



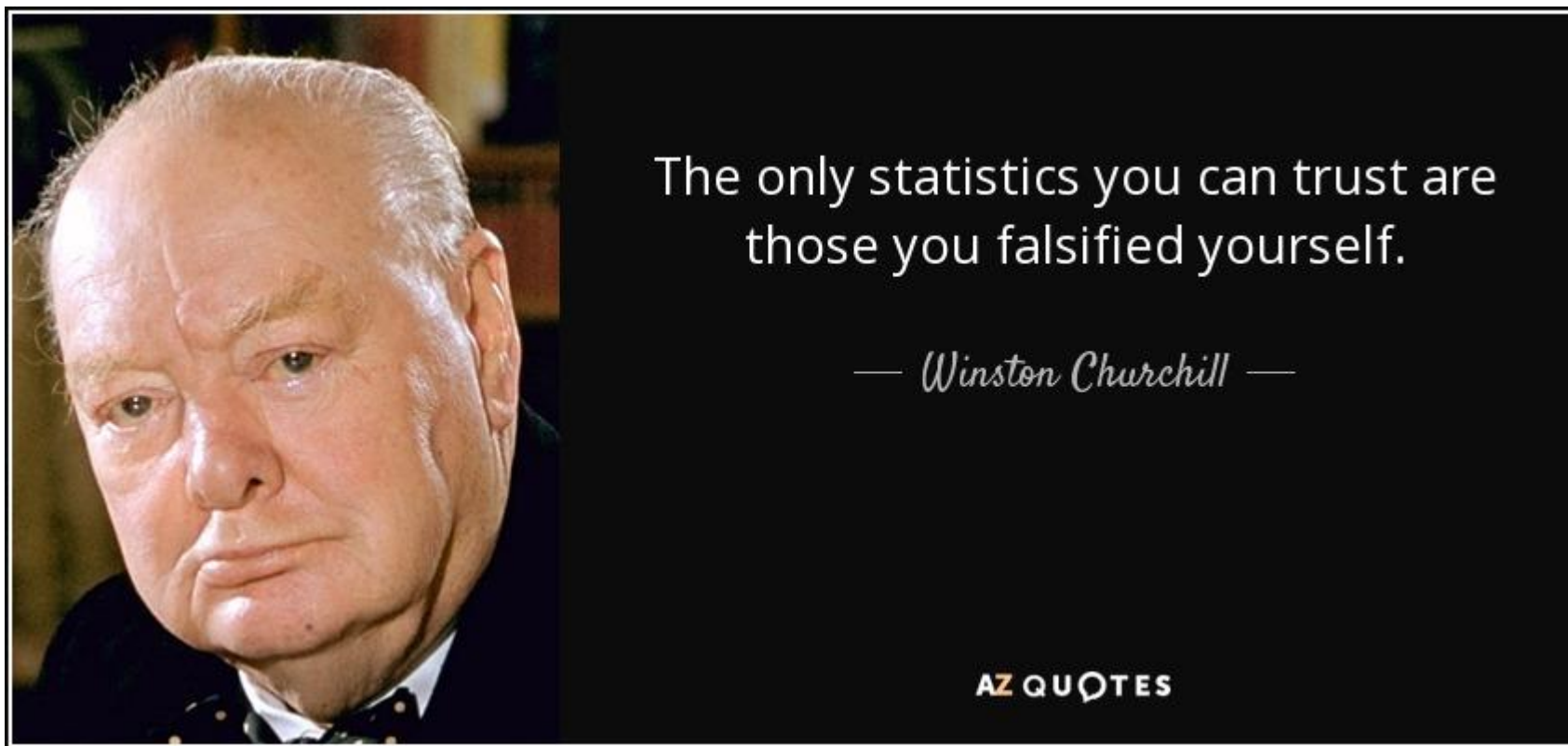
S·H·E

Schools for Health in Europe

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Definition

A study of a relatively large number of people on a relatively limited number of variables – often questions will be answered at a relatively superficial level. The respondents to a questionnaire survey will sometimes be selected statistically – when the purpose of the survey is generalizing

Learning rating scale



The image shows a learning rating scale with four categories, each represented by a horizontal line with a sad face icon on the left and a happy face icon on the right. A small red square marker is placed on each line, indicating the current rating level.

Category	Left Label	Right Label
Fagligt	Jeg lærer ikke meget i skolen	Jeg lærer meget i skolen
Socialt	Jeg har det ikke godt i skolen	Jeg har det godt i skolen
Metode	Lærereens måde at undervise på passer ikke godt til mig	Lærereens måde at undervise på passer godt til mig
Forventning	Der forventes ikke meget af mig i skolen	Der forventes meget af mig i skolen

Attitudes and experiences

173 Table 1. Association of student's attitude on PA and self-reported PA in school and self-
174 reported fitness level

		PA-low % (n)	PA-high % (n)	<i>p</i>	Fit % (n)	Unfit % (n)	<i>p</i>
1) <i>It has a positive effect on social well-being in the class</i> (n=634)	High	53.0 (97)	59.0 (266)	0.168	<u>62.4</u> (151)	<u>54.1</u> (212)	0.040
	Low	47.0 (86)	<u>41.0</u> (185)		37.6 (91)	<u>45.9</u> (180)	
2) <i>It helps me concentrate</i> (n=632)	High	41.4 (77)	<u>50.0</u> (223)	0.048	<u>59.2</u> (142)	<u>40.3</u> (158)	0.000
	Low	58.6 (109)	<u>50.0</u> (223)		40.8 (98)	<u>59.7</u> (234)	

Odds ratio

		Physical Fitness: Fit (reference: Unfit, OR=1.0)	Glad to attend BP1: Very glad (reference: not glad, OR=1.0)	Gender: Female (reference: male, OR=1.0)	PA Scheduled: Yes (reference: no, OR=1.0)	Constant
<i>1) It has a positive effect on social well-being in the class (n=621)</i>	OR	1.4	1.7	1.1	1.0	0.694
	95% CI	1.0-2.0	1.2-2.3	0.8-1.6	0.7-1.4	
	P	0.037	0.003	0.409	0.943	
<i>2) It helps me concentrate</i>	OR	2.3*	2.3	1.5	1.1	0.202
	95% CI	1.7-3.3	1.6-3.2	1.1-2.1	0.8-1.6	
	P	0.000	0.000	0.020	0.492	



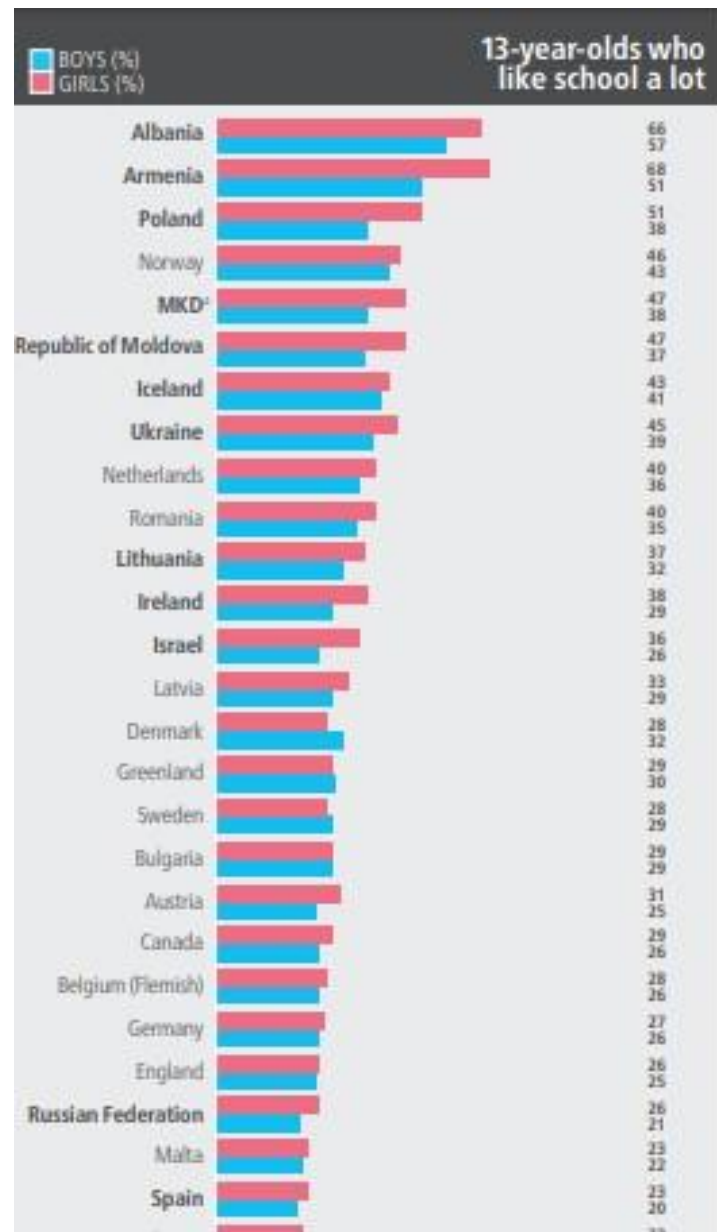
HEALTH POLICY FOR CHILDREN AND ADOLESCENTS, NO. 7

Growing up unequal: gender and socioeconomic differences in young people's health and well-being

HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY:
INTERNATIONAL REPORT FROM THE 2013/2014 SURVEY



hbcs



Relevant when...

... seeking an answer to a question that requires:

Many answers

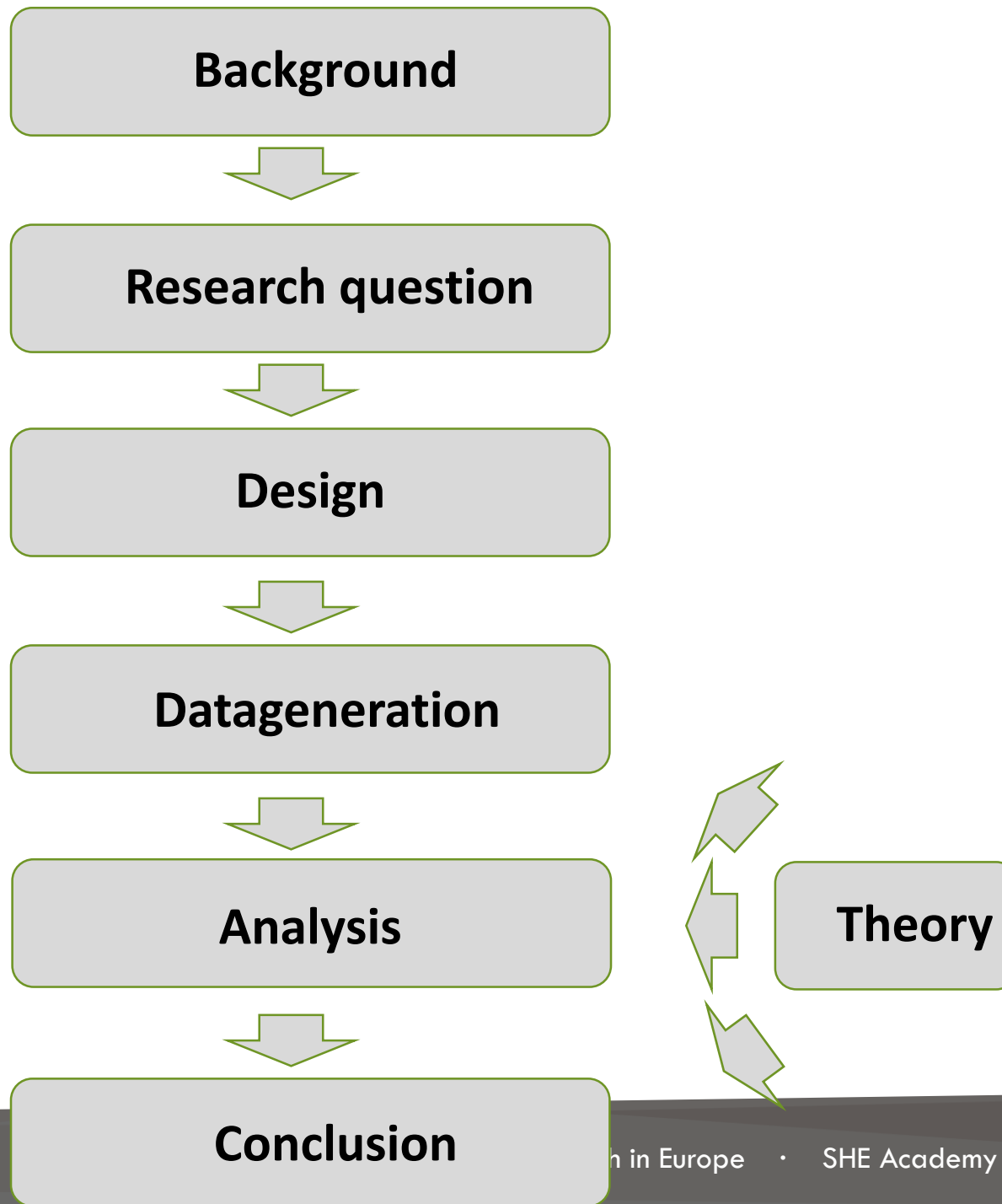
Quantifiable data

That you can generalize your findings from the study to a larger population

When you want to say something about how many people have a particular attitude

To say something about the relationships between different attitudes and / or different socio-demographic characteristics

Chain of argument



planning

Four steps	Content
1. Develop research question	Purpose, background, research question
2. Planing	Design questionairre, choose samplesize and respondents, pilot study.
3. Data generation	Using online, interviews or other ways of generating the data
4. Analyse	Statistical analysis, coding, enterretation ans writing



Questionnaire

- 1) Should be precise
- 2) Relevant terms should be defined
- 3) Should be quantifiable

Be precise

The more precise a problem is, the easier it will be to prepare a good questionnaire and to collect data

Inaccurate: What is the students' attitude to math in class?

Precise: What attitude do the students in 6. grade have about a completed course of division in mathematics education?

Be Precise - Operationalization

Operationalization of the questionnaire:

Going from theoretical framework to general problem formulation to the survey questions and the response categories - where the actual data can be collected.

Be precise

Choice of respondents

Sample of a population (Children? Colleagues? Parents?)

What is needed to know about them?

Background questions: Eg residence, age, marital status, gender, education, occupation

Whether respondents are able to answer the questions (answering ability and memory)?

Be precise

Define and measure concepts

How is "well-being" defined?

How can "well-being" be measured?

Theoretical framework of understanding?

Types of questions

- *Structured questionnaires: closed and with the possibility of quick comparisons, relatively predictable responses, may take time early in the research process but then relatively easy to analyze.*
- *Unstructured questionnaires: Quite open, write what "you want".*
- *Semi-structured questionnaires: Clear structure, sequence and focus but at certain points open with the possibility of respondents' comments. Set an agenda but to a lesser extent presume the nature of the answers.*

Spørgeskemaet

The length of the questions

The order

The motivation

Context

Avoid (too large) jumps in topics

From the simple to the complicated

Avoid

1. Ambiguous questions / words
2. Long questions
3. Emotional issues
4. Hypothetical questions
5. Very general questions
6. Leading questions
7. Technical terms
8. Questions that require special knowledge
9. Negatives

Spørgeskemaet

Ad 5. Dataindsamling: Webbaserede surveys – eksempler

SurveyMonkey

Google Drev

Survey Xact



Sample size

Margin of error: How sure do you want the responses to reflect the attitude of the population?

Ex: 90% of respondents like CocaCola and with a margin of error of 5% means 85-95% of respondents like CocaCola

Degree of confidence: How confident should you be that the respondent group is an accurate sample of the population?

Ex. If you randomly selected 30 new respondent groups from the population, how often would you get the same results as the original respondent group

Population	Margin of error			Confidence level		
	10 %	5 %	1 %	90 %	95 %	99 %
100	50	80	99	74	80	88
500	81	218	476	176	218	286
1.000	88	278	906	215	278	400
10.000	96	370	4.900	264	370	623
100.000	96	383	8.763	270	383	660
1.000.000+	97	384	9.513	271	384	664

Kilde:
Surveymonkey.dk

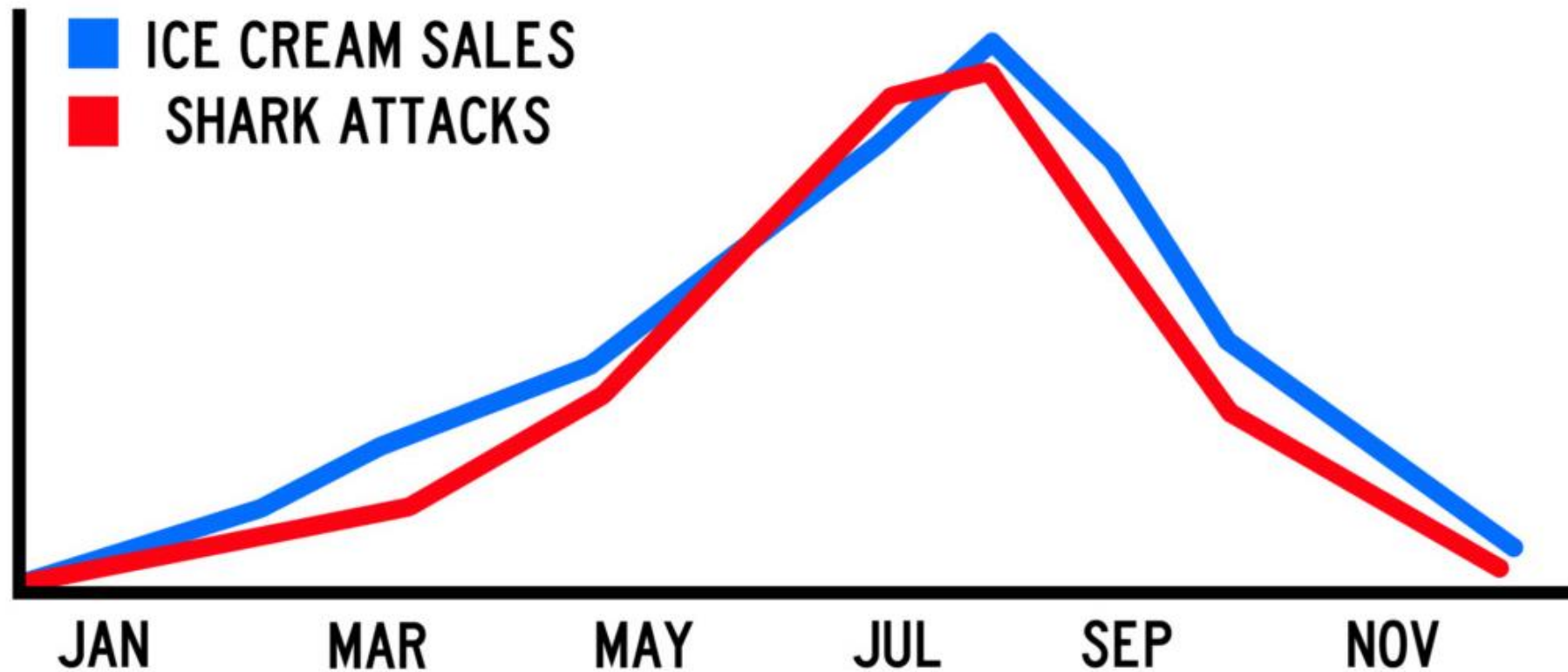
Why is it important to think about sample selection at all?

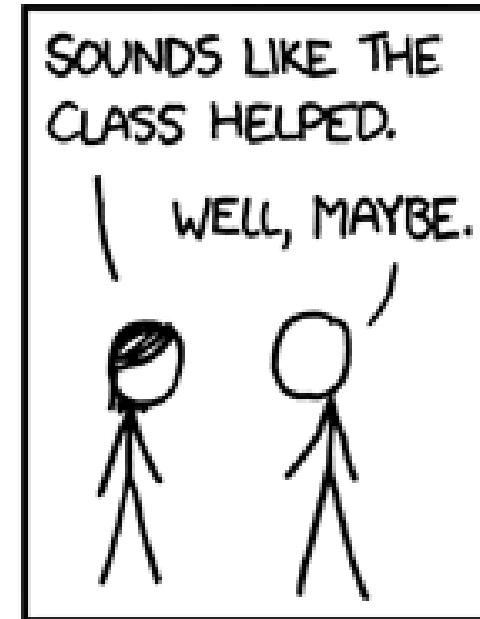
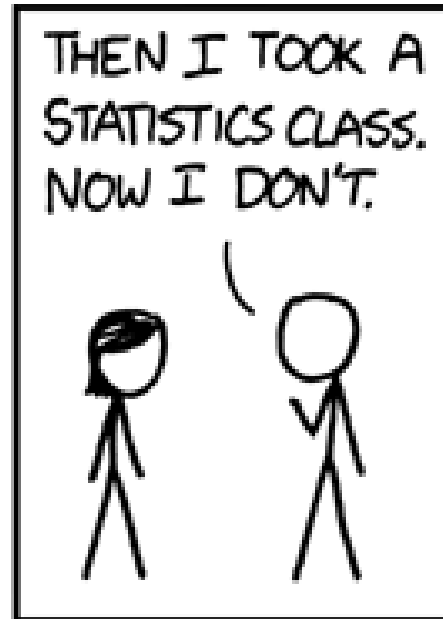
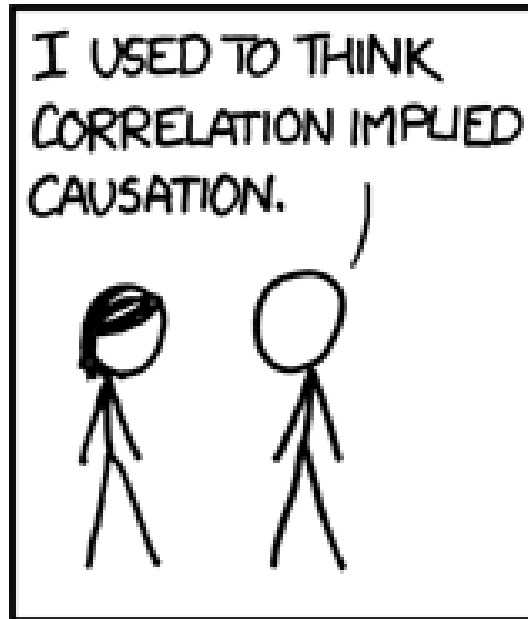
Sample frame error: The sample is selected in the wrong population

Selection error: For example, if only those interested respond

Non-response error: Pattern in non-response

CORRELATION IS NOT CAUSATION!





Validity & reliability

	Reliability	Validity
What does it tell you?	The extent to which the results can be reproduced when the research is repeated under the same conditions.	The extent to which the results can be reproduced when the research is repeated under the same conditions.
How is it assessed?	By checking the consistency of results across time, across different observers, and across parts of the test itself.	By checking how well the results correspond to established theories and other measures of the same concept.
How do you relate	A reliable measurement is not always valid: the results might be reproducible, but they're not necessarily correct.	A valid measurement is generally reliable: if a test produces accurate results, they should be reproducible.



Unreliable & Invalid



Unreliable, But Valid



Reliable, Not Valid



Both Reliable & Valid

Nominal scale

- the numbers on a nominal scale function exclusively as labels or tags
- The values are categorical
- Ex: 1. Single 2. Married 3. Divorced 4. Widowed / Widowed
- Since the values are arbitrary (random), it does not make sense to use mathematical operations. (example: is divorced $\div 2 =$ Married ??)

Ordinal scale

The numbers on an ordinal scale...

Indicates the relative position of the object

Doesn't say anything about the distance between two objects

Used in ranking

Example: Assessment: Poor = 1, Medium = 2, Good = 3, Very Good = 4, Great = 5

It doesn't make sense to do mathematical calculations based on this data (eg $4 * \text{bad} = \text{very good ?!}$), but we can say that:

Great > Poor or Medium < Very good

But we don't know anything about the difference between them ...

With ordinal data, we can measure relative attitudes / perceptions / preferences

Ratings of "greater / better than" (>) and "less / worse than" (<)

Interval scale

Values on an interval scale...

Lets you compare differences between objects

Has a non-fixed zero point - ie arbitrary (random) zero point

Both the zero point and the units of measurement are arbitrary

Example: Temperature (Fahrenheit, Celsius)

The distance between all categories is the same ex.
Temperature rise from 10-15 degrees Celsius the same size as 20-25

Ratio scales

A ratio scale is the “highest” scale and all statistical techniques can be used

Values on a ratio scale...

Has a fixed zero point (Ex. Consumption in kr. = "0" means "no consumption").

The difference between values 2 and 4 ($= 2$) is equal to the difference between values 6 and 8 ($= 2$)

Examples: Height, weight, age, turnover, cost, number of customers.
Questions like “How old are you? ____” allows one to conclude that the respondent at 40 years is twice as old as him at 20 years
The average age of the two respondents is 30 years

Likert-scale: Itemised rating scale

A scale technique with a brief description of each category.

There are several types of these - the best known is the "Likert scale" (also called "summed scale")

A scale with five or more response categories from, for example, "Totally disagree" to "Totally agree"

The respondent indicates a degree of agreement / disagreement with some statements

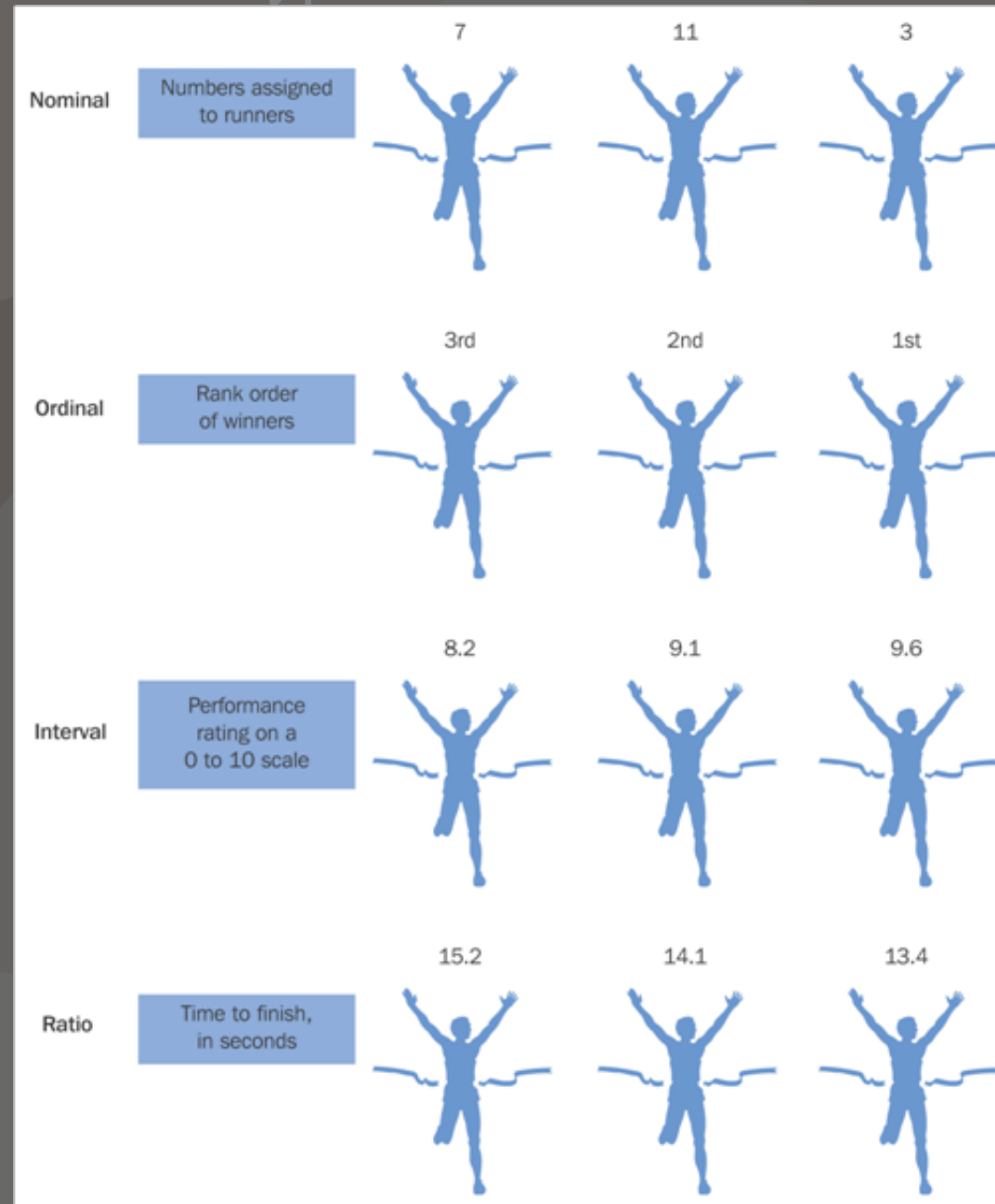
Provides variation in the answers rather than just yes / no (dichotomy)

Easy to construct, manage, understand web, mail, phone, personal interview

but time consuming for the respondent having to read and reflect on each statement

Remember to turn negative statements around when analyzing

De primære skalatyper



Background

With the purpose of increasing the level of PA among Danish adolescents the Danish government initiated a large scale vocational school reform in 2015. A crucial part of the reform stated that “*vocational colleges must organise the teaching in the basic programme in such a way that students participate in physical exercise and activity each day within the overall teaching time to an extent corresponding to an average of 45 min per day*” (The Danish Ministry of Education 2014). Using the school setting as a platform to implement health initiatives is in line with a growing global trend (Busch et al. 2013) and evidence suggests that school setting initiatives can increase PA levels among adolescents (Dobbins et al. 2009).

von Seelen, J., Mikkelsen, A., & Wolderslund, M. (2018). A survey of students' attitudes to implementing physical activity in Danish vocational education schools. *Empirical Research in Vocational Education and Training*, 10(1), 7. <https://doi.org/10.1186/s40461-018-0069-4>

Purpose

The purpose of this study is to investigate how many students experience 45 min of PA per day as required by the Danish vocational school reform. Furthermore, the study investigates possible associations between attitudes to PA and different student characteristics for instance students' self-reported fitness level.

von Seelen, J., Mikkelsen, A., & Wolderslund, M. (2018). A survey of students' attitudes to implementing physical activity in Danish vocational education schools. *Empirical Research in Vocational Education and Training, 10*(1), 7. <https://doi.org/10.1186/s40461-018-0069-4>

Sample schools

Twenty-eight schools were randomly chosen from a list of 94 Danish vocational schools. Seventeen of these schools participated in the survey whereas 11 schools were not able to participate due to exams or because the BP1 course had already ended. Data was collected during the last week of the basic course in January 2017 (9th–13th). The required sample size was estimated to 589 students given a margin of error of 4% and a 95% confidence interval. Based on an expected follow-up rate of 60% at least 982 students should be asked for participation. A total of 955 students received a link to the online questionnaire. Given a higher follow-up than anticipated the required number of students was reached.

von Seelen, J., Mikkelsen, A., & Wolderslund, M. (2018). A survey of students' attitudes to implementing physical activity in Danish vocational education schools. *Empirical Research in Vocational Education and Training*, 10(1), 7. <https://doi.org/10.1186/s40461-018-0069-4>

Measurements

All information was obtained by a questionnaire developed for this study comprising 20 items concerned with different aspects of school related PA. Development of the questionnaire was inspired by studies on barriers and facilitators (Martins et al. 2015; Weatherson et al. 2017), existing questionnaires e.g. Kenyons (1968): “Attitudes Towards Physical Activity” (ATPA) and “International Physical Activity Questionnaire” (IPAQ) (Craig et al. 2003) as well as literature on survey methodology (Schwarz et al. 2008; Smyth 2016).

Initially, the students were asked about their age, gender and self-reported level of PA during school. The later was assessed on a scale from zero to “more than 60 min” (5 min intervals). The students were then asked when they had experienced exercise (E) and PA during BP1: (1) at social events, (2) during classroom teaching, (3) allocated PA on the lesson timetable, (4) during breaks/recess, (5) before or after school.

Statistical analysis

Statistical analyses using χ^2 tests were performed to determine whether variances in attitudes towards PA and school facilities differed with different variables as level of PA, fitness, and gender. Multiple logistic regression analyses were used to investigate possible associations between the students' attitudes towards PA or school facilities and different covariates. Initially, a model including six potential covariates was fitted with backward elimination of insignificant covariates. Age and PA level showed to be insignificant for all items on attitude and was thus removed. Whereas gender, self-reported fitness level, scheduled PA, and glad to attend BP1 were included in the final model despite not presenting significant results for all items. However, all models were validated with the Pearson goodness-of-fit test showing appropriate model specification.



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