CHILD PSYCHOLOGY

Spring 2024

Marjorine Henriquez-Castillo, PhD

Research Methods

Chapter 1.4

1.4 How do we know what we know about childhood?

1.4 Research Methods: Scientific Method

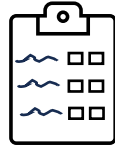- Scientific method offers a systematic way to understand phenomenon.

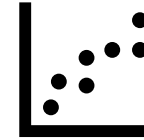| 1 Determine a research question | 2 Review previous research | 3 Gather materials and select participants (method) | 4 Conduct the study (procedure) | 5 Look through the results (analysis) | 6 Drawing conclusions (Discussion) | 7 Share information (manuscript) |

1.4 Research Methods: Scientific Method

- Scientific method offers a systematic way to understand phenomenon.

?
1
Determine a research question

Does screen time affect attention span?	

1.4 Research Methods: Scientific Method

- Scientific method offers a systematic way to understand phenomenon.

1
Determine a research question

2
Review previous research

Does screen time affect mental health?

What we already know?
Peer reviewed-articles

Screen Time Associated with Health Behaviors and Outcomes in Adolescents

Vincent Busch, MSc; Lieke Ananda Manders, MSc; Johannes Rob Josephus de Leeuw, PhD

Objectives: To study the associations of screen time (Internet / video games / television) with health-related behaviors and outcomes in adolescents. *Methods*: Regression analyses were performed to assess the associations of screen time with several health-related behaviors and outcomes in 2425 Dutch adolescents. *Results*: Screen time was associated with bullying, being bullied, less physical activity, skipping school, alcohol use and unhealthy eating habits. Compulsive and excessive screen times were associated respectively with several psychosocial problems and being overweight. *Conclusions*: Screen time was of significant importance to adolescent health. Behavioral interrelatedness caused significant confounding in the studied relations when behaviors were analyzed separately compared to a multi-behavioral approach, which speaks for more multi-behavioral analyses in future studies.

Key words: screen time, health behavior, overweight, psychosocial problems, adolescent

With the advance of technology, time spent on television, Internet and video games is increasing among today's youth.[1-3] Television viewing, Internet use and video game playing are collectively called 'Screen Time'. As early as 1983, it was claimed video game playing could become an addiction like any other behavioral addiction and the same was argued for excessive Internet use several years later.[4,5] Although a formal medical diagnosis for video game addiction or Internet addiction is (still) lacking in current medical practice, discussions are on-going to add them to the future Diagnostic and Statistical Manual of Mental Disorders (DSM).[2,5] In general, unhealthy screen time behavior is characterized by 2 aspects: (1) whether or not one spends an excessive amount of time on it; and (2) whether or not the behavior is considered "compulsive."

The evidence increases that excessive and/or compulsive screen time behavior holds the potential to be harmful to one's health;[3,6,7] recent studies support for this belief, eg, in relation to obesity[8,9] and several psychosocial and psychiatric problems, such as depression, lower self-efficacy and conduct disorder.[10-12] In particular, self-efficacy is an aspect receiving increasing attention among interventions in the field of adolescent health promotion, because it is believed to be a mediating variable in the causal path of unhealthy behavior and psychosocial problems in adolescents.[13,14]

Furthermore, some literature suggests that unhealthy behaviors are associated with and influencing each other instead of existing independently. This raises interest for the probable associations of screen time behaviors in relation to each other and their possible associations with other unhealthy behaviors and health outcomes, which has relevance for future health promotion interventions.[15-19]

This study investigates how a range of known unhealthy behaviors and health outcomes are associated with several, relatively 'new' unhealthy screen time behaviors, in a sample of Dutch high school students. In this study these unhealthy behaviors consist of marijuana use, alcohol use, smoking, unsafe sex, skipping school, bullying, poor nutritional behavior and less physical exercise, in accordance with the Health Behavior in School-aged Children study (HBSC).[20] The health outcomes consist of students' psychosocial problems, being overweight, and General Self-Efficacy (GSE).[21] To demonstrate the confounding effects of the interrelatedness of the screen time behaviors in their relations with other unhealthy behaviors and health outcomes, these associations are presented with and without correcting for (possible) confounding by the remaining screen time behavior variables.

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Correspondence Vincent Busch; v.busch@umcutrecht.nl

1.4 Research Methods: Scientific Method

- Scientific method offers a systematic way to understand phenomenon.

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2 Review previous research

3 Gather materials and select participants (method)

Does screen time affect mental health?

What we already know?
Peer reviewed-articles

What are we measuring and who?

Screen-time Questionnaire

For the following set of questions, *primary activity* is defined as the main activity you are engaged in rather than using a television/other screen in the background while performing another activity such as cooking or exercising.

Screen use on an average weekday
Thinking of an average weekday (from when you wake up until you go to sleep), how much time do you spend using each of the following types of screen as the primary activity?
You must answer both hours and minutes. **If zero please type "0" in the box.**

	Hours	Minutes
Television		
TV-connected devices (e.g. streaming devices, video game consoles)		
Laptop/computer		
Smartphone		
Tablet		

Screen use on an average weeknight
Now, thinking of an average weeknight (from when you return from work until you go to sleep), how much time do you spend using each of the following types of screen as the primary activity?
You must answer both hours and minutes. **If zero please type "0" in the box.**

	Hours	Minutes
Television		
TV-connected devices (e.g. streaming devices, video game consoles)		
Laptop/computer		
Smartphone		
Tablet		

Screen use on an average weekend day
Now, thinking of an average weekend day (Saturday or Sunday), how many hours over the course of the whole day (from when you wake up until you go to sleep) do you spend using each of the following types of screen as the primary activity?
You must answer both hours and minutes. **If zero please type "0" in the box.**

	Hours	Minutes
Television		
TV-connected devices (e.g. streaming devices, video game consoles)		
Laptop/computer		
Smartphone		
Tablet		

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

ID #: _____   DATE: _____

Over the last *2 weeks*, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns _____ + _____ + _____

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL: _____

10. If you checked off *any problems*, how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all _____
Somewhat difficult _____
Very difficult _____
Extremely difficult _____

1.4 Research Methods: Scientific Method

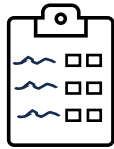- Scientific method offers a systematic way to understand phenomenon.

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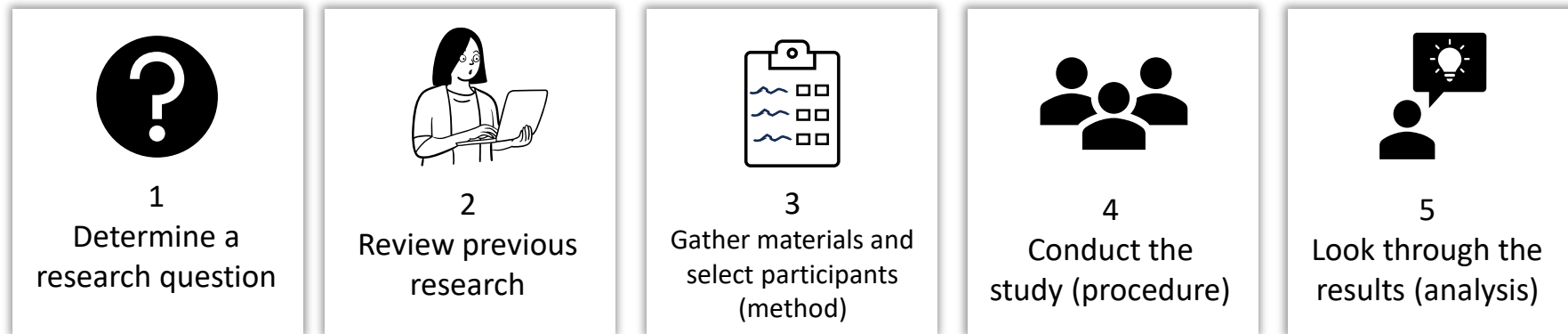How is it being conducted? Where?

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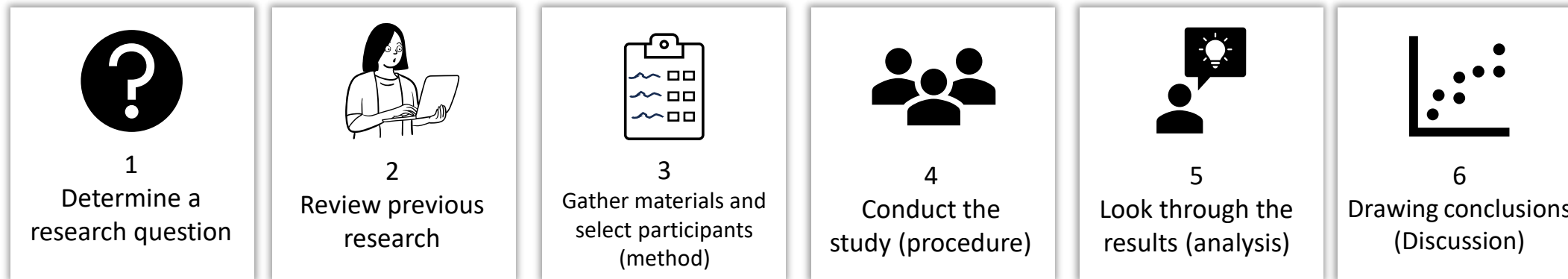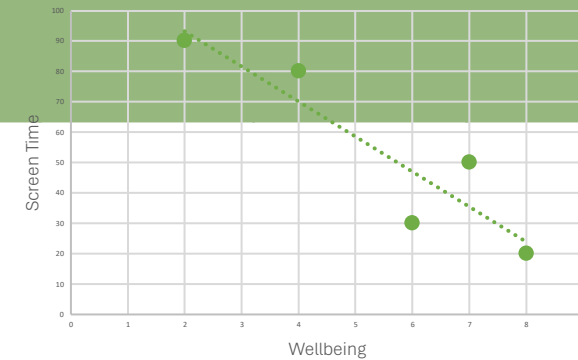|				
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Does screen time affect mental health?	What we already know? Peer reviewed-articles	What are we measuring and who?	How is it being conducted? Where?	What patterns do you see?

P	ScTm (mins)	Well being
1	20	8
2	30	6
3	90	2
4	80	4
5	50	7

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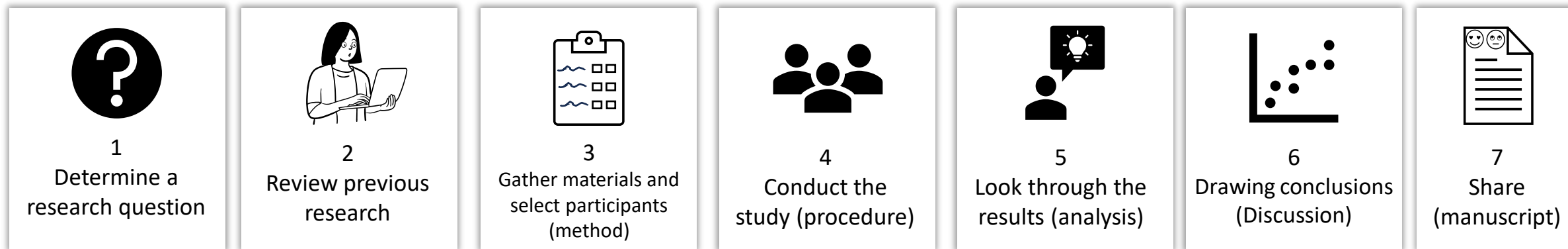| Does screen time affect mental health?	What we already know? Peer reviewed-articles	What are we measuring and who?	How is it being conducted? Where?	What patterns do you see?	What does it mean?

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Does screen time affect mental health?	What we already know? Peer reviewed-articles	What are we measuring and who?	How is it being conducted? Where?	What patterns do you see?	What does it mean?	Tell

What patterns do you see?

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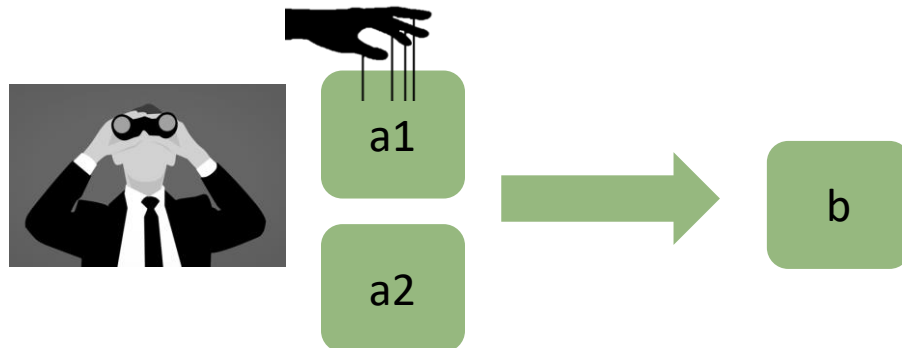# 1.4 Research Methods: Types of Research

- Correlational
  - Relationship between variables a & b

  $a \rightarrow b$

- Experiment
  - Variable a affect variable b, in a controlled setting

  a1, a2 $\rightarrow$ b

Observational

Ethnography & Qualitative Studies

Case Studies

Surveys

Psychophysiological Methods
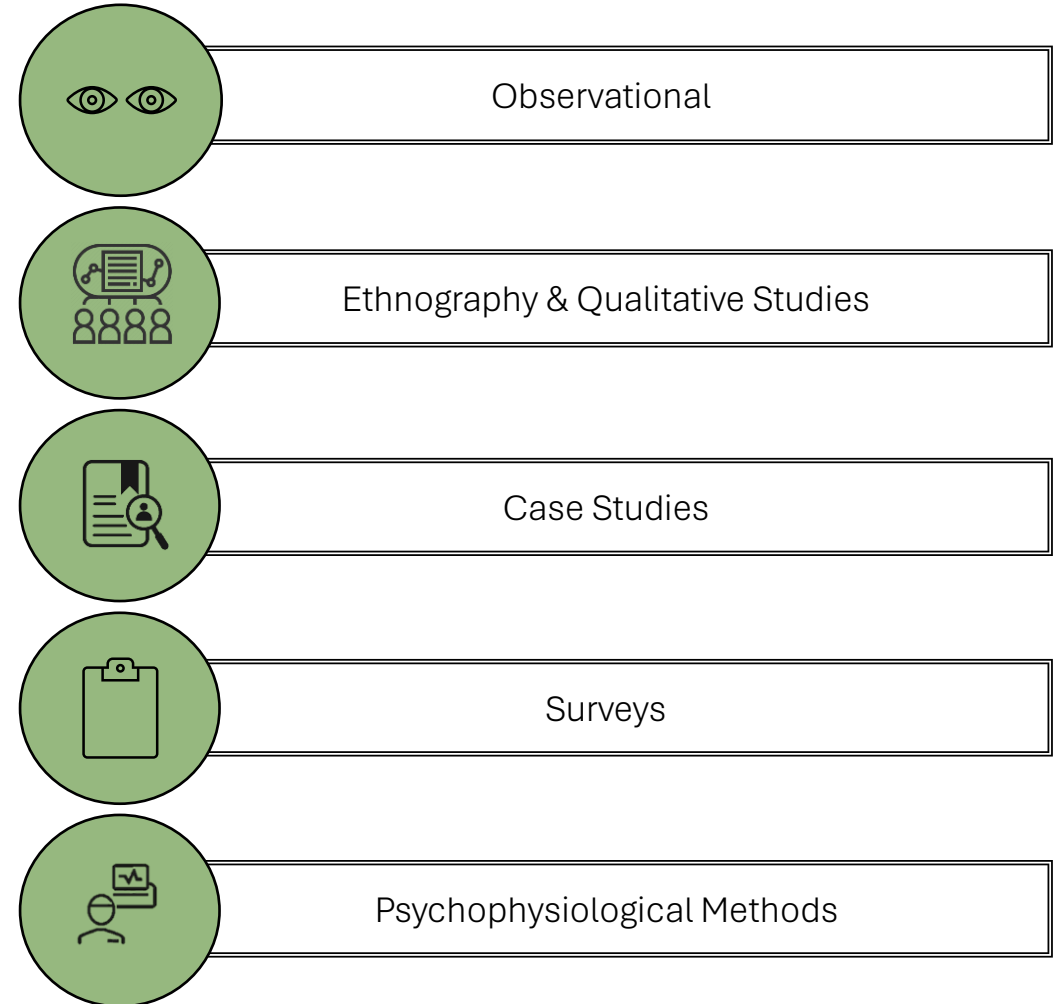
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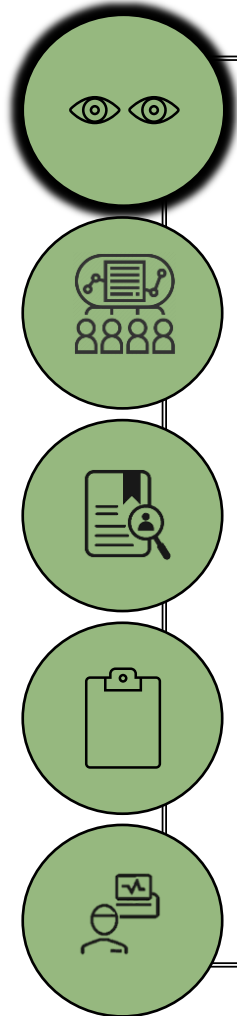
Characteristics
- Watching and recording
- Natural or Lab Setting
- Checklist or Narrative

Pros and Cons
- ➕ How people behave instead of self-report
- ➕ Seeing participants in natural habitat
- ➕ Cannot imply causation
- ➖ Loss of control
- ➖ Participants becoming aware of being watched
- ➖ Researcher bias

Observational

NATURAL

LABORATORY

CHECKLIST

Zone number 1

Step 1 | Step 3

Walking	Talking with friend(s)
Running	Playing with other(s)
Climbing	Playing alone
Hanging	Watching others
Sliding	Fighting with other(s)
Swinging	Talking to teacher
Jumping	Screaming or yelling
Throwing	Laughing
Balancing	Crying

NARRATIVE

- Three girls (16-17), trendy attire, animated conversation (Group A)
- Male (15), headphones, phone (Group B)
- Two friends (14), browsing clothes, laughing (Group C)

Observations:

(0-5 min): Group A arrives, laughs, secures table. Subject B plays game, isolated. Group C browses, giggles.

(5-10 min): Group A orders food, checks phones. Subject B finishes game, checks phone intensely. Group C decides on purchase, heads to food court.

(10-15 min): Group A's food arrives, selfies, social media. Subject B glances, returns to phone, frowns. Group C joins Group A, laughter becomes inclusive.

(15-20 min): Groups share food, general conversation. Subject B isolated, occasional glances. Groups plan evening, laughter fades.
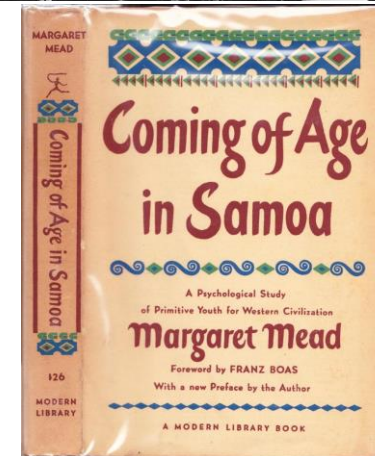
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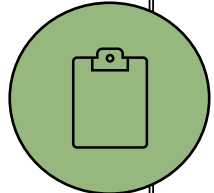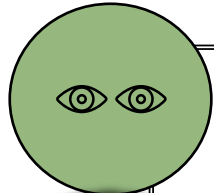
Ethnography & Qualitative Studies

Characteristics
- Participant observers
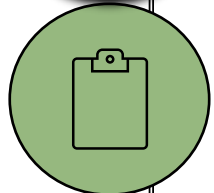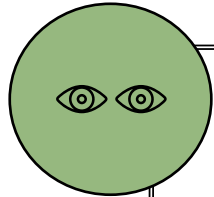- Description of behavior
- Open-ended questions

Pros and Cons
⊕ Immersed in the research and learn about a topic
⊕ Provides rich detail or new information
⊖ Sometimes problems generalizing from one culture to another
⊖ Researcher bias
⊖ Analysis can take long

1.4 Research Methods: Types of Research

Case Studies

Characteristics
- Exploring a single case or situation in great detail
- Can use different methods
- Explore new areas

Pros and Cons
➕ Provides rich detail
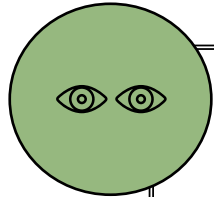➖ Cannot be generalized or applied to larger population

https://thecrimewire.com/multifarious/
Murderous-Children-Mary-Bell

https://www.cancer.gov/types/childhood-cancers

1.4 Research Methods: Types of Research

Surveys

Characteristics
- Widely used
- Conducted in person, over the phone, through mail, or online
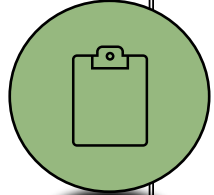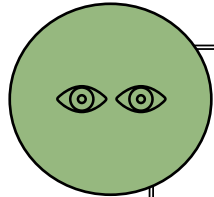- Set of questions to a group of participants.
- Flexibility in design

Pros and Cons
➕ Examining across different groups
➖ Self report
➖ Analysis can take long

1.4 Research Methods: Types of Research

Psychophysiological Methods

ELECTROENCEPHALOGRAPHY

Characteristics
- Focus on the relationship between physiological processes and behavior
- Examples: Electroencephalogram (EEG), computerized axial tomography (CT) scan, and functional magnetic resonance imaging (fMRI

Pros and Cons
- ➕ Look into brain structure
- ➖ VERY expensive
- ➖ No info on subjective experience
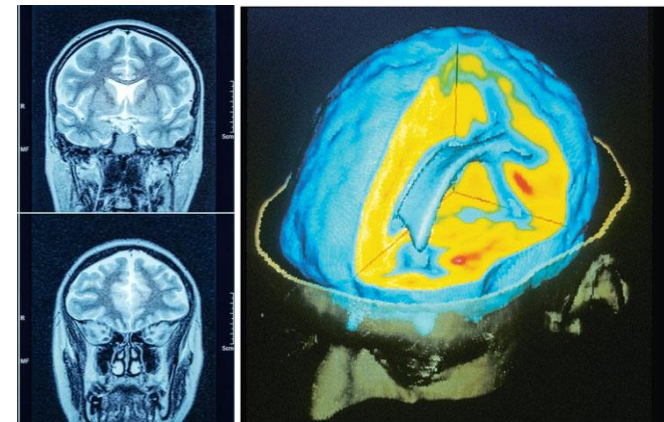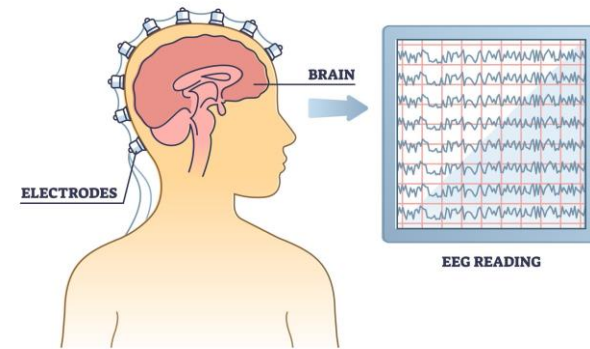
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- Correlational (relationship between variables a & b)

- The Correlation Coefficient
  - Measure of strength and direction of relationship
  - Positive correlation occurs when the value of both factors increase together
  - Negative correlation occurs when one value increases and the other decreases
  - Measure can vary between 0 and 1 or 0 and -1
  - The closer the number is to 1 or -1, the stronger the relationship

Strong positive correlation   Weak positive correlation   Strong negative correlation

Weak negative correlation   Moderate negative correlation   No correlation
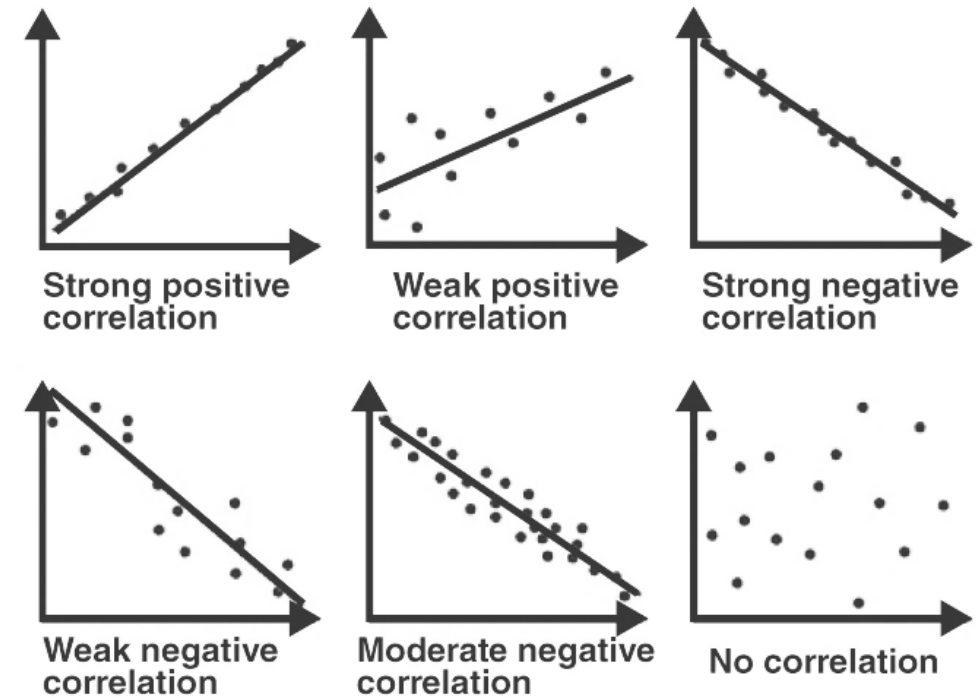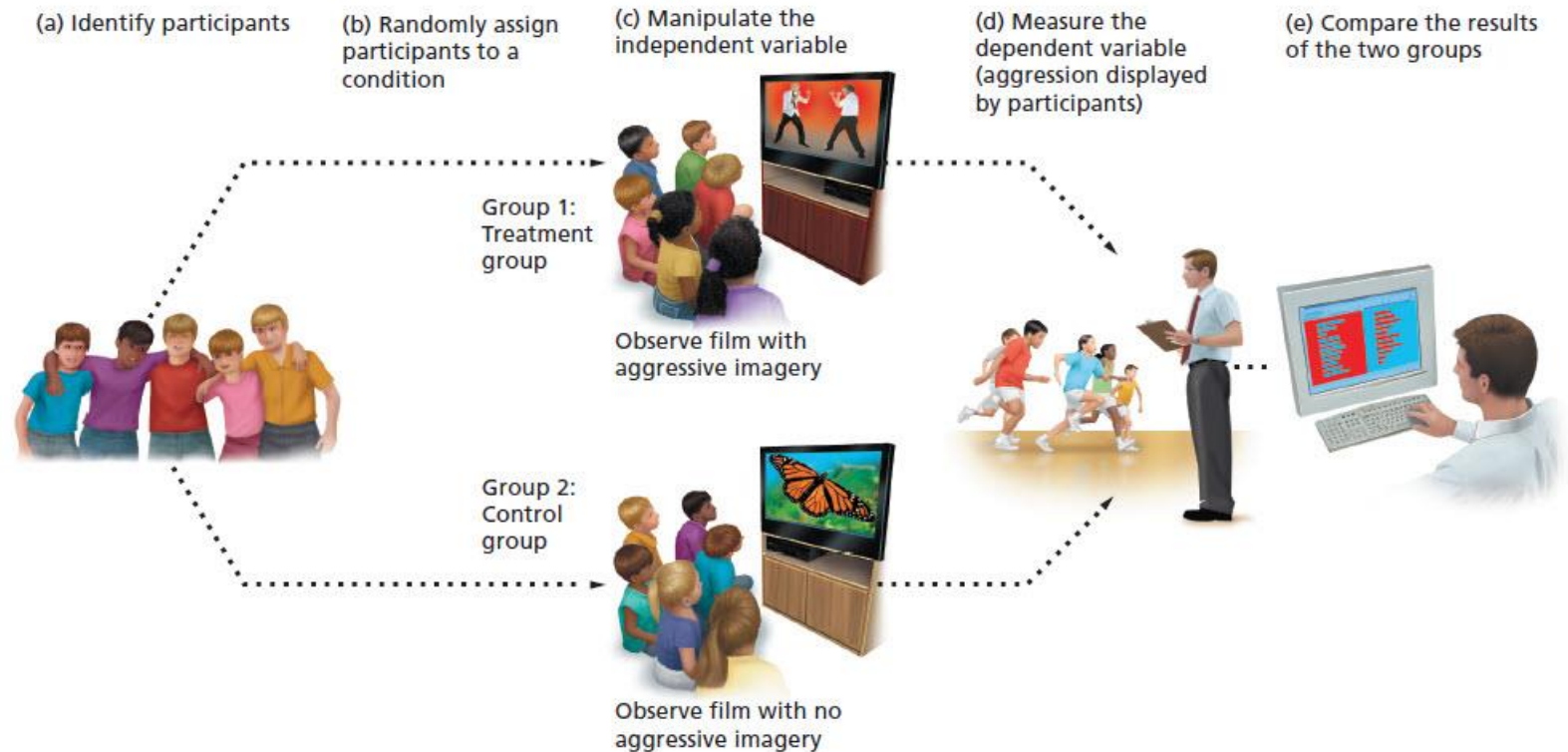
1.4 Research Methods

Experiments

- Manipulating a variable (independent) to see its effect on another variable (dependent) in a controlled setting, random assignment (true)
- Three Conditions must be met:
    1. Independent and dependent variables must be related
    2. The cause must come before the effect
    3. The cause must be isolated

➕ Imply causality: variable A causes effect on variable B

➖ Generalizability to real life

(a) Identify participants

(b) Randomly assign participants to a condition

(c) Manipulate the independent variable

(d) Measure the dependent variable (aggression displayed by participants)

(e) Compare the results of the two groups

Group 1: Treatment group

Observe film with aggressive imagery

Group 2: Control group

Observe film with no aggressive imagery

1.4 Research Methods: Developmental Designs

Longitudinal

Cross-sectional

Sequential

1.4 Research Methods: Developmental Designs

LONGITUDINAL

CROSS-SECTIONAL

SEQUENTIAL

- Measuring the same group of participants repeatedly over time.

➕ Change over time
➖ Expensive
➖ Time Consuming
➖ High attrition
➖ Practice effects

| Child "A" 2-years old 2004 | → | Child "A" 4-years old 2006 | → | Child "A" 6-years old 2008 |

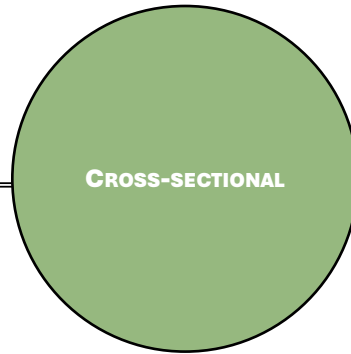# 1.4 Research Methods: Developmental Designs

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CROSS-SECTIONAL

- Measuring a sample that represents the population only once.

➕ Less Expensive,
➕ Less time consuming
➕ Less attrition
➖ Can't measure impact of one variable on another
➖ No change over time

| Year of Study - 2004 |
| Cohort A - 2-year-olds |
| Cohort B - 6-year-olds |
| Cohort C - 8-year-olds |

SEQUENTIAL

1.4 Research Methods: Developmental Designs
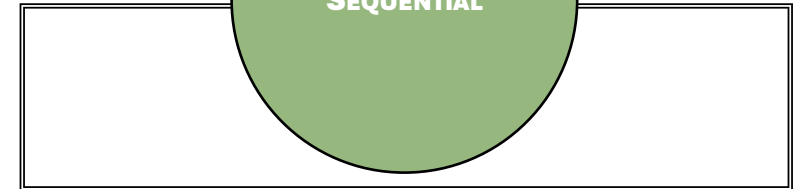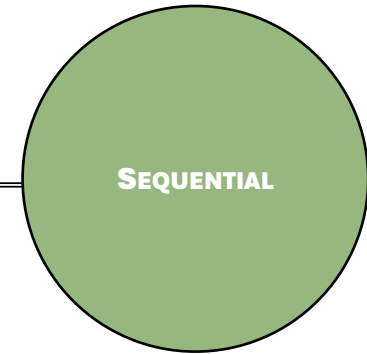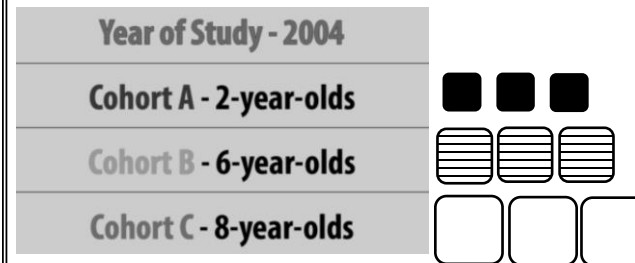
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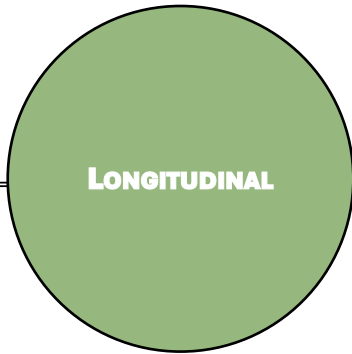| Child "A" 2-years old 2004	→	Child "A" 4-years old 2006	→	Child "A" 6-years old 2008

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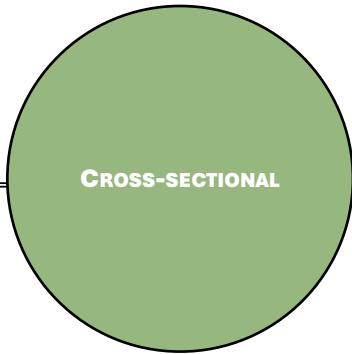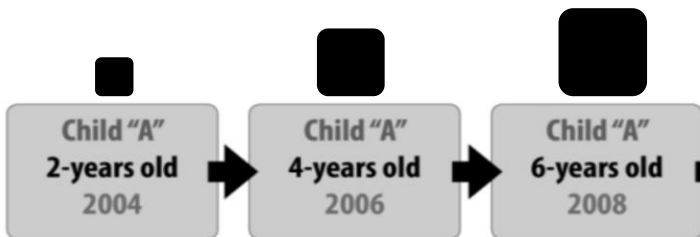- ➖ No change over time

| Cohort A - 2-year-olds |
| Cohort B - 6-year-olds |
| Cohort C - 8-year-olds |

SEQUENTIAL

- Combines longitudinal and cross-sectional; a cross-sectional sample through time.

- ➕ Great model for development
- ➖ Expensive
- ➖ High attrition
- ➖ Practice effects

	2002	2004	2006
Cohort A	Age 2	Age 4	Age 6
Cohort B	--	Age 2	Age 4
Cohort C	--	--	Age 2
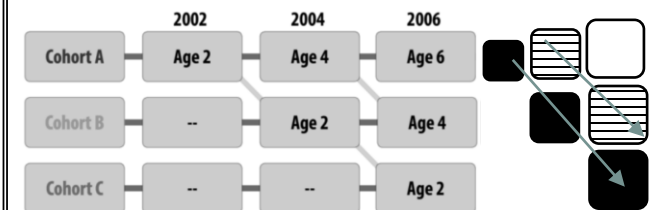
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Theoretical (Basic) Research:
Research designed specifically to test some developmental explanation and expand scientific knowledge
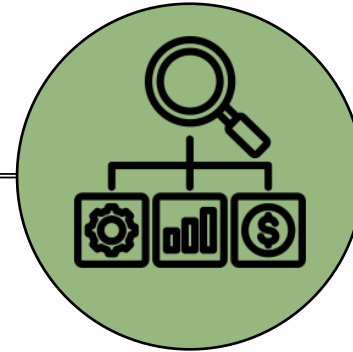
Applied Research
Research meant to provide practical solutions to immediate problems

OUR SKIN
A FIRST CONVERSATION ABOUT RACE
MEGAN MADISON, JESSICA RALLI, & ISABEL ROXAS

1.4 Research Methods: Consent and Ethics in Research

- Participants and their legal guardians should be aware of (Informed consent (children assent 8+)):
  - Research purpose and procedures,
  - Right to refuse to participate;
  - Confidentiality will be maintained;
  - Potential uses to which the data might be put;
  - Foreseeable risks and expected benefits;
  - Right to discontinue at any time.

- Freedom from harm

- Justified use of deception

- Maintenance of privacy

Today's Articles: Activity

- Crouch, E., Radcliff, E., Merrell, M. A., Hung, P., & Bennett, K. J. (2021). Positive Childhood Experiences Promote School Success. *Maternal and Child Health Journal*, *25*(10), 1646–1654. https://doi.org/10.1007/s10995-021-03206-3

- Fairchild, R., Thompson, G., & McFerran, K. S. (2016). Exploring the Meaning of a Performance in Music Therapy for Children and Their Families Experiencing Homelessness and Family Violence. *Music Therapy Perspectives*, miw004. https://doi.org/10.1093/mtp/miw004

- Garandeau, C. F., Laninga-Wijnen, L., & Salmivalli, C. (2022). Effects of the KiVa Anti-Bullying Program on Affective and Cognitive Empathy in Children and Adolescents. *Journal of Clinical Child & Adolescent Psychology*, *51*(4), 515–529. https://doi.org/10.1080/15374416.2020.1846541

- Halim, M. L. D., Atwood, S., Osornio, A. C., Pauker, K., Dunham, Y., Olson, K. R., & Gaither, S. E. (2023). Parent and self-socialization of gender intergroup attitudes, perceptions, and behaviors among ethnically and geographically diverse young children. *Developmental Psychology*, 59(10), 1933–1950. https://doi.org/10.1037/dev0001586

Positive Childhood Experiences Promote School Success

- https://sc.edu/study/colleges_schools/public_health/faculty-staff/crouch_elizabeth.php

- Elizabeth Crouch, Ph.D.

- Title: Associate Professor

- Director, Rural and Minority Health Research Center, HSPM MPH Program Director

- Department: Health Services Policy and Management

- Arnold School of Public Health

- Email: crouchel@mailbox.sc.edu

- Phone: 803-576-6055

- Office:220 Stoneridge Drive, 204

Exploring the Meaning of a Performance in Music Therapy for Children and Their Families Experiencing Homelessness and Family Violence

- https://finearts-music.unimelb.edu.au/research/national-music-therapy-research-unit/rebecca-fairchild

- Rebecca Fairchild

- Collaborative songwriting with children experiencing homelessness and family violence to understand the resources they draw upon when life gets hard. The majority of the literature about children experiencing homelessness and family violence focusses on reporting problems and highlighting detrimental health, educational and developmental outcomes for children. In contrast, there is little acknowledgement of children's personal resources and capacities in times of crisis. Rebecca's research aims to embed children's voices in to the current discourse and to explore the strengths and resources that they draw upon when life gets hard. Song writing was used as a collaborative research method to co-construct knowledge with children through group and individual interviews, with children being invited to write songs about what helps them to 'do well' in their everyday lives. The songs created represent the capacity and resilience of children despite their experiences of transience and violence, while also acknowledging the gaps in the service system including the limited social and emotional opportunities for children in this context.

Effects of the KiVa Anti-Bullying Program on Affective and Cognitive Empathy in Children and Adolescents

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- Areas of expertise
  - Peer relations
  - school bullying
  - anti-bullying interventions

Parent and self-socialization of gender intergroup attitudes, perceptions, and behaviors among ethnically and geographically diverse young children

- https://home.csulb.edu/~mhalim/members.html

- Dr. May Ling Halim is a Professor of Psychology at CSULB. Dr. Halim completed her MA and PhD in Social Psychology with a Developmental Focus and Quantitative Minor at New York University and her BA in Psychology at Stanford University. Dr. Halim has won numerous awards and grants, such as from the National Science Foundation and the American Psychological Foundation. She has been invited to speak at several events and universities such as the National Institute on the Teaching of Psychology and the Society for Research on Child Development Biennial Meeting. Her research spans two broad areas. The first examines the development of gender and racial intergroup attitudes. The second focuses on gender identity development among diverse young children. Her research has been published in national academic journals such as Child Development, Developmental Psychology, and Health Psychology and has been used to inform legal proceedings (e.g., ACLU) and educational policies (e.g., Head Start). Her work has also been written about in the popular media, such as on NPR, CNN and in Psychology Today, and she has written an op-ed for NBC Think. She also serves as a Consulting Editor or Editorial Board Member for several academic journals including Child Development, Journal of Cognition and Development, and Sex Roles. Dr. Halim also consults as a Program Director at the CSULB Center for Evaluation and Educational Effectiveness.