

Oh, I see!

Visuals in the dissemination of prevention research

Lori Palen, PhD
December 2, 2021





Hi!

**I'm a
prevention
scientist.**

And a designer.

**And a business
owner.**

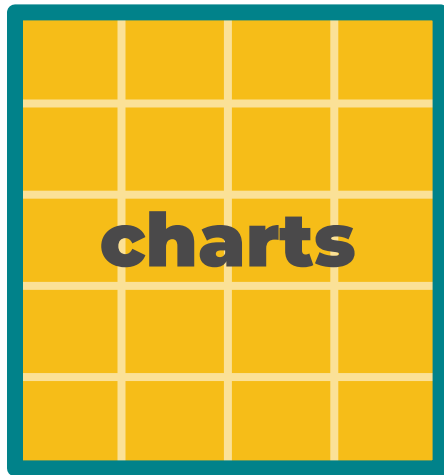
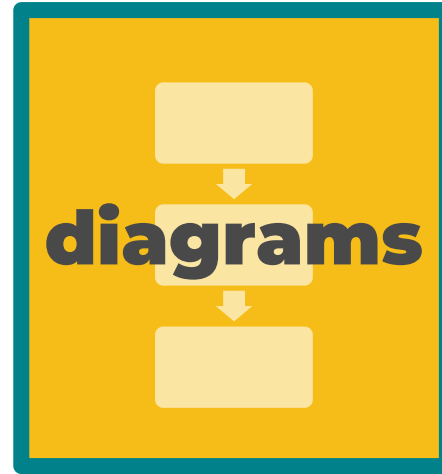
Today's agenda



Why use
visuals?



Types of
visuals



Today's agenda



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Types of
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Why use visuals?

1. Visuals get attention.



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Inconsistent Reports of Sexual Intercourse Among South African High School Students

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⁶Occupational Therapy Department, University of the Western Cape

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Abstract

Purpose—This study aims to describe patterns of inconsistent reports of sexual intercourse among a sample of South African adolescents.

Methods—Consistency of reported lifetime sexual intercourse was assessed using five semi-annual waves of data. Odds ratios related inconsistent reporting to demographic variables and potential indicators of general and risk-behavior-specific reliability problems.

Results—Of the sexually active participants in the sample, nearly 40% reported being a virgin after sexual activity had been reported at an earlier assessment. Inconsistent reporting could not be predicted by gender or race, nor by general indicators of poor reliability (inconsistent reporting of gender and birth year). However, those with inconsistent reports of sexual intercourse were more likely to be inconsistent reporters of substance use.

Conclusions—These results suggest that researchers need to undertake efforts to deal specifically with inconsistent risk behavior data. These may include the modification of data collection procedures and the use of statistical methodologies that can account for response inconsistencies.

Keywords

adolescence; sexual behavior; methods; reliability of results

Inconsistent Reports of Sexual Intercourse Among South African High School Students

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Yep, I'm a virgin...again.

Inconsistent reports of sexual intercourse among South African high school students



Original poster: Lori-Ann Palen, M.S., Ed.A. Smith, Dr.PH., Linda L. Caldwell, Ph.D., Alan J. Flisher, Ph.D., F.C.Psych. (S.A.), Lisa Wegner, M.Sc.O.T., and Tania Vergnani, Ph.D. Published in *Journal of Adolescent Health*, 42(3), 221–227. The article is published by the American Public Health Association, Washington, DC. Research funding: NIH R01DA02496, NIH T32DA002930-02A1.

STUDY DESIGN

2,414 students from Mitchell's Plain, South Africa



5 surveys



Sample restricted to 733 students who reported lifetime sexual intercourse in at least one survey



40% reported never having had sex after reporting being sexually active in a previous survey

Accurate measurement of sexual behavior is critical for public health surveillance and evaluations of sexual health programs and policies.

However, measurement of private behaviors, like sex, is prone to error.

Previous studies have shown that between 4 and 12% of adolescents report their lifetime sexual behavior inconsistently over time (i.e., report being sexually active in a survey, and then report never having had sex in a subsequent survey).

If we know more about the types of people who tend to inconsistently report sexual behaviors, it might suggest strategies to reduce measurement error.

LOGISTIC REGRESSION RESULTS

Statistically significant predictors of inconsistency

Inconsistently reported lifetime substance use

- Alcohol
- Cigarettes
- Marijuana
- Inhalants

Non-significant predictors of inconsistency

Demographics

- Gender
- Age

Motivation/ability to respond accurately

- Failed grade in school
- Inconsistently reported gender
- Inconsistently reported birth year

Potential Strategies to Reduce Measurement Inconsistency

- Give extremely clear and specific directions for how to interpret and respond to risk behavior questions.
- Maximize verbal, written, and physical assurances of privacy.
- Use longitudinally-linked electronic surveys to identify and remedy inconsistencies during survey administration.

Hoffberg et al., 2020

Abstract

Objectives To determine the overall rate of loss of workplace teaspoons and whether attrition and displacement are correlated with the relative value of the teaspoons or type of tearoom.

Design Longitudinal cohort study.

Setting Research institute employing about 140 people.

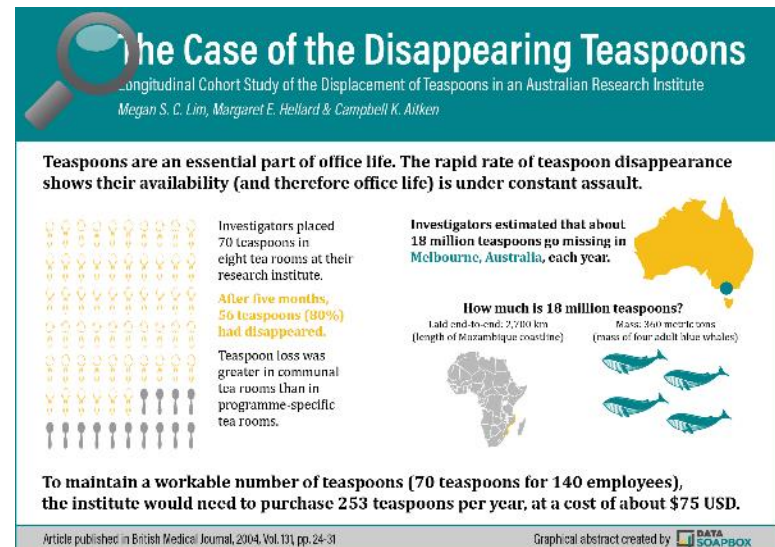
Subjects 70 discreetly numbered teaspoons placed in tearooms around the institute and observed weekly over five months.

Main outcome measures Incidence of teaspoon loss per 100 teaspoon years and teaspoon half life.

Results 56 (80%) of the 70 teaspoons disappeared during the study. The half life of the teaspoons was 81 days. The half life of teaspoons in communal tearooms (42 days) was significantly shorter than for those in rooms associated with particular research groups (77 days). The rate of loss was not influenced by the teaspoons' value. The incidence of teaspoon loss over the period of observation was 360.62 per 100 teaspoon years. At this rate, an estimated 250 teaspoons would need to be purchased annually to maintain a practical institute-wide population of 70 teaspoons.

Conclusions The loss of workplace teaspoons was rapid, showing that their availability, and hence office culture in general, is constantly threatened.

Abstract source: Lim, M. S. C., Hellard, M. E., & Aitken, C. K. (2005). *The case of the disappearing teaspoons: Longitudinal cohort study of the displacement of teaspoons in an Australian research institute*. *British Medical Journal*, 331, 1498-1500.



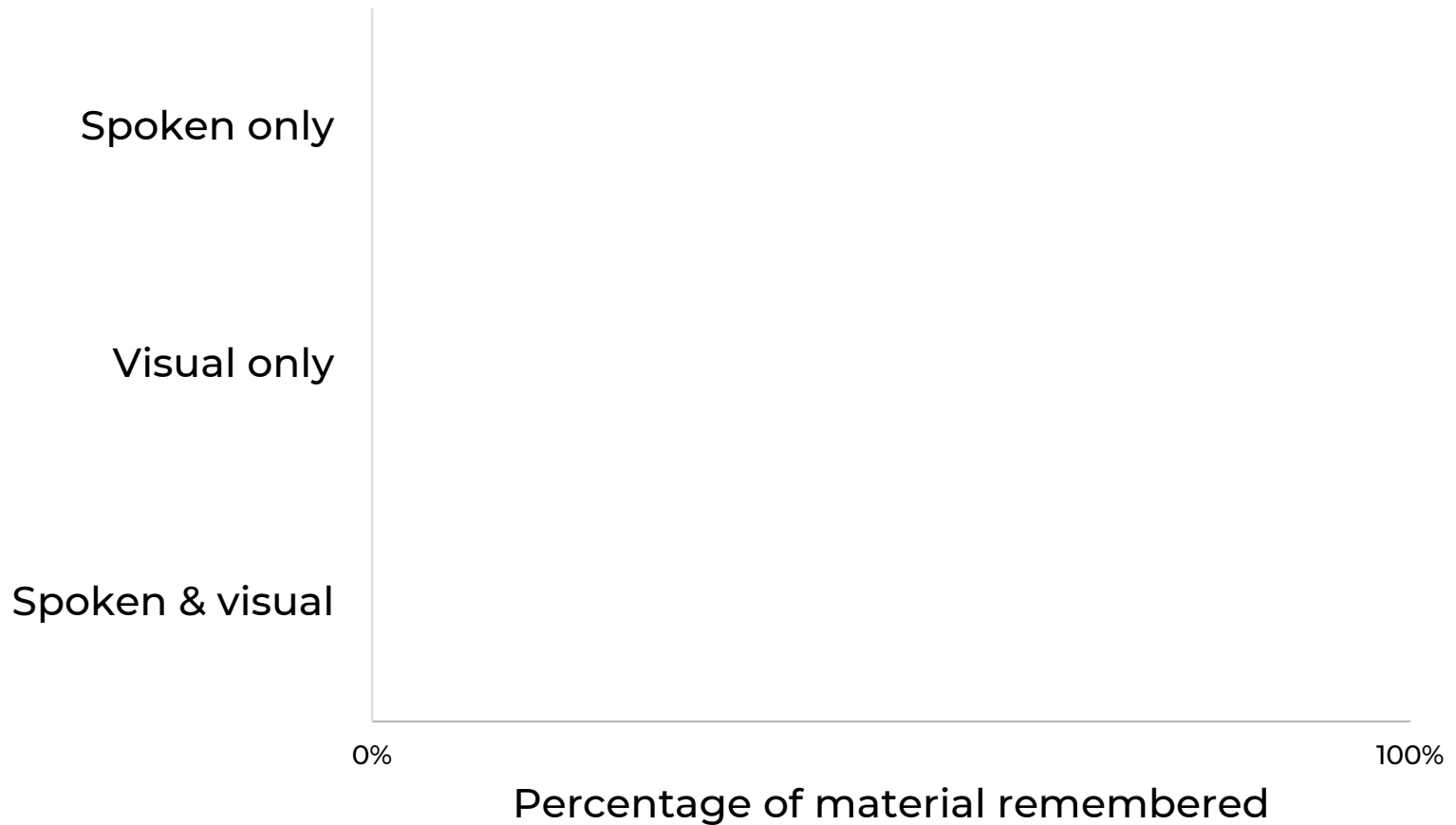
- More impressions
- More retweets
- More link clicks



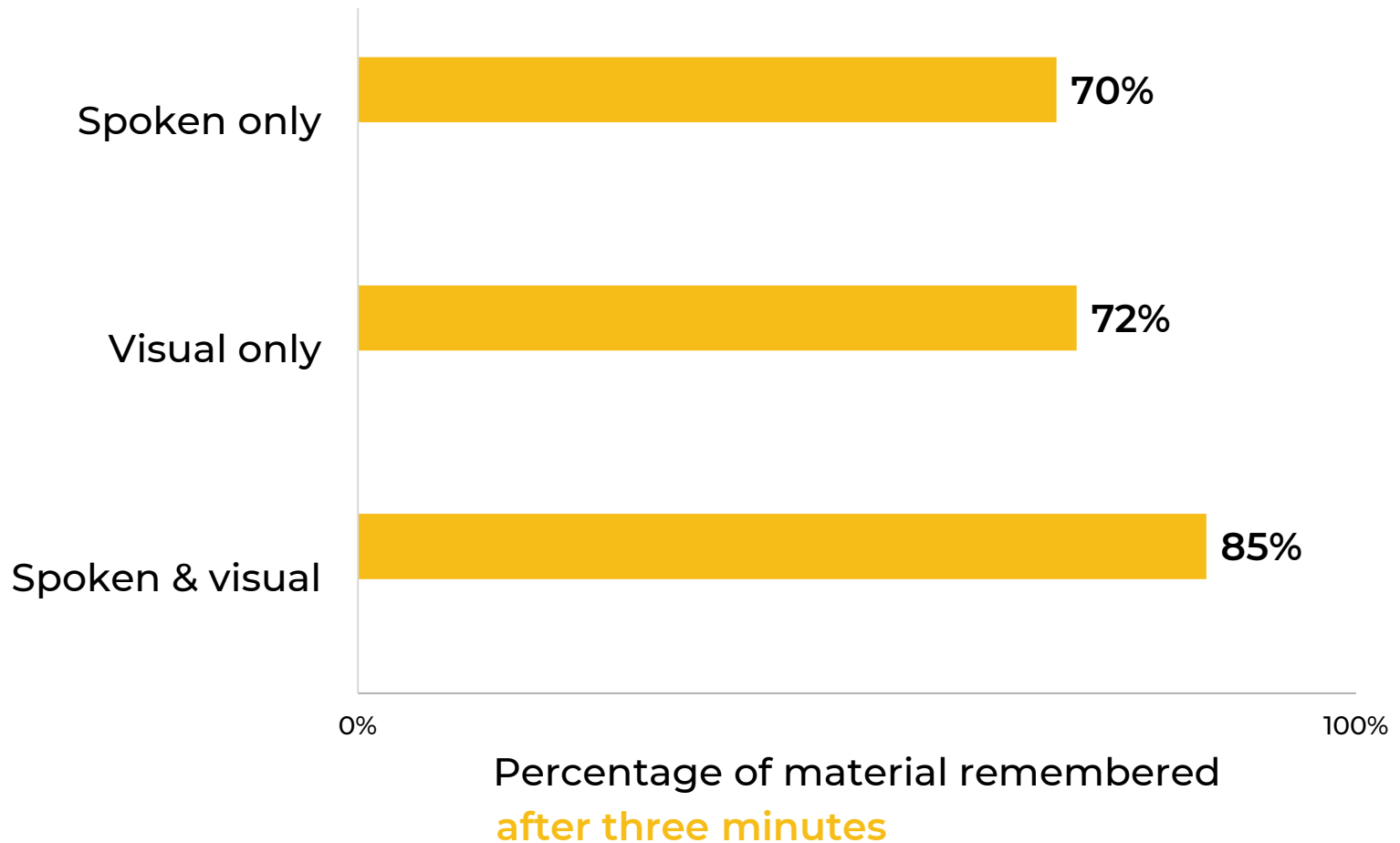
Why use visuals?

1. Visuals get attention.
2. Visuals improve memory.

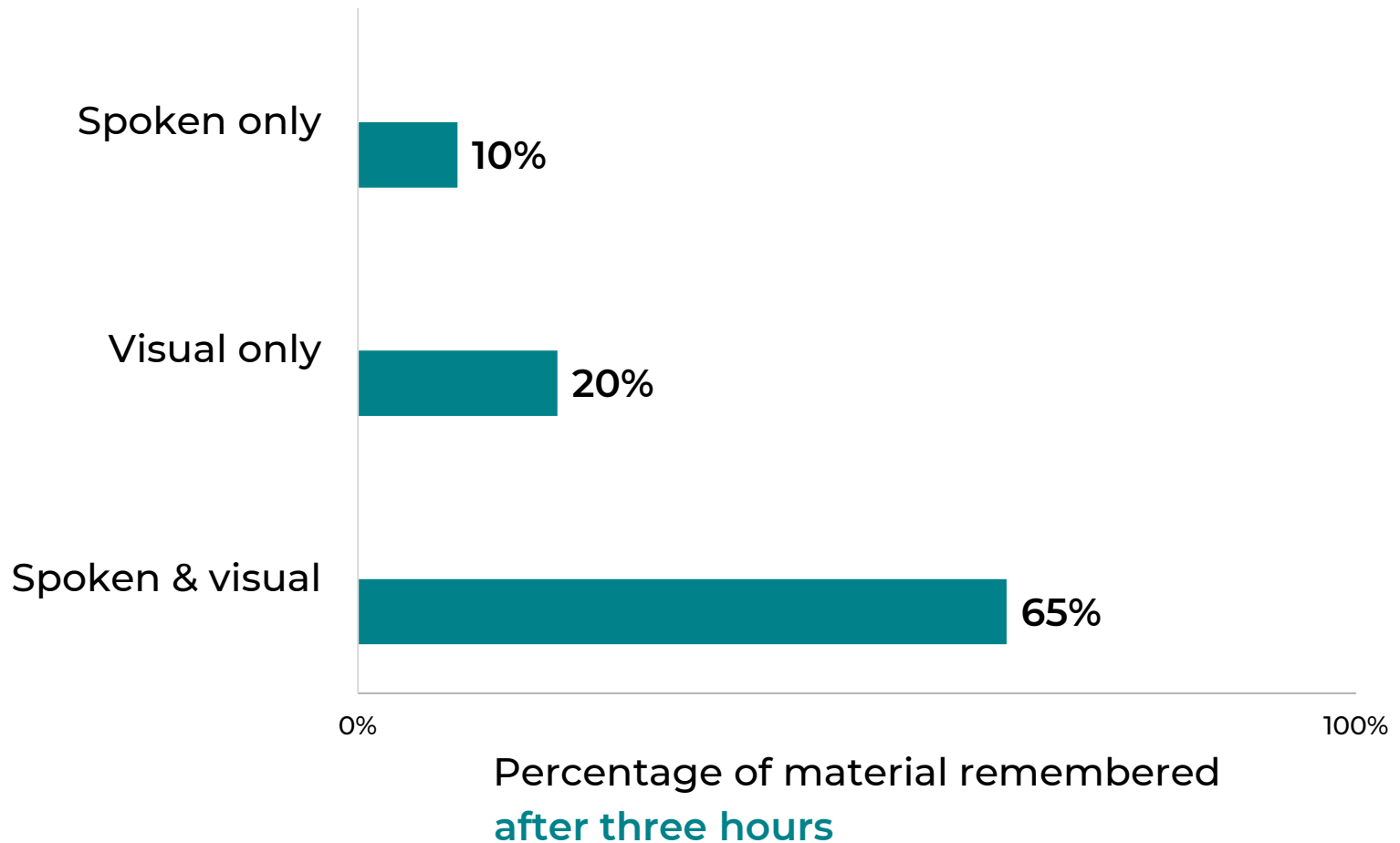
Weiss & McGrath, 1963



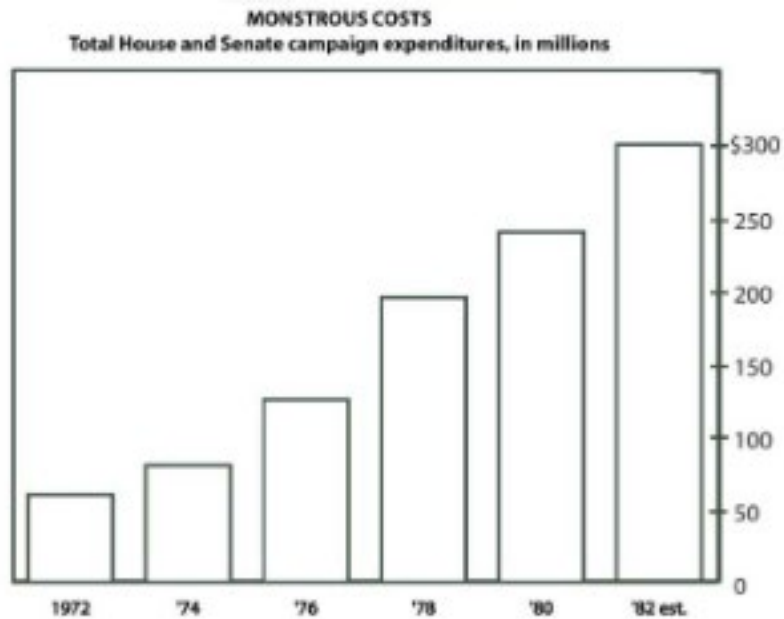
Weiss & McGrath, 1963



Weiss & McGrath, 1963



Bateman et al., 2010





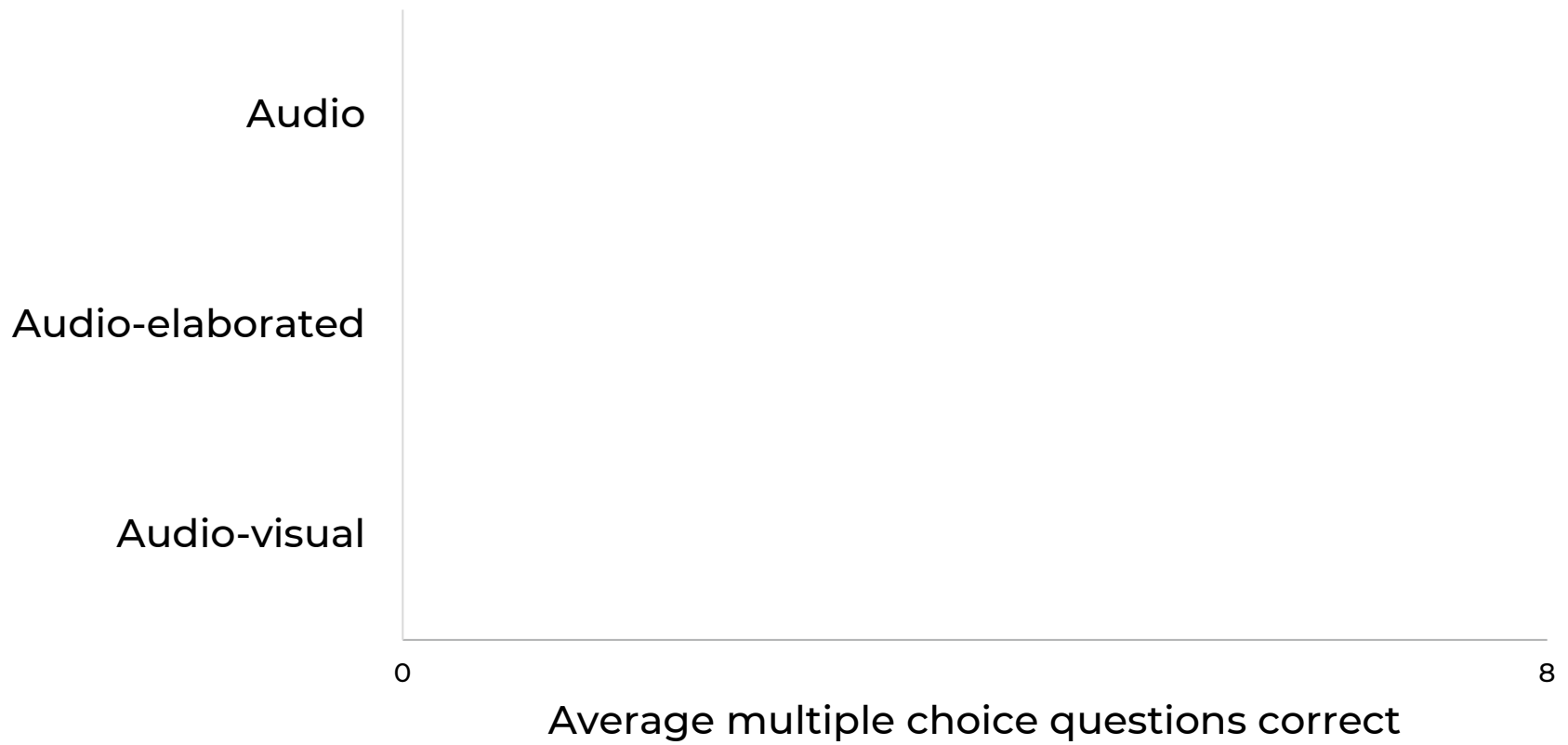
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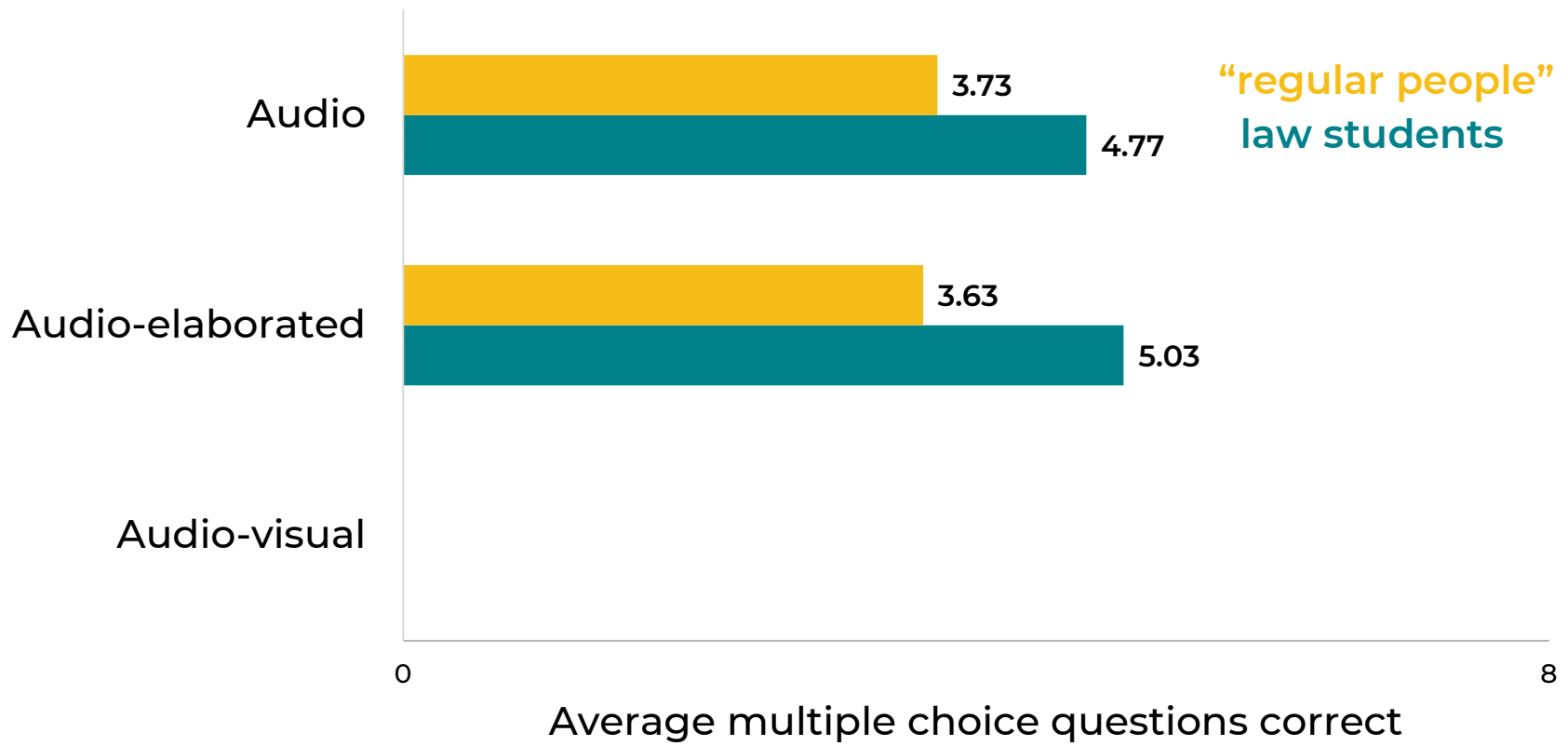
Levie & Lentz, 1982



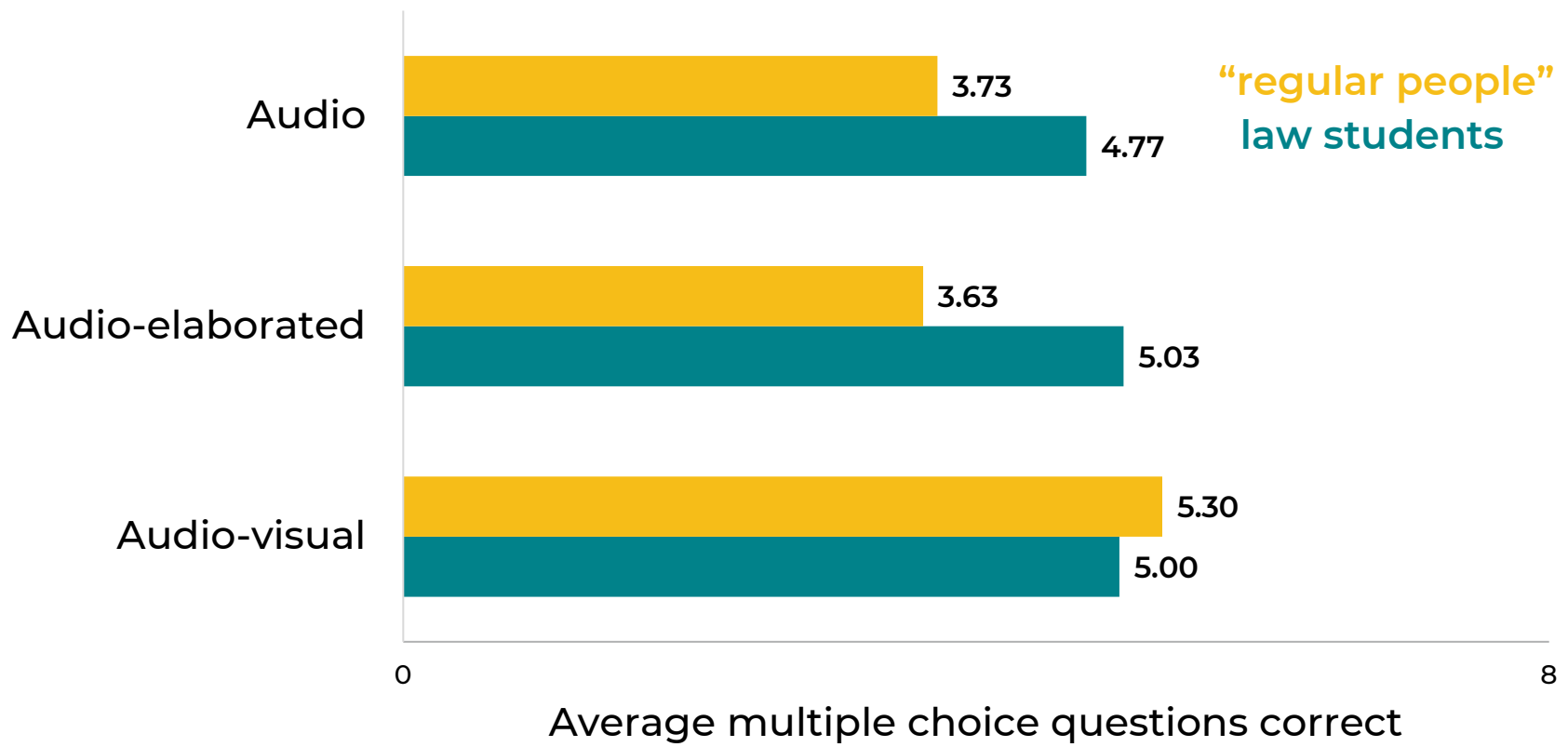
Brewer et al., 2004



Brewer et al., 2004



Brewer et al., 2004





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Types of
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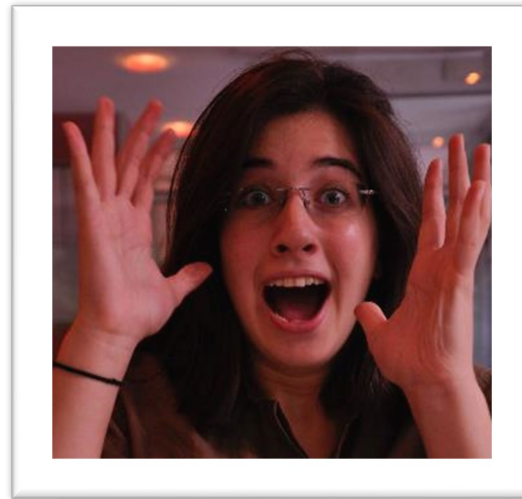
Types of visuals

1. Decorative
2. Conceptual
3. Data-based

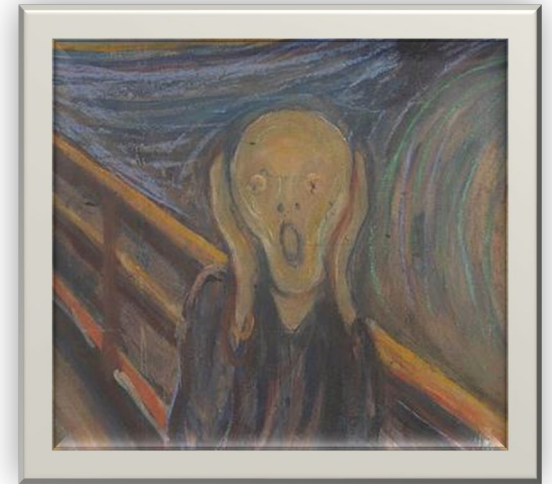
Decorative Visuals



Icons



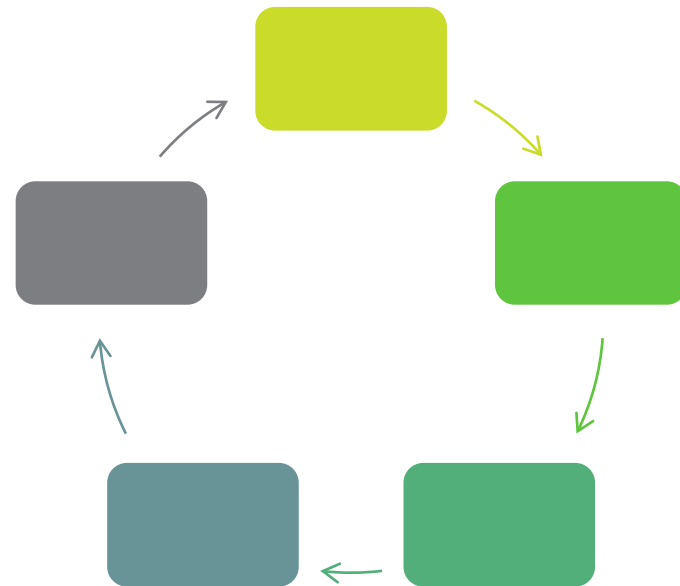
Photos



Illustrations

Conceptual visuals

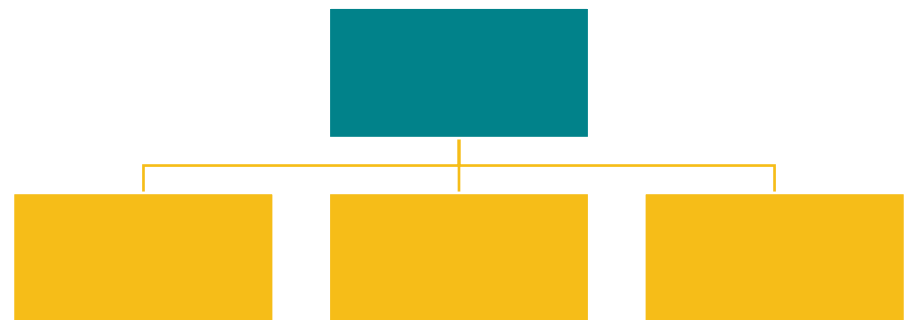
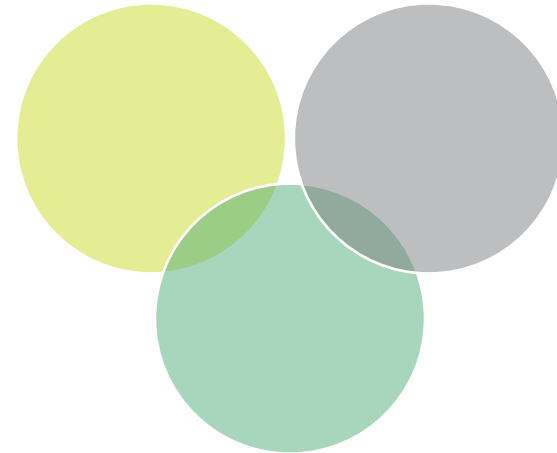
Process



Conceptual visuals

Process

Relationships

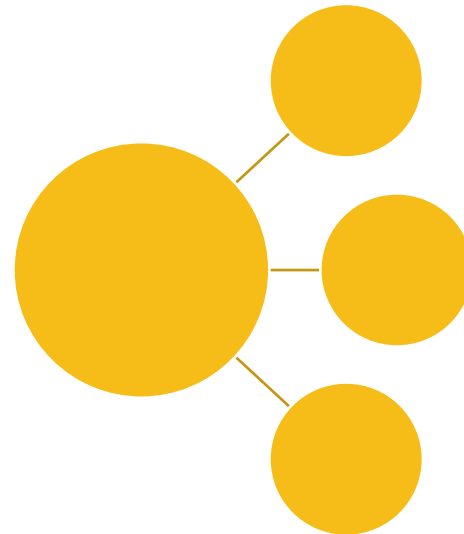


Conceptual visuals

Process

Relationships

Components



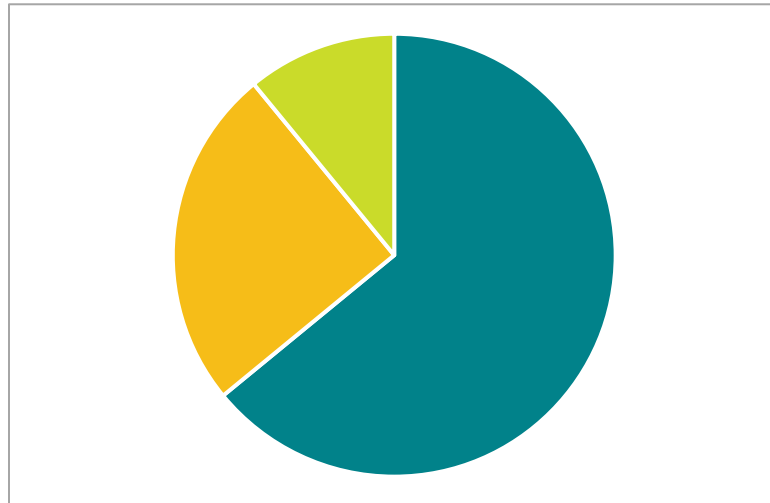
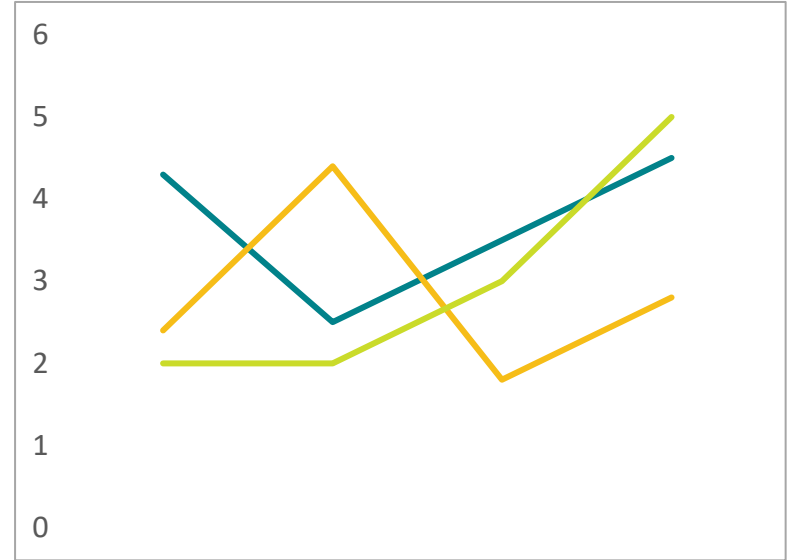
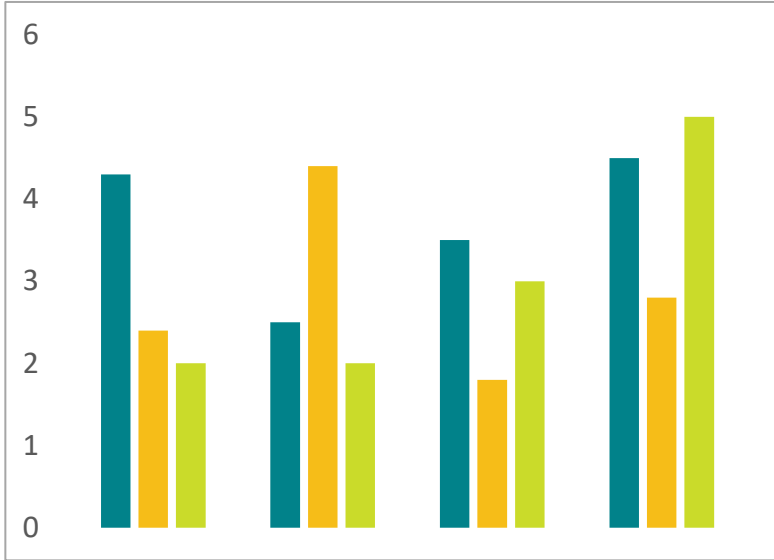


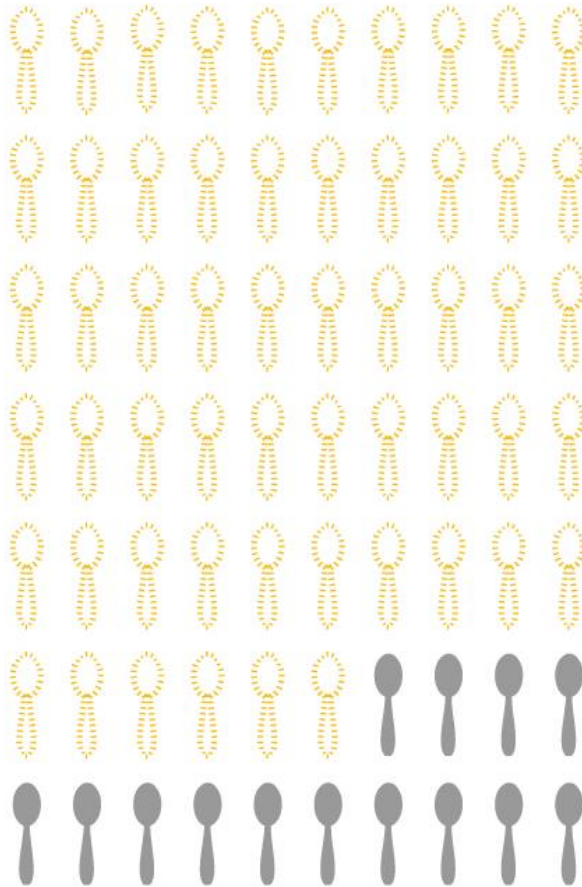
Types of visuals

1. **Decorative**
2. **Conceptual**
 - Process
 - Relationships
 - Components
3. **Data-based**

Data-based visuals

Quantities





Investigators placed 70 teaspooons in eight tea rooms at their research institute.

After five months, 56 teaspooons (80%) had disappeared.

Teaspooon loss was greater in communal tea rooms than in programme-specific tea rooms.

What's wrong with the country

What's good about the country

Donald J. Trump REPUBLICAN



Hillary Clinton DEMOCRAT



Source: New York Times, 7/29/16
'Stronger Together' and 'I Am Your Voice' — How the Nominees' Convention Speeches Compare

Data-based visuals

Quantities

Presence/absence

CRIMINAL ACTIVITY OF GOVERNMENT INFORMANTS

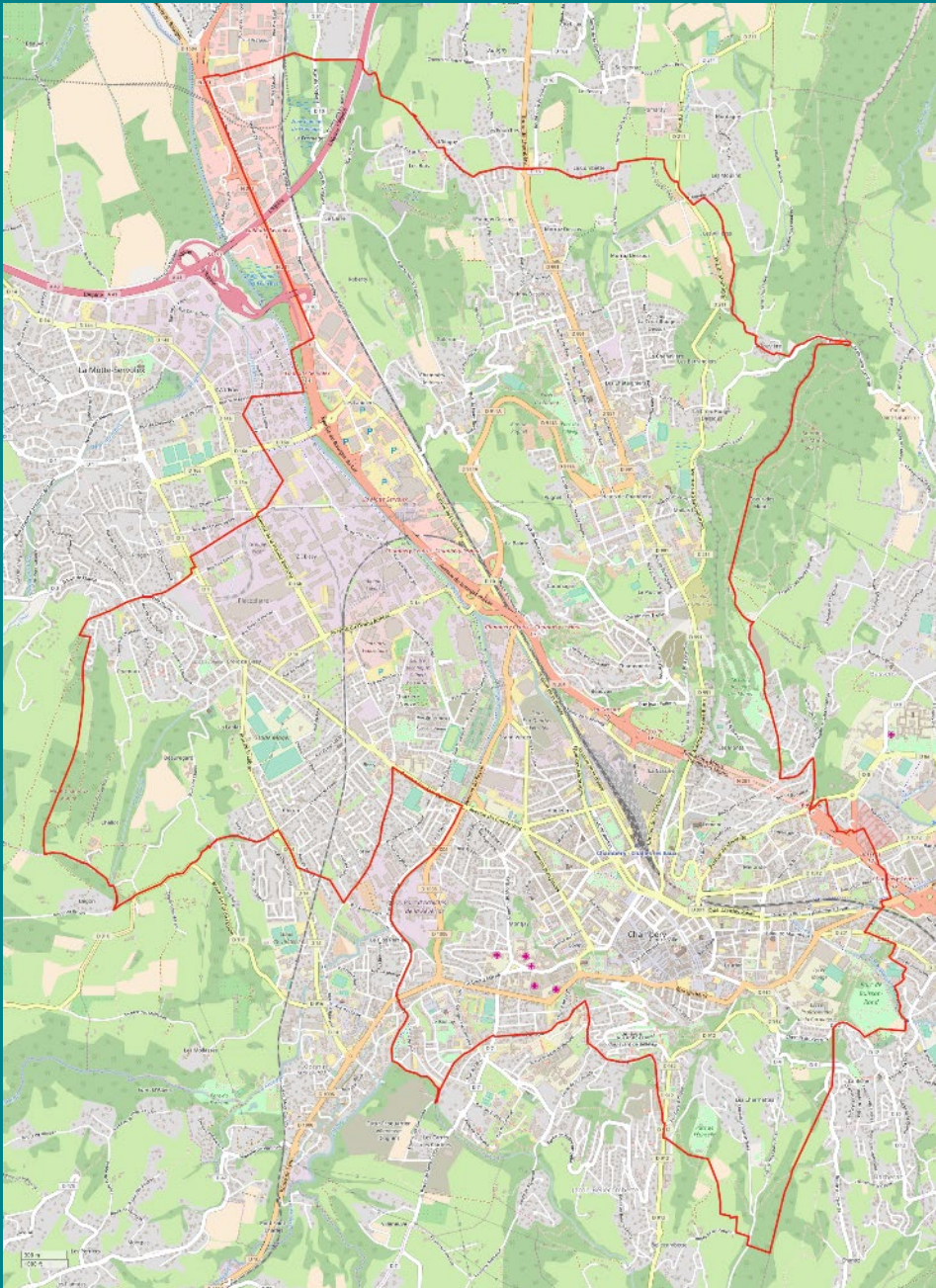
CRIME	CARDINALE	LOFARO	MALONEY	POLISI	SENATORE	FORONJY	CURRO
MURDER	X	X					
ATTEMPTED MURDER		X	X				
HEROIN POSSESSION AND SALE	X	X		X			X
COCAINE POSSESSION AND SALE	X		X	X			
MARIJUANA POSSESSION AND SALE							X
GAMBLING BUSINESS		X		X		X	
ARMED ROBBERIES	X		X	X	X		X
LOANSHARKING		X		X			
KIDNAPPING			X	X			
EXTORTION			X	X			
ASSAULT	X		X	X			X
POSSESSION OF DANGEROUS WEAPONS	X	X	X	X	X		X
PERJURY		X				X	
COUNTERFEITING					X	X	
BANK ROBBERY			X	X			
ARMED HIJACKING				X	X		
STOLEN FINANCIAL DOCUMENTS			X	X	X		
TAX EVASION				X		X	
BURGLARIES	X	X		X	X		
BRIBERY		X		X			
THEFT: AUTO, MONEY, OTHER			X	X	X	X	X
BAIL JUMPING AND ESCAPE			X	X			
INSURANCE FRAUDS					X	X	
FORGERIES				X	X		
PISTOL WHIPPING A PRIEST	X						
SEXUAL ASSAULT ON MINOR							X
RECKLESS ENDANGERMENT							X

Data-based visuals

Quantities

Presence/absence

Location



Data-based visuals

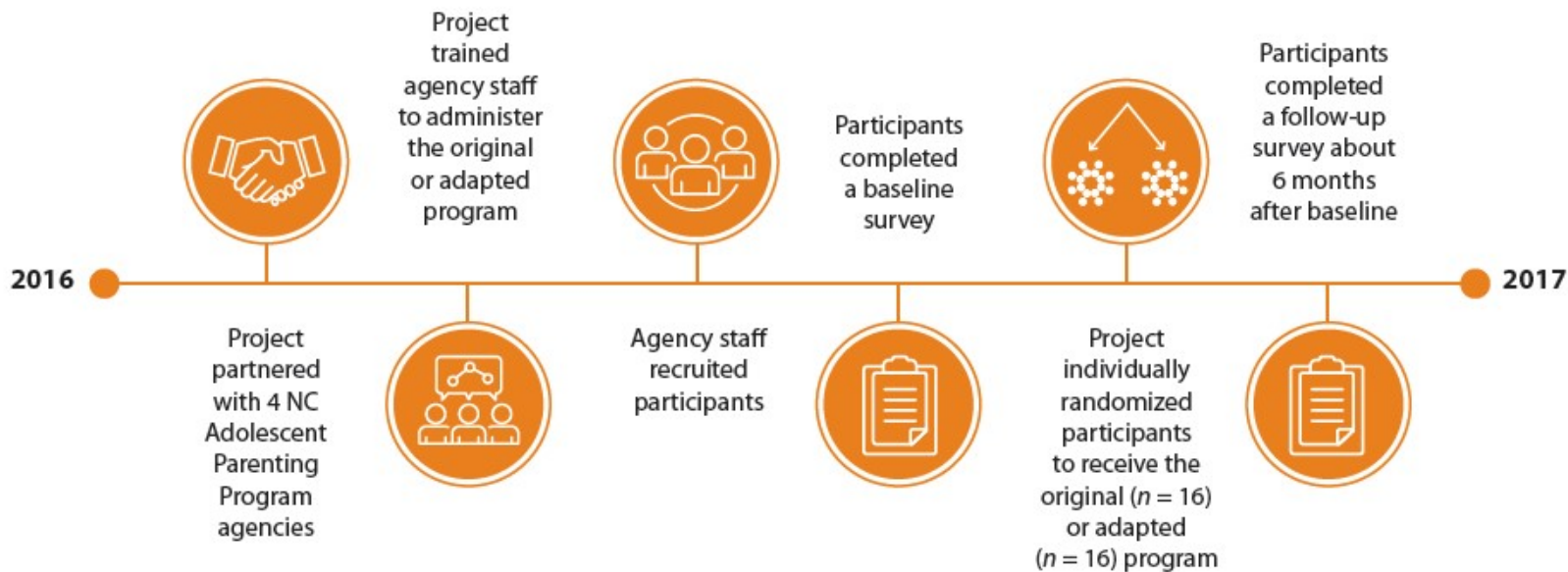
Quantities

Presence/absence

Location

Time

Pilot Study Design



Source: Kan, M., Palen, L., Herrmann, J. W., Feinberg, M. E., & Hill, J. (2017). *Preventing intimate partner violence among teens who are pregnant or parenting: Results from a pilot study of an adapted group-based program*. Poster presented at the Society for Prevention Research, Washington, DC.

June 1982

S	M	T	T	F	F
		1	2	3	4
		MATH 8:30 OUT OF SCHOOL	Dr. DeLatorre 2:00 English Paper Due	Go to Kemp's w/ Dad	Achievement Tests 8:30 w/ Dad
		E	X	A	M
					S
TRINITY SUNDAY	6	7	8	9	10
	BEACH			WEEK	
Suzanne	(2)	(3)	Suzanne (4)	SUZANNE WIKKI (5)	DAD'S BIRTHDAY (6)
					END (8)
					SPEND NIGHT AT SQUID'S
Go to Rocky Hill w/ Squi	13	14	15	16	17
COME HOME FROM BEACH	TRAVEL DAY GAME 1:40 11 Pts. 48-39 WEIGHTS 7-13		Go to Math's Baseball Game	GAME 5:30 LOST 0-1 2 Pts GO TO GREASE II w/ Suzanne	Pick Up Pictures
					FIVE- STAR BASKETBALL CAMP STARTS
FATHER'S DAY	20	21	22	23	24
					Pick Up Pictures
					Go to party at Suzanne's w/ Squi & Mom
					B-BALL CAMP ENDS
					Go to Michael's w/ Squi + Mark see Pittman
COME HOME FROM ST. MICHAEL'S	27	28	29	30	
Play B-Ball at Chew Chase	START WORK GAME 5:30 4 Blat 12 Pts LIFT + Prep	Tobin's House- workout 6-8 Play B-Ball at Maplewood WORK	Dr. DeLatorre 2:00 Game 5:30 vs. Whitman 31 Pts. Lost 7-0 LIFT + Prep		

May 1982

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

July 1982

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Northwestern
Mutual Life



Types of visuals

1. Decorative
2. Conceptual
3. **Data-based**
 - Quantities
 - Presence/absence
 - Location
 - Time

The bottom line...



Visuals get attention
and improve memory
and understanding.

The bottom line...



Visuals get attention and improve memory and understanding.



There are various decorative, conceptual, and data-driven visuals to meet different needs.

Works Cited

- Bateman, S., Mandryk, R. L., Gutwin, C., Genest, A., McDine, D., & Brooks, C. (2010, August). *Useful junk? The effects of visual embellishment on comprehension and memorability of charts*. Presented at CHI 2010, Atlanta, GA.
- Brewer, N., Harvey, S., & Semmler, C. (2004). Improving comprehension of jury instructions with audio-visual presentation. *Applied Cognitive Psychology, 18*, 765-776.
- Hoffberg, A. S., Huggins, J., Cobb, A., Forster, J. E., & Bahraini, N. (2020). Beyond journals: Visual abstracts promote wider suicide prevention research dissemination and engagement: A randomized crossover trial. *Frontiers in Research Metrics and Analytics, 5*, 1-9.
- Levie, W. H., & Lentz, R. (1982). Effects of text illustrations: A review of research. *Education Communication and Technology Journal, 30(4)*, 195-232.
- Weiss, H., & McGrath, J. B. (1963). *Technically speaking: Oral communication for engineers, scientists, and technical personnel*. McGraw-Hill Companies.