PowerPoint: Create Audio and Video by

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www.StatLit.org/pdf/ 2020-Schield-PPTX-Create-Audio-Video-Slides.pdf

Record Audio: Overview

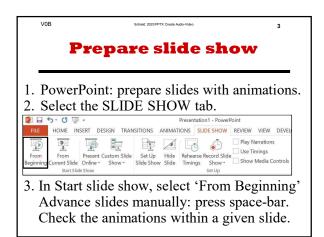
There are two ways to record audio in PowerPoint:

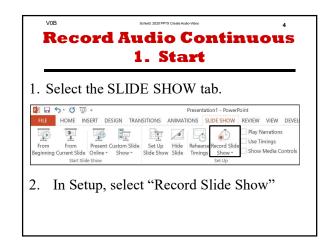
- 1. Continuous. Start at the beginning. Record until done.
- 2. By-slide. Select a single slide. Record and stop.

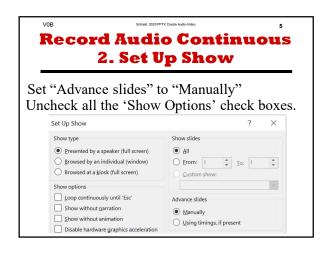
I prefer to start by recording 'Continuous'.

- The presentation has a better flow.
- The audio level and quality is the same for all slides.
- · Repairs can be done to a single slide later if needed.

This presentation does 'continuous' first; 'by-slide' second.



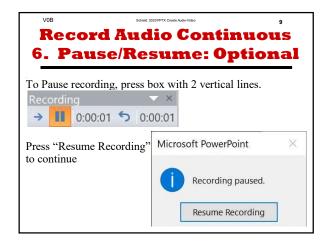


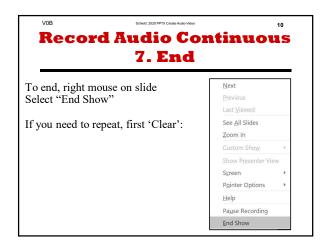








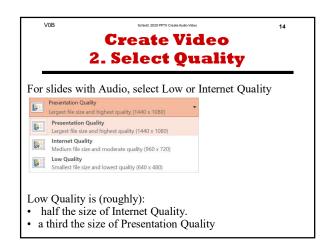


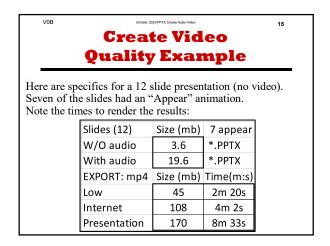


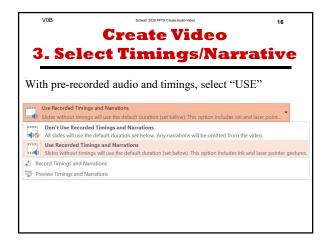


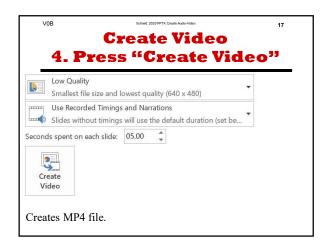


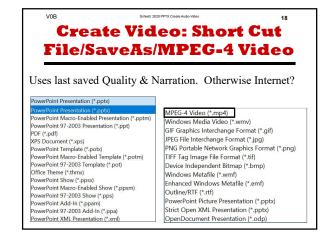












Statistical Literacy: Scanlan's Paradox

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ISLP: Encouraging a Critical Mindset on Social Statistics

Paper: www.StatLit.org/pdf/2020-Schield-ASA.pdf

www.StatLit.org/pdf/2020-Schield-ASA-Slides.pdf

www.StatLit.org/V/2020-Schield-ASA-Slides-Audio.mp4

Scanlan's Paradox

Scanlan's Paradox: Lowering 'bad' rates for two groups generally increases their disparity ratio.

Agencies are being required to lower rates of bad things: suspensions, birth defects, poverty, etc.

If blacks are more likely to encounter these bad results, reducing these bad rates tends to increase

When this happens, agencies are criticized for their negative results. People may be fired – unaware that the increase in the disparity ratio is predictable.

the black-white disparity ratio.



Racial Suspension Disparities in St. Paul Schools

Black students were expelled or suspended **6.2 times** as often as white students at St. Paul schools.

A third of all Minnesota school exclusions are for minor incidents: talking back, eye rolling or swearing.

St. Paul staff "took racial equity training, the district narrowed the types of behaviors that were to result in suspension, and principals were instructed to keep kids in class when possible."

https://www.twincities.com/2018/06/29/st-paul-schools-to-scrutinize-student-suspensions-under-human-rights-agreement/

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Scanlan's Paradox

Good news! The results! Suspensions down: blacks cut 37%; whites cut 44%.

But ... racial disparities increased.

Black-white ratio of suspensions up from 6.2 to 7.6! Blacks almost 8 times as likely to be suspended as whites.

This is **Scanlan's paradox**:

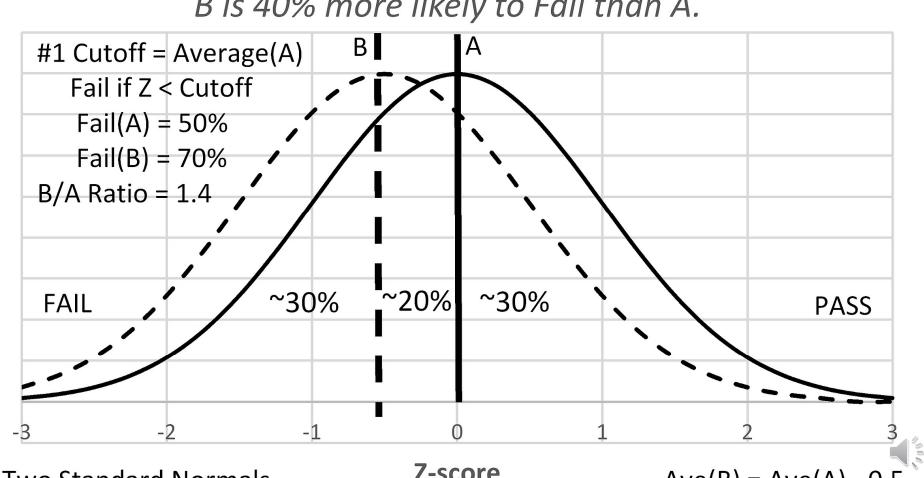
Making some things better makes other things worse.



Two Groups: A and B

Before: Cutoff is Average(A):

B is 40% more likely to Fail than A.

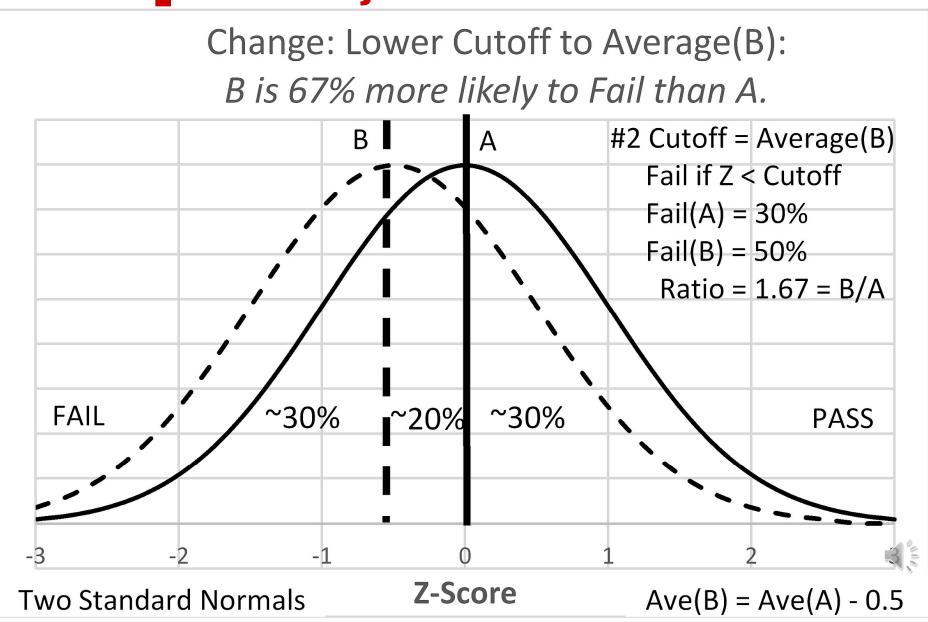


Two Standard Normals

Z-score

Ave(B) = Ave(A) - 0.5

Drop Cutoff; Increase Pass Rate



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Disparity Ratio: Closer to 1 is the goal

Fail Rate	Z < Ave(A)	Z < Ave(B)	Change	Result	
Α	50%	30%	-40%	A better	1
В	70%	50%	-29%	B better	2
Ratio B/A	1.4	1.7	19%	B worse	3

Decrease Failing

Increase Passing

Pass Rate	Z > Ave(A)	Z > Ave(B)	Change	Result	
Α	50%	70%	40%	A better	4
В	30%	50%	67%	B better	5
Ratio B/A	0.60	0.71	19%	B better	6

Scanlan Rules: As rates decreases

Scanlan: "the less prevalent the condition, the ...

- 1. "greater the disparity in experiencing the condition"
- 2. "larger will be the proportion of those experiencing the condition [that are] comprised by the more susceptible group."

Schield: As a condition becomes rarer, the bigger the ...

- 1. ... relative difference (disparity ratio).
- 2. ... share of the more susceptible [among susceptible].

Paradox: Making things absolutely better for both groups can make things relatively worse for one group.

Decrease Infant Death Rates: Blacks Worse Off (Relatively)

US Infant Mortality Rate (Death per 1,000 live births)

community mate (Death per 2)				
	1983	1997	Change	Result
White	10	6	-38%	W better
Black	19	14	-26%	B better
Ratio B/W	2.0	2.4	20%	B worse

Decrease Mortality

Increase Survival US Infant Survival Rate (Survivors per 1,000 live births)

	1983	1997	Change	Result
White	990	994	0.4%	W better
Black	981	986	0.5%	B better
Ratio B/W	0.990	0.992	0.1%	B better

Reduce the Poverty Rate: Blacks Worse Off (Relatively)

US Poverty Rate (Income below ↓ Poverty Level)				
1990	\$<100%*	\$<50%**	Change	Result
White	11%	4%	-64%	W better
Black	32%	14%	-55%	B better
Ratio B/W	3.0	3.7	24%	B worse

Decrease Below-Poverty

Increase
AbovePoverty

US Poverty-Avoided Rate (Above ↑ Poverty Rate)				
1990	\$>100%*	\$>50%**	Change	Result
White	89%	96%	8%	W better
Black	68%	86%	26%	B better
Ratio B/W	0.76	0.89	17%	B better

^{*} Income below 100% (** 50%) of the poverty line

Formal Cause: Confounding

Suppose 20% of B failed (10% of A): **a 2:1 B-A ratio**.

- 1. If A failures are cut in half, the ratio increases: 4:1.
- 2. If B failures are cut in half, the ratio decreases: 1:1.
- 3. If both are cut in half, the ratio is unchanged: 2:1.

The change in the disparity ratio is determined by whether the rates are cut proportionately.

Confounding: The relationship between the rate cuts and the change in the disparity ratio is confounded by the size of the rate cuts relative to the size of the initial rates.



Conclusion

As society eliminates bad things, we can expect:

- 1. the more susceptible group is increasingly subject to the bad thing relative to the less susceptible group.
- 2. the more susceptible group to be an increasing share of those experiencing the bad outcome.
- 3. the improvements in and the differences between the good things to become smaller.

Scanlan's paradox

- is socially (journalistically) significant
- should be in statistical literacy (social statistics) courses

