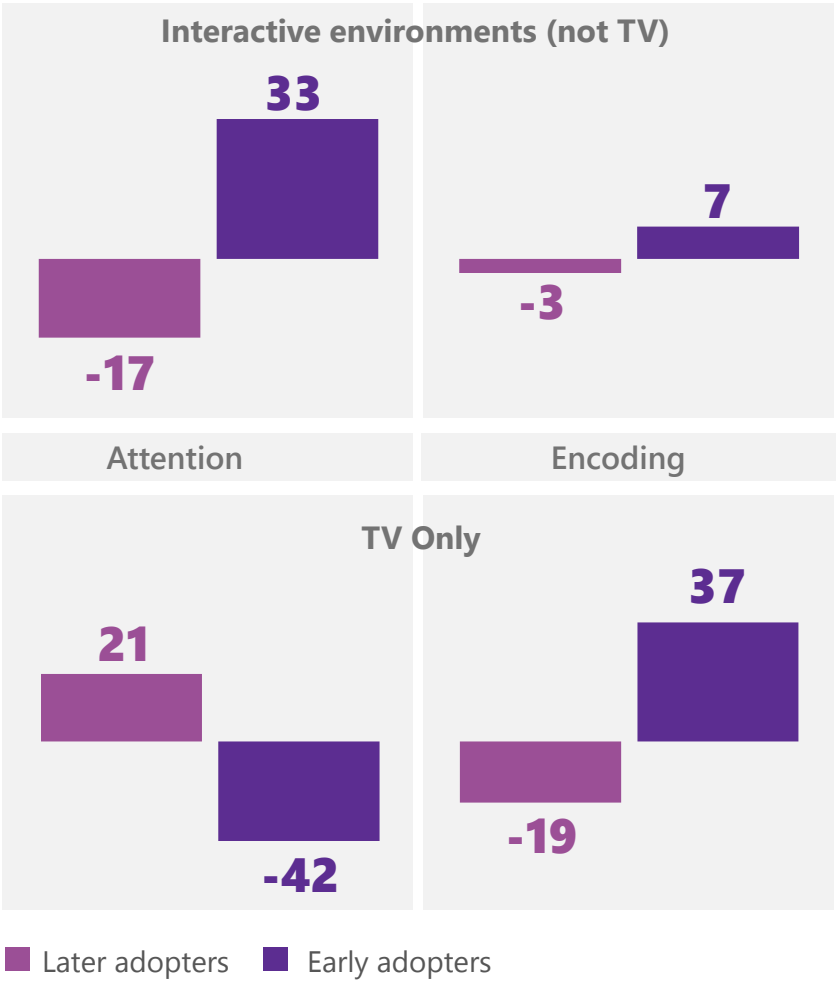
*See the appendix for additional methodological information

The impact of tech adoption differs by environment

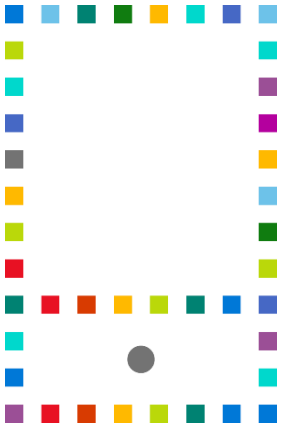
Following the same pattern as social media usage, early tech adopters pay more attention to digital screens. They also process information better than later adaptors in these interactive environments.

For TV, while early adopters pay less attention overall, they still process information significantly better – they've trained their brains to do more with less.

Index: overall performance across **attention** (concentration), **connection** (emotional) and **encoding** (memory)



Overall, digital lifestyles have a negative impact on prolonged focus



The good news:
tech adoption and social media usage are training consumers to become better at processing and encoding information through short bursts of high attention.

The thrill of finding something new often makes connected consumers jump off one experience into another. The 'feel good' neurotransmitter, dopamine, is released when consumers are doing something they find rewarding.

19% of online viewers defect in the first 10 seconds.[1]

But, this varies significantly by creative. With today's digital lifestyle, marketers need to make an almost immediate impact before consumers switch off/move on.

Source 1: Visible measures

In short...

Digital lifestyles affect the ability to remain focused for extended periods of time.

Canadians with more digital lifestyles (those who consume more media, are multi-screeners, social media enthusiasts, or earlier adopters of technology) struggle to focus in environments where prolonged attention is needed. Why? The thrill of the new. **Increasingly immersive, multi-touchpoint experiences should become the priority to combat drop-off amongst these audiences.**

While digital lifestyles decrease sustained attention overall, it's only true in the long-term. Early adopters and heavy social media users front load their attention and have more intermittent bursts of high attention. They're better at identifying what they want/don't want to engage with and need less to process and commit things to memory.

When consumers are looking for something to care about at every moment, **rapid fire tactics like branded content, native advertising and generally useful, entertaining, and shareable content are best.**

In action...

Get your message across, right out of the gate

Canadians lose interest, FAST.

They're suckers for novelty. It's more exciting to jump from subject to subject or device to device than to concentrate on a single thing at any one time. Hook consumers right off the bat with clear and concise messaging that's communicated as early as possible. We don't always have time to build a story so craft headlines that can say it all.

With the attention grabbing opening line "ship my pants?", Kmart hit home its new shipping feature. The ad certainly makes one's ears perk up, begging the question "did I just hear what I thought I heard?!"

How can your brand help?

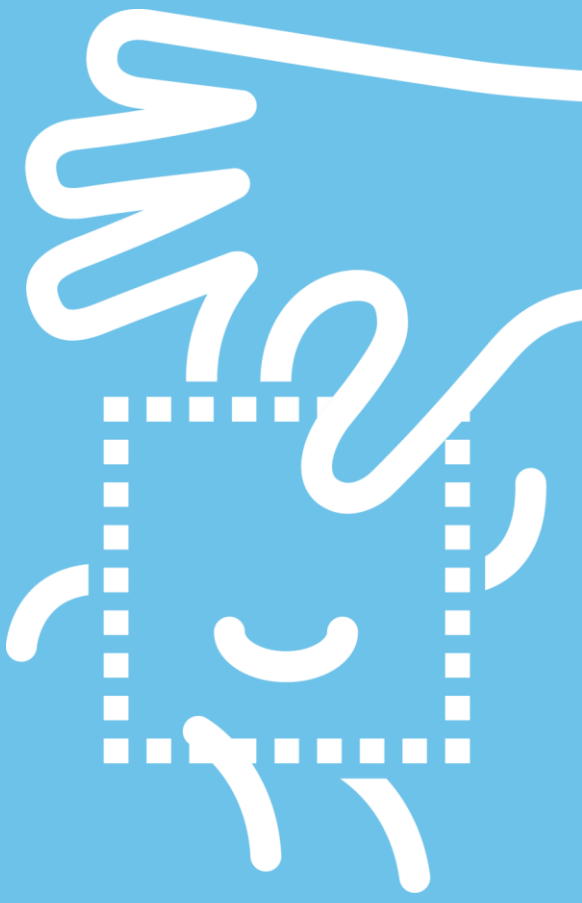
Make it personal and communicate clear consumer value. How will paying attention make their life be better? Today's marketing is about instant gratification and appealing to consumers' needs and desires to ensure your message is relevant.

Lowe's "Fix in Six" videos helped consumers one life hack at a time by simplifying everyday tasks through fun stop-motion 6-second videos.

Types of attention

Sustained
Selective
Alternating

Avoiding distraction
Maintaining response in the face of distracting or competing stimuli



The same devices used to get things done - PC, tablet, smartphone (or some combination) - are now the gatekeepers of an infinite number of distractions and sources of instant gratification.

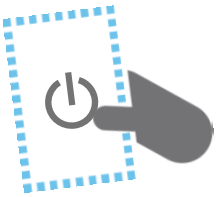
"We keep the top level item in focus and scan the periphery in case something more important emerges." Or something more alluring, reassuring, or simply less demanding.[1]

Source 1: Harvard Business Review, Take Back you Attention

As consumers are exposed to more messaging across devices, they're starting to look for ways to simplify, "switch off", and identify what's most important.

54%

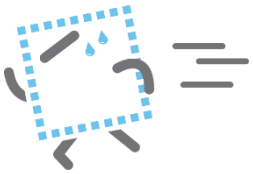
of Canadians say technology can sometimes make their lives worse



51%

think it's important to make time to switch off all their devices

But



only **39%**

disconnect from personal technology monthly or more often

Messaging needs to be tailored and relevant to cut through the clutter

"Offering an ad I don't like is SPAM. An ad that I can use and like is a service."

– Male, 40

49%

of Canadians are more likely to pay attention to communications when they're delivered in the **right context, at the right time**[1]

46%

are interested in tools to better **filter content** (up from 39% in 2014)[1]

41%

of Canadians like it when **ads are tailored** to their personal interests/preferences

35%

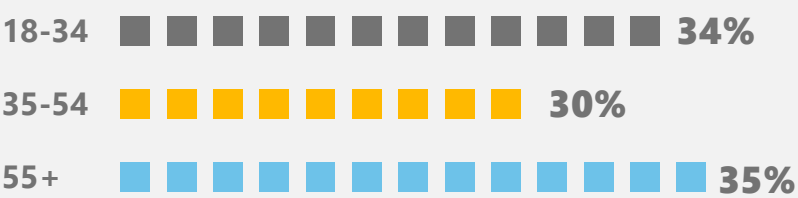
don't mind if a brand **sponsors articles or content** on a website

Source 1: Microsoft Digital Trends 2015, Canada

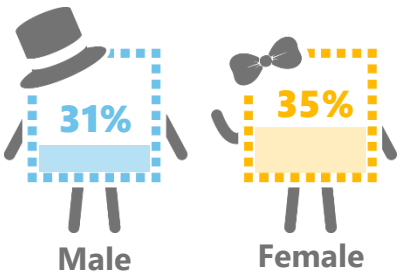
The ability to filter out distractions isn't affected when consumers are only using one screen

% high selective attention

Age



Gender



Web browsing

Age, gender, and digital lifestyles don't significantly impact selective attention

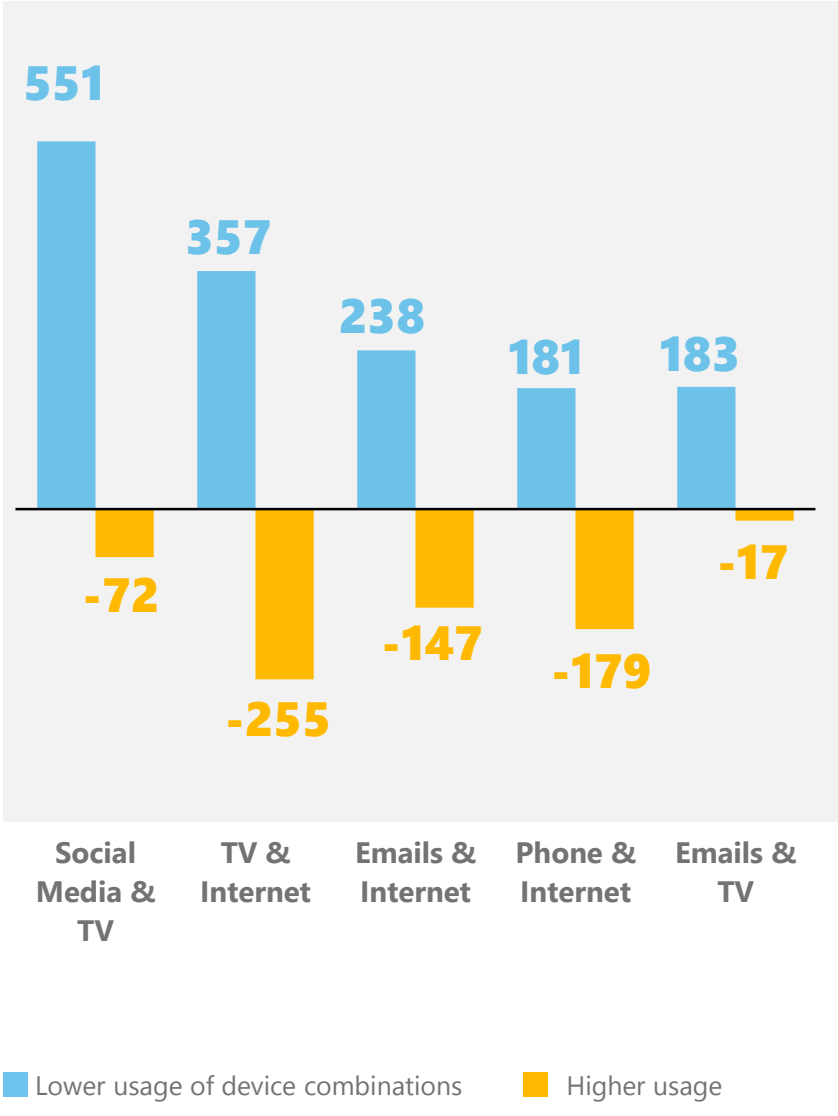
Introducing secondary screens reduces selective attention

It's a question of lifestyle. We see no drop in performance with device or social media usage, just when multi-tasking.

People with high selective attention actively choose fewer distractions.

Those that spend more time multi-screening have significantly lower selective attentional scores.

Index: Selective attention levels by behavior



In short…

Canadians' ability to filter out distractions is a function of their surroundings, not their demographics, media consumption, social media use or device usage. People with higher selective attention appear to actively choose to have fewer distractions and multi-screen less frequency.

On the other hand, heavy multi-screeners find it difficult to filter out irrelevant stimuli – they're more easily distracted by multiple streams of media.

Since **3/4** Canadians use multiple devices at once (**9/10** amongst millennials)[1], marketers should look for ways to:

- Hold attention (versus competing stimuli)
- Create opportunities to capture consumers' wandering eyes

Source 1: Microsoft Cross-Screen Evolution Research, 2014

In short...

What consumers can see in one glance has everything to do with what they'll do next.

If overwhelmed by input or lack the motivation to process it, their brain will stop taking it in.

Exclude unnecessary information. Part of achieving clarity is eliminating distractors. Stick to the main message. If something doesn't play a significant role, it's not needed.

In action…

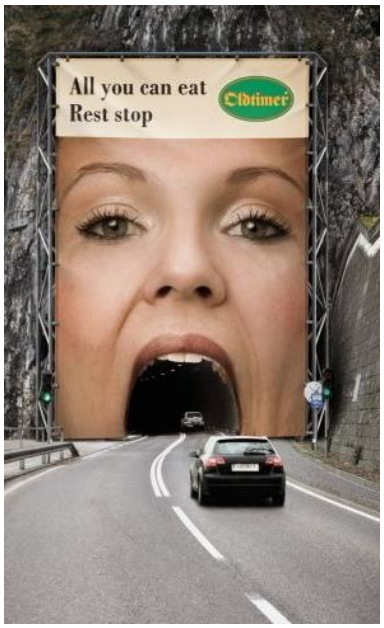
Be different

Stand out and challenge the norm.

"Violate people's expectations…you want to have people turn their eyes up a little bit more… we're attuned to surprises and we have a pleasant experience with positive surprises."

Ben Parr
Author, 'Captivology'

Look to outdoor ads for inspiration – they're always competing against their surroundings!



Source: Forbes, 'Ben Parr wants your attention: Q&A with the author of Captivology', 2015

In action…

Get moving

Harness the power of peripheral motion. Human survival has been based on the ability to focus on what's most important (generally what's moving). **Rich media ads help capture attention and dramatically improve engagement.**

	CTR	Engagement
Standard display	0.13%	0.98%
Rich media display	0.16%	11%
	+23%	**+1022%**

Source 1: eMarketer Adform, 2014

Draw consumers in

Linking directly to full screen video or landing experiences can drive immediate action.[2] On Xbox, the ad is the only animated/moving tile to naturally grab users' attention

Xbox 360 Example - CA

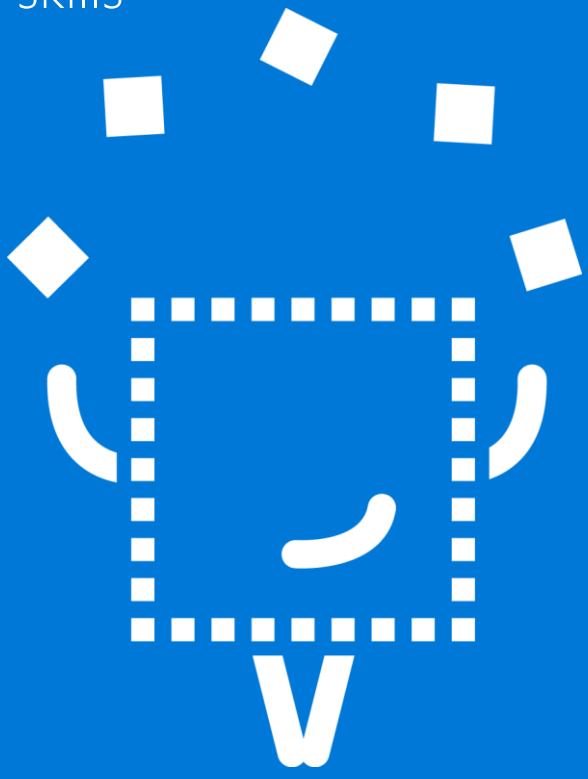
Source 2: Xbox Advertising Internal Data on 55+ Xbox 360 advertising campaigns from (Sept 2013 – Aug 2014) – CA

Types of attention

Sustained
Selective
Alternating

Efficiently switching between tasks:

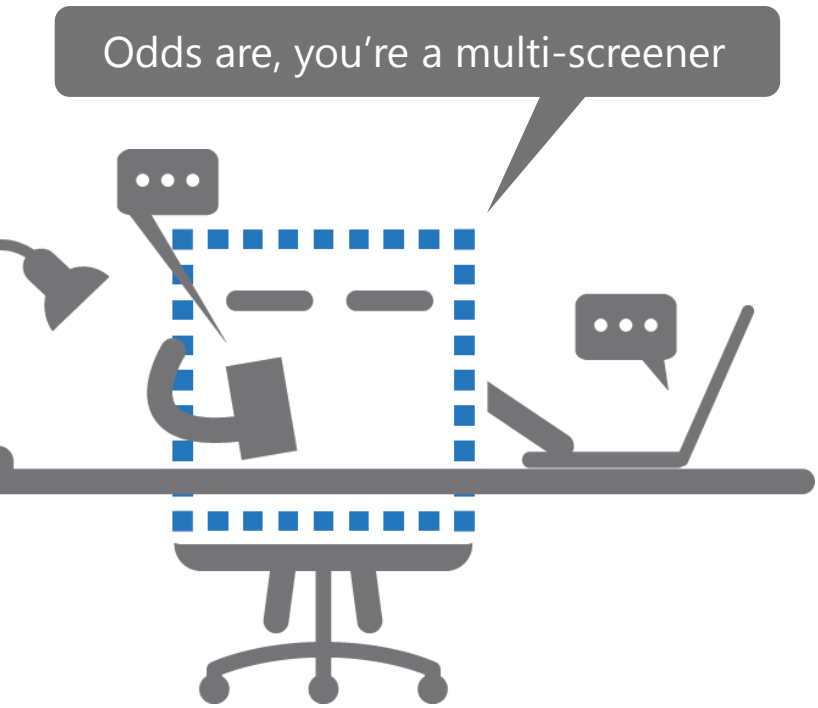
Shifting attention between tasks demanding different cognitive skills



Multi-screening behavior is the single biggest driver of the ability to shift between tasks

Alternating attention levels are most highly correlated with:

1. Multi-screening behaviour
2. Volume of media consumption
3. Adoption of technology
4. Social media usage



67%

of Canadians say multi-tasking is the only way they can get things done.

Higher among younger:

76%

18 to 24

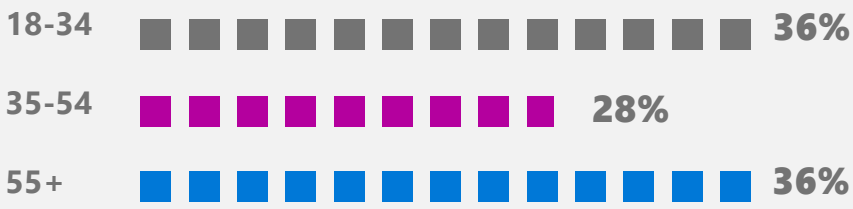
38%

65+

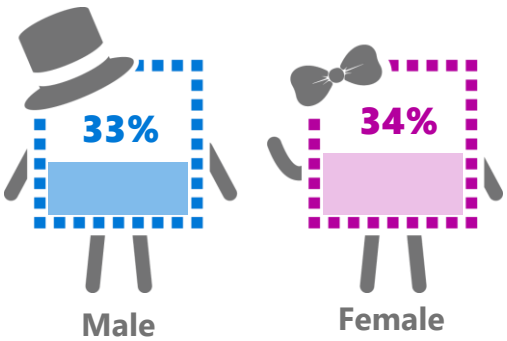
Age and gender don't significantly impact the ability to shift between different tasks

% high alternating attention by demographics

Age



Gender



Contrary to popular belief, women don't appear to be any better at attention multi-tasking than men.

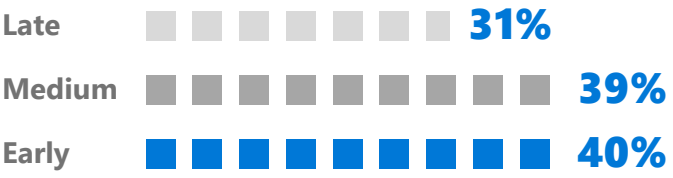
Digital behaviours improve alternating attention

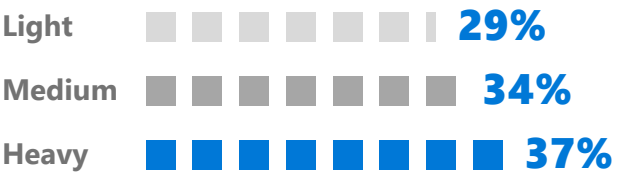
% high alternating attention by behaviours

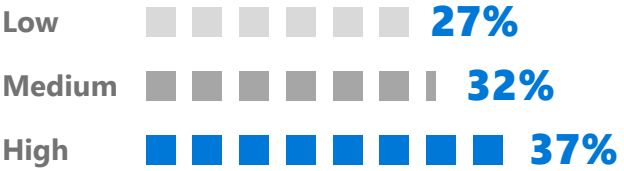
Tech adoption

Web browsing

Multi-screening while online







An active social media lifestyle builds alternating attention – to a certain point

Moderate users of social media are better at multi-tasking than lower users.

But, when crossing into the top quartile of social media usage, scores plummet.

Social media can drain one's resources, reducing the ability to allocate attention, connect with content on an emotional level, and process information.

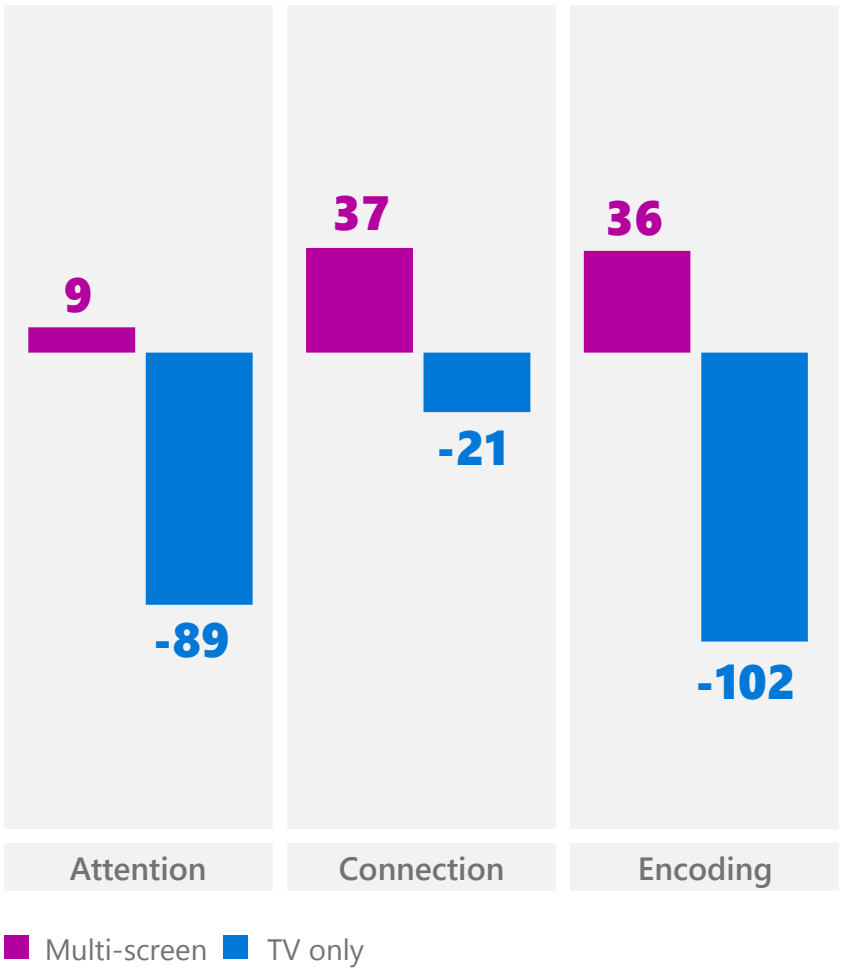
Index: overall performance across attention, connection, and encoding by social media usage (divided based on usage)

Multi-screen environments not only improve overall attention, they **improve** emotional connection and encoding to memory

The more resources that consumers commit in multi-screening environments improves connection to content and encoding to memory.

Multi-screeners appear to be in a heightened neural state – they're primed for more immersive experiences.

Index: overall performance across attention (concentration), connection (emotional) and encoding (memory)

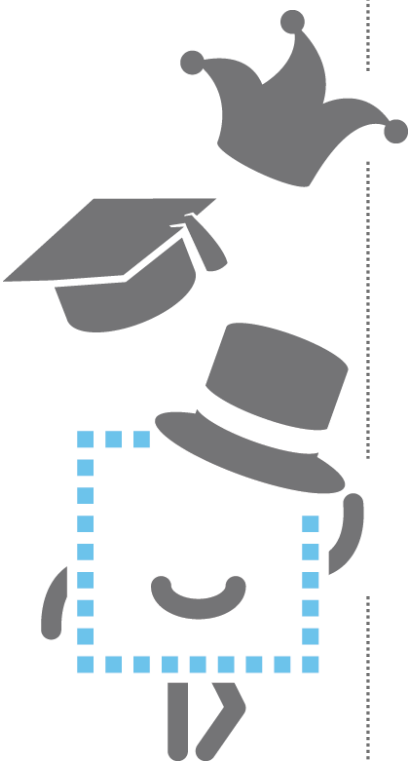


By analyzing video footage from multi-screening environments, we see that while consumers may be looking at their phones (rather than the TV), they are still responding to auditory cues, like laughing at jokes.

It was also observed that 'calls to action' were effective in encouraging consumers to look up at key moments (e.g., when a brand/product is featured).

In short…

Canadians with more digital lifestyles are better at simultaneously processing information from different sources



Multi-screening doesn't reduce the potential impact of advertising - digital lifestyles are associated with greater levels of attention. But, **immersive, engaging, multi-touchpoint experiences** are needed to capitalize on these opportunities.

Embedding '**calls to action**' within content helps to optimize multi-screeners' attention. These are critical from an auditory standpoint – while a consumer may not be always be watching, they're likely listening – make sure to capture their attention (and eyeballs) at key moments.

Leverage multi-screening behaviours and be action-focused. Encourage consumers to seek out additional content on other devices (e.g., visit a website to purchase). Multi-taskers are adept at acting quickly to do something new/different.

Microsoft

In action…

1 Honda

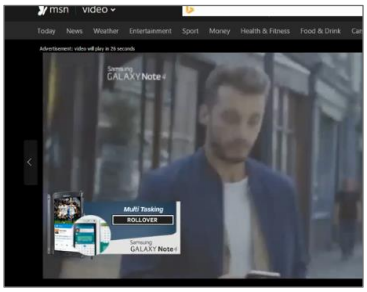
Honda's "Other Side" campaign instructs viewers to switch between two scenarios (via keyboard keys) to see the two sides of a man's life: one as a family man collecting his kids from school and the other as a bank robber. This engaging campaign uses active involvement to sustain attention and fulfill the need for new/different stimuli.

2 Disney

Disney's second screen app extends the film experience with user-controlled, in-depth galleries, flipbooks 360 turnarounds, and puzzles. It holds even a young child's attention and encourages deeper engagement.

3 Samsung

Samsung's Note 4 interactive video ad – with image gallery, features information, and click-to-shop feature – plays to multi-tasking/multi-screening habits by embedding a second screen within the video window.



Key takeaways

"Brains are being rewired — any shift in stimuli results in a rewiring...the techniques and mechanisms to engage in rapid-fire attention shifting will be extremely useful"

Danah Boyd,
Microsoft Research

Technology isn't a threat or a problem for marketers, per se.

While it introduces some challenges, it also creates significant opportunities.

In today's connected age, digital media consumption is a given and Canadians are adapting to the massive amounts of information they're exposed to every day. As the prevalence of multi-screening increases, social becomes integrated in different ways, and consumers continue to adopt new technologies, attention spans are decreasing overall. This is a universal truth, it's NOT just 'kids these days'. Brands must go beyond basic demographic segmentation because digital lifestyles and behaviours are more tied to attention levels than demographics are.

Now for the good news: Canadians' increasingly digital lifestyles are also making them more efficient at processing information and recording it to their memories. They're able to do more with less, so that they can move on to the next new/exciting thing.

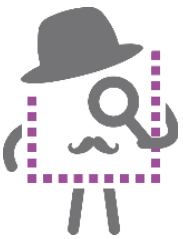
All this means that brands need to find different, more creative, and increasingly immersive ways to market themselves and engage Canadian consumers.

Address all 3 types of attention:

Sustained

Tech adoption, social media usage, and multi-screening behaviours mean consumers are getting worse at paying attention for extended periods of time, but they're able to do more with less through higher bursts of attention and more efficient encoding to memory.

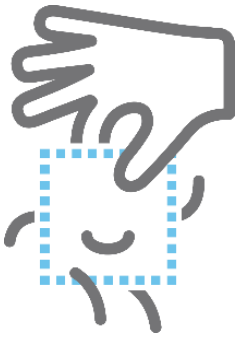
Be clear, personal, relevant, and get to the point.



Selective

Filtering out distractions isn't related to tech or social media usage or media consumption, but it declines with more multi-screening. Brands need to hold consumers attention to compete with other stimuli, but there's also potential to grab attention away from other interests.

Defy expectations, keep it moving, and use simplicity to focus on your message.



Alternating

Digital lifestyles improve the ability to switch between tasks, but only to a certain point, when consumers can get overwhelmed.

Embed calls to action, be interactive, continue experiences onto other screens, and use sequential messaging.

Questions?

www.microsoftadvertising.com/research
Contact **alyson.gausby@microsoft.com**

Microsoft

Appendix

Calculations: Quantitative research

The study divided respondents into three equal – sized groups based on performance – low, medium and high attention – each band represented **33% of the sample.**

A score of **37%** or higher represents a statistically significant difference in attention.

The results from the games were analyzed in the following ways. For the purpose of the analysis, an overall score was calculated for each of the games:

Sustained

Counting the number of times respondents correctly identified an X occurring after an A.

Selective

Counting the number of times respondents correctly identified a change in the orientation of the rectangles.

Alternating

Calculating the difference in the time lapsed to perform a series of consecutive number or letter classifications, compared to a mixture of number and letter classifications.

Calculations: Neurological research

Sustained

Average scores from neurological test environments were broken into equal parts: low, medium, and high. The average number of peaks in attention behaviour for various timeframes were calculated to determine bursts in attention.

Selective

Average mobile components from the multi-screen were compared with results from the dedicated mobile environment average. By analyzing each participant's attention levels during the mobile task station and comparing them against their attention levels while using a mobile device during the multi-screen task station, a functional measure for the level of distraction was calculated.

Alternating

Average neurological scores from the multi-screen test environment were divided into equal parts: low, medium, and high.

Microsoft