

Lecture 3.4

Duplication

Jennifer Shiyue Zhang
October 10, 2025

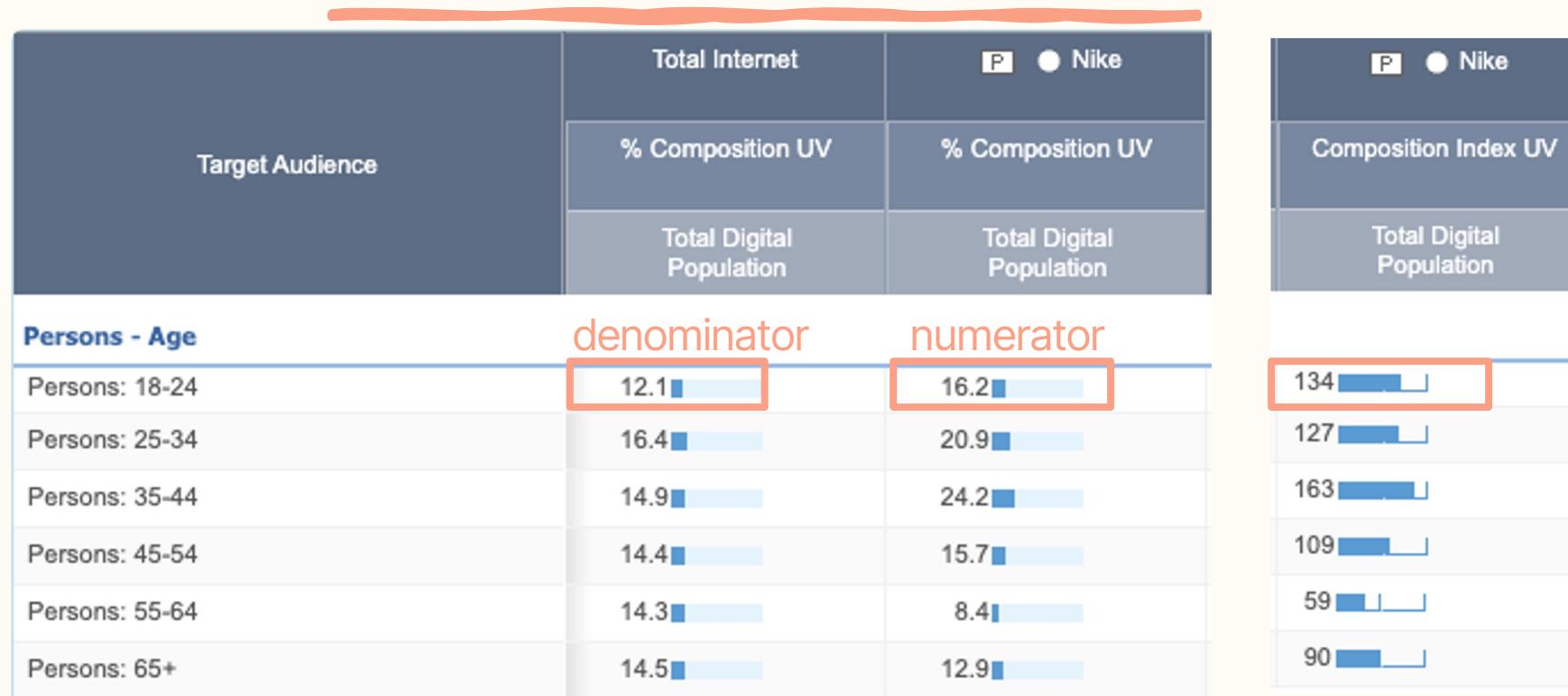
Agenda

- Audience Dynamics
 - Audience Duplication
 - Incremental Reach
 - Expected Duplication
 - Observed Duplication
 - ComScore Reports
 - Audience Duplication
 - Cross Visiting
 - Team Assignment 1



Recap

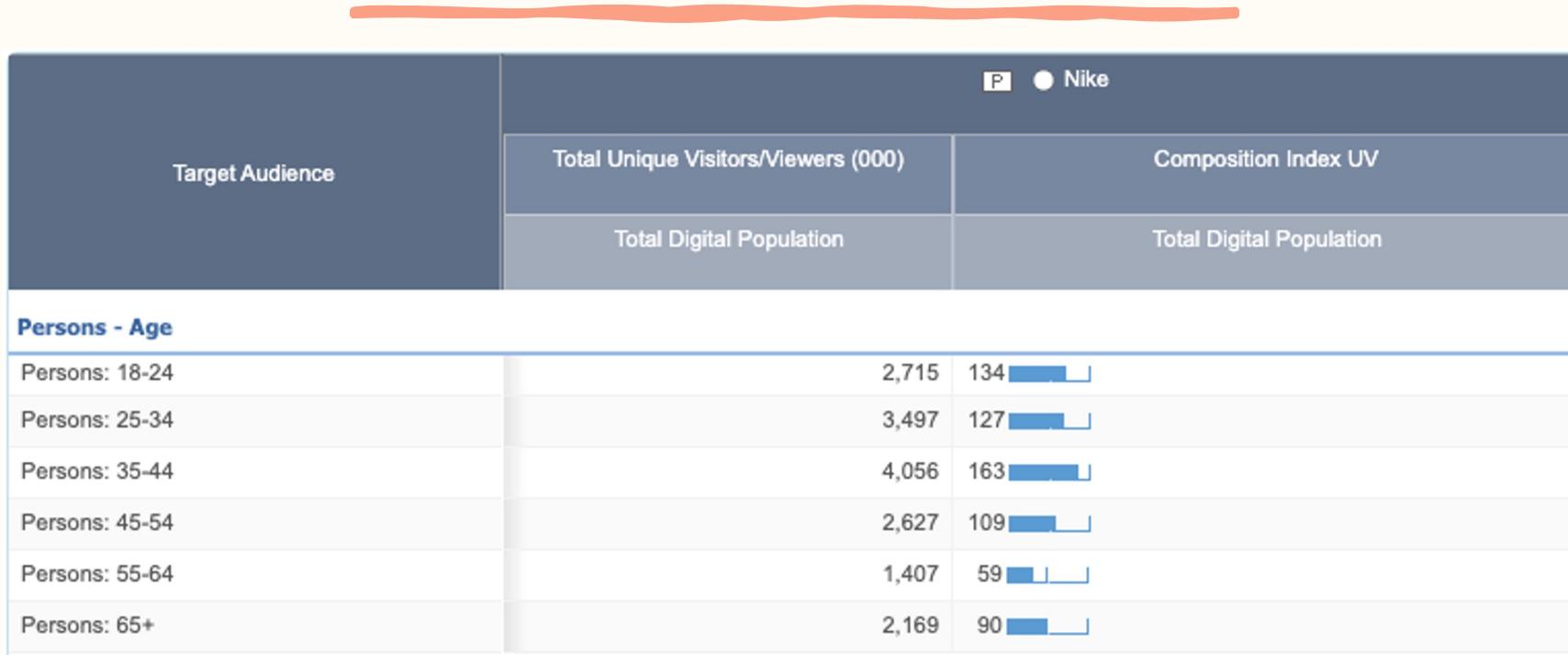
Composition Index (comScore)



% Composition UV for the media property in the target group

Composition Index = $\frac{\% \text{ Composition UV for the media property in the target group}}{\% \text{ Composition UV of the target group for the total digital population}} \times 100$

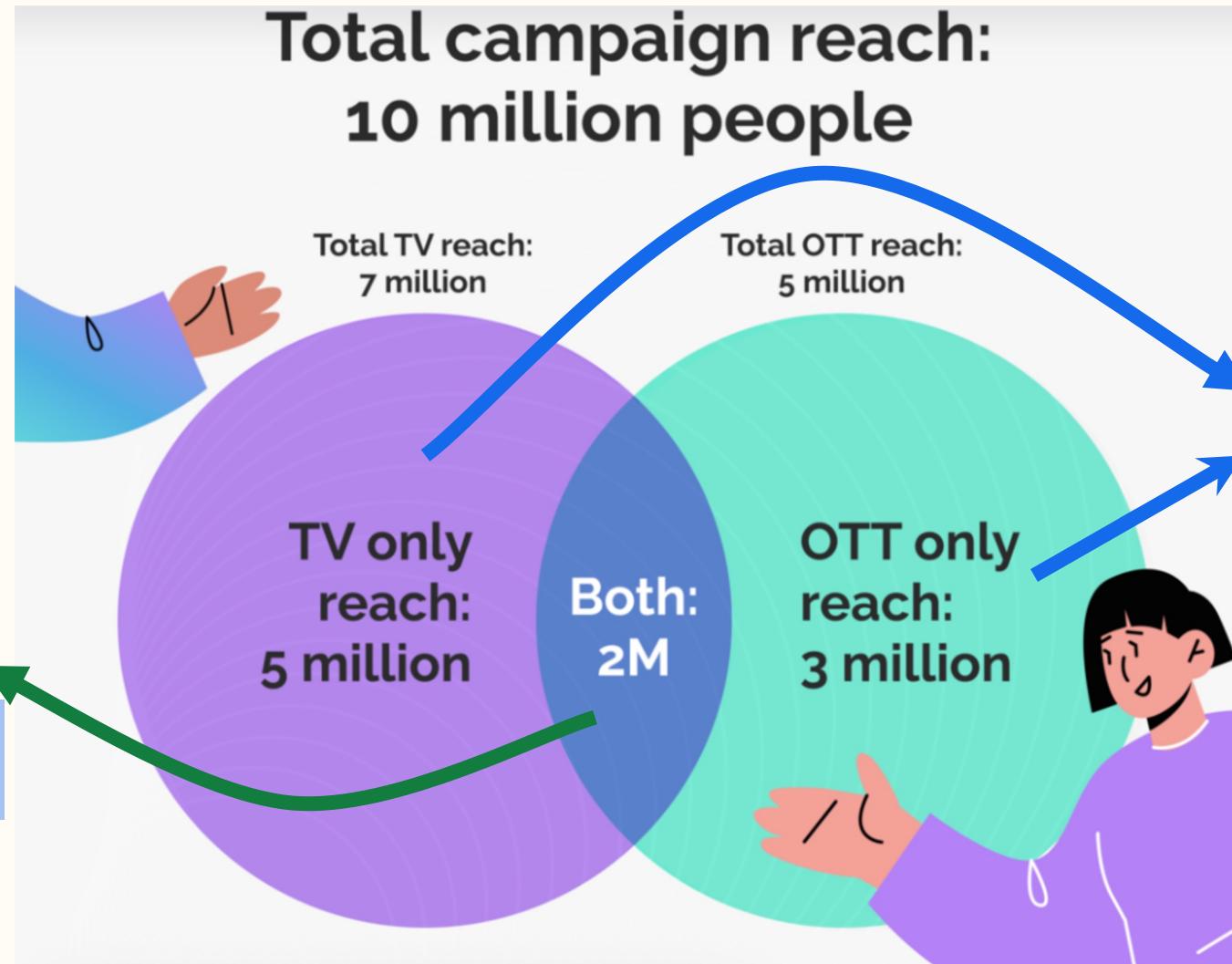
Composition Index (comScore)



Note:

- **100** is a mathematical baseline, not a shared row of actual data
- Each demographic's index is calculated **independently**

Audience Duplication



Incremental Reach

Def:
the unique audience exposed to a campaign on a new channel beyond the initial target audience

Audience Duplication – Why Is It Important?

Reach



Frequency



Importance of Audience Duplication

- Goals of Most Campaigns: Reach/Frequency
 - Unduplicated audience will increase **reach** of a campaign
 - Duplicated audience will increase **frequency** of a campaign

Dunk Low x LEGO® Collection

DRAWN TO STAND OUT

Shop



Audience Duplication Example - Reach Side

- Situation: Nike has a branding partnership with LEGO since summer 2025
- Goal: Nike's goal is to expand its online audience (rather than duplicate it) through its partnership with LEGO



Audience Duplication (comScore)

- Question: To what extent does Nike's audience overlap with LEGO? In other words, are the same people visiting both sites? How much **incremental reach** does LEGO provide? **Audience Duplication**
 - Audience duplication on comScore shows the overlap in audience between Nike and LEGO. It helps gain insights how many new audience gained from other sites



Audience Duplication (comScore)

- Question: To what extent does Nike's audience overlap with LEGO? In other words, are the same people visiting both sites? How much **incremental reach** does LEGO provide? **Audience Duplication**
 - Audience duplication on comScore shows the overlap in audience between Nike and LEGO. It helps gain insights how many new audience gained from other sites
 - Incremental Reach: Unduplicated reach LEGO brings beyond Nike's existing visitors
 - Incremental Reach (LEGO) = Unduplicated Reach – Reach (Nike)

■ = $8.3 - 6$

■ = 2.3%

Media	Total Unique Visitors/Viewers (000)	% Reach	Total Digital Population		
			Total Views (MM)	Total Minutes (MM)	Average Minutes per Visitor
Unduplicated	23,383	8.3	124	187	8.0
Duplicated - 2 or More Sites	587	0.2	5	5	8.5
Duplicated - All Sites	587	0.2	5	5	8.5
1 Nike	16,756	6.0	91	159	9.5
2 LEGO.COM	7,214	2.6	33	28	3.9



Cross Visiting (comScore)

- Question: To what extent does Nike's audience overlap with LEGO? In other words, are the same people visiting both sites? What is the relative share of traffic that LEGO contributes to Nike's audience? **Cross Visiting**
 - Cross visiting report shows a broader pattern of audience behavior across multiple media entities. It helps identify **content partnerships**, potential competitors, or new ad inventory opportunities where their target audiences already spend time.



Cross Visiting (comScore)

- Question: To what extent does Nike's audience overlap with LEGO? In other words, are the same people visiting both sites? What is the relative share of traffic that LEGO contributes to Nike's audience? **Cross Visiting**
 - Cross visiting report shows a broader pattern of audience behavior across multiple media entities. It helps identify **content partnerships**, potential competitors, or new ad inventory opportunities where their target audiences already spend time
 - Index under the target media entity column

Media in Rows	Tag	Base		P Nike			
		Total Digital Population		Total Digital Population			
		Target Audience (000)	% Vertical	Shared Audience (000)	% Vertical	% Horizontal	Index
		281,129	100.0	16,756	100.0	6.0	100
1	LEGO.COM	7,214	2.6	587	3.5	8.1	136

■ Interpretation: Among visitors who went to LEGO.com, they are 36% more likely to go to Nike.com compared to other sites.

Cross Visiting (comScore)

- Cross visiting report shows a broader pattern of audience behavior across multiple media entities. It helps identify content partnerships, potential competitors, or **new ad inventory opportunities** where their target audiences already spend time
- Situation: Nike is considering a new social media engagement campaign. They want to know which social media platforms are driving traffic to their website so they can decide where to concentrate their ad spend.

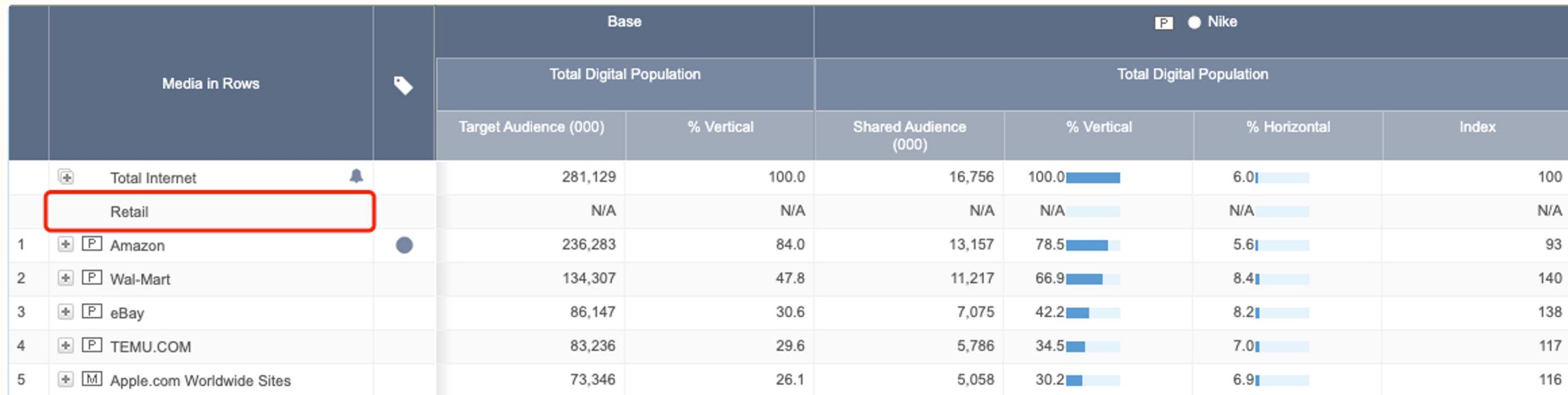
Media in Rows		Base		P ● Nike			
		Total Digital Population		Total Digital Population			
		Target Audience (000)	% Vertical	Shared Audience (000)	% Vertical	% Horizontal	Index
	Total Internet	281,129	100.0	16,756	100.0	6.0	100
	Social Media - Social Networking	N/A	N/A	N/A	N/A	N/A	N/A
1	Facebook And Messenger	220,818	78.5	11,643	69.5	5.3	88
2	Bytedance Inc.	156,144	55.5	11,635	69.4	7.5	125
3	INSTAGRAM.COM	153,992	54.8	11,100	66.2	7.2	121
4	Reddit	141,050	50.2	8,472	50.6	6.0	101
5	X (formerly Twitter)	124,694	44.4	7,095	42.3	5.7	95

○ Interpretation:

- % Vertical: Among visitors who went to Nike.com in August 2025, **69.5%** also went to Facebook and Messenger.
- % Horizontal: Among visitors who went to Facebook and Messenger in August 2025, **5.3%** also went to Nike.com
- Index: Among visitors who went to Facebook and Messenger in August 2025, they are **12%** less likely to visit Nike.com, compared to other sites.

Cross Visiting (comScore)

- Cross visiting report shows a broader pattern of audience behavior across multiple media entities. It helps identify content partnerships, **potential competitors**, or new ad inventory opportunities where their target audiences already spend time



■ which site is the greatest competitors to Nike?

Audience Duplication Example - Frequency Side

- Audience Reach (August 2025, comScore Data)

- Netflix: 32.5%
- Hulu: 17.3%

	Media	Total Unique Visitors/Viewers (000)	% Reach		Total Visits (000)	Total Minutes (MM)	Desktop Display-Only UV (000)
			Total Digital Population	Total Digital Population			
	Total Internet : Total Audience	281,129	100.0		103,172,318	2,421,367	0
1	Netflix Inc.	91,318	32.5		145,526	31,810	17,426
2	Hulu	48,524	17.3		124,744	12,120	3,757

- Are these the same people?
- Do we expect them to be the same people?
- Why or why not?

Audience Duplication – Observed Duplication

- Definition: The extent to which two media outlets have an overlap in their audience.
 - **“Observed Duplication”** - The % of users that access both outlet A and outlet B
 - Also called **absolute duplication**

Audience Duplication - Example

- Audience Reach (August 2025, comScore Data)

 - Netflix: 32.5%

 - Hulu: 17.3%

 - **Both:** 6.3% -- *Observed Duplication*

 - **Is 6.3% high or low? What do we expect?**

	Media	🏷️	Total Digital Population			
			Total Unique Visitors/Viewers (000)	% Reach	Total Views (MM)	Total Minutes (MM)
	Unduplicated	🔔	122,106	43.4	1,639	40,053
	Duplicated - 2 or More Sites		17,736	6.3	266	9,179
	Duplicated - All Sites		17,736	6.3	266	9,179
1	Netflix Inc.		91,318	32.5	1,230	31,810
2	Hulu	●	48,524	17.3	409	12,120

Audience Duplication – Expected Duplication

- Any two outlets have some amount of duplication expected based on chance (randomness)

How to Calculate Expected Duplication?

- Law of Joint Probability
- If event A has a Probability $P(A)$, event B has Probability $P(B)$ then what is the probability of both these events occurring, assuming they are independent of one another?
- Joint Probability: $P(A \text{ and } B) = P(A) * P(B)$

Audience Duplication – Expected Duplication

- Observed duplication is considered high if it is **above** expected duplication

High: Observed Duplication $>$ Expected Duplication

Low: Observed Duplication $<$ Expected Duplication

Audience Duplication - Example

- Audience Reach (August 2025, comScore Data)

- Netflix: 32.5%

- Hulu: 17.3%

- *Both:* 6.3% -- *Observed Duplication*

- *Is 6.3% high or low? What do we expect (i.e. what is the expected duplication)?*

Audience Duplication - Example

- Audience Reach (August 2025, comScore Data)

- Netflix: 32.5%

- Hulu: 17.3%

- **Both:** 6.3% -- *Observed Duplication*

- **Is 6.3% high or low? What do we expect (i.e. what is the expected duplication)?**

- Joint Probability (Hulu and Netflix)

- = Probability (Hulu) * Probability (Netflix)

- = $0.325 * 0.173$

- = 0.056

- = 5.6%

Audience Duplication - Example

- Audience Reach (August 2025, comScore Data)

○ Netflix:	32.5%
○ Hulu:	17.3%
○ Both:	6.3% -- <i>Observed Duplication</i>
○ Expected Duplication:	5.6%

- **Observed Duplication > Expected Duplication**
- Conclusion?

What does this mean?

- Any observed (absolute) duplication higher than expected duplication is some evidence of **audience affinity**, which refers to the degree of connection or similarity between a specific audience and a particular product, service, brand, content, or topic.

Admin

- Week 7 Knowledge Blast & Week 8 Online Discussion
 - Available on Canvas at 4:30pm today
 - Due by end of Sunday (October 12, 11:59 pm)
- Team Assignment 1
 - Instructions and group details are available on Canvas
 - Due by end of day Wednesday, October 15
- Feedback Survey

Team Assignment 1