



NCB/MTF Research Webinar Series



Part II: What is Research?

with
Donna Sarvello
Robin Miccio
Doug Nelson



Today's Presenters



Donna Sarvello, LMT, BCTMB, MBA

- VP of Educational Support, NCBTMB
- I've worked in the massage therapy profession for over 20 years



Robin Miccio, LMT, MS

- Researcher and Program Manager at children's hospital
- Practicing massage and studying research for over 10 years



Doug Nelson, LMT, BCTMB

- President, MTF
- In the massage profession for 40 years

Brief Intro to NCBTMB

- Non-profit organization
- Our mission: **Define and advance the highest standards within the massage therapy and bodywork profession.**
- Programs/opportunities NCBTMB provides:
 - Board Certification in Therapeutic Massage & Bodywork (BCTMB)
 - Specialty Certificates
 - Approved Providers for Continuing Education
 - Assigned School Code Program
- For more information, visit www.ncbtmb.org



Brief Intro to MTF

- Non-profit organization
- Our mission: **Advancing the knowledge and practice of massage therapy by supporting scientific research, education, and community service.**
- Some of the many programs/opportunities MTF provides:
 - Research projects
 - Research conferences
 - Educational programs focused on research literacy
 - Community Service grants
 - Grants and contests for both practitioners and students
- For more information, visit www.massagetherapyfoundation.org



NCB/MTF Collaboration

- Both organizations are deeply committed to advancing standards
- We want to provide therapists like you with additional opportunities to enrich your understanding of research
- Over the course of this **3-part series**, we hope to help you identify:
 - Why research is important
 - What research means to our profession and others
 - What research is (defining research)
 - How to find quality research resources
 - How to apply research to your everyday practice
 - And more!



How to Earn 1 CE Today

- MTF is an NCBTMB Approved Provider
- MTF is offering the opportunity to earn 1 CE for today's webinar (FREE!)
- Details on how to earn 1 CE for today's webinar will be provided at the end of the broadcast
- **Stay tuned!**



What is Research?

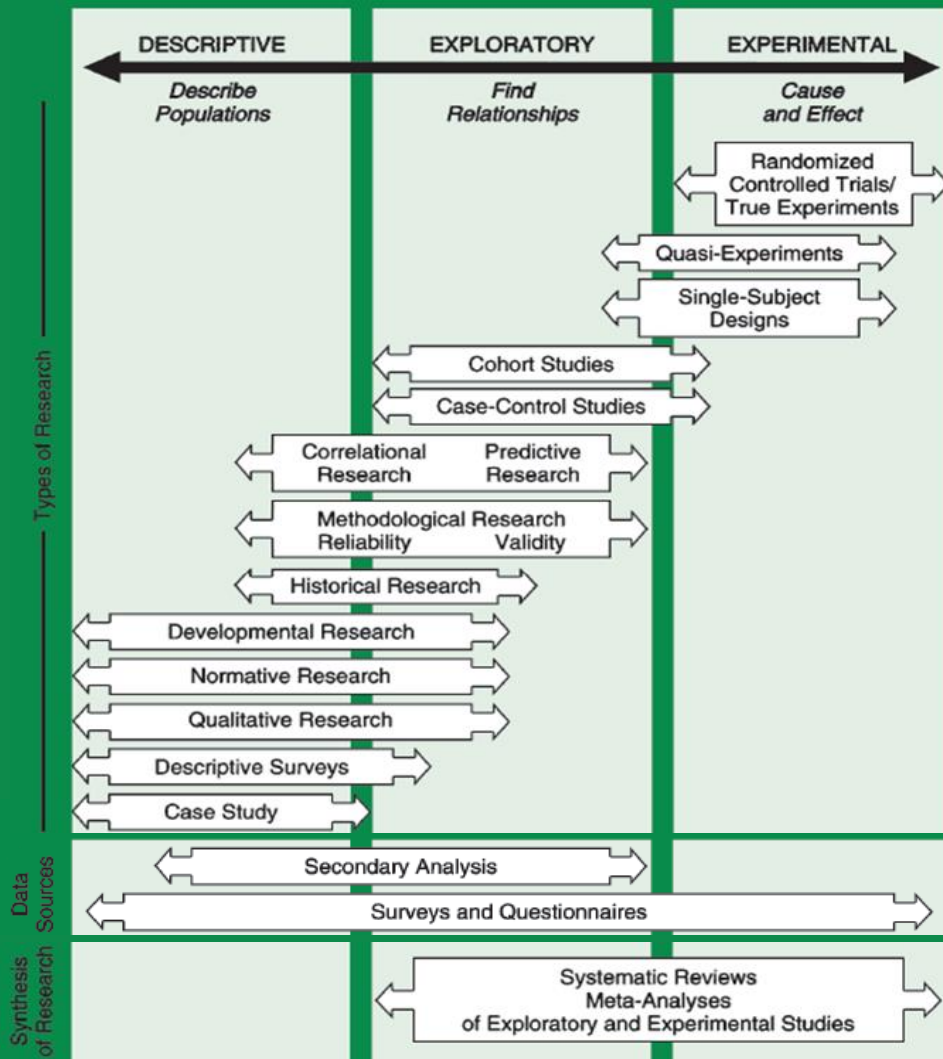


A systematic process of investigating facts and theories and exploring connections to discover new knowledge.

General Research Categories

Quantitative	Qualitative
<p>Aims to quantify what's happening & involves using numerical data</p> <p><i>Ex: Range of motion improved 30 degrees</i></p>	<p>Looking for quality & depth of experience to gain a deeper understanding</p> <p><i>Ex: Client states, "When the therapist pressed on that muscle, I felt a release and a rush of blood to my fingertips."</i></p>

Mixed-Methods



Source: Leslie G. Portney, Mary P. Watkins: Foundations of Clinical Research: Applications to Practice, 3rd Edition
 www.FADavisPTCollection.com
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Research Pyramid



All formal inquiries begin with an informal question.

What is Experimental Research?

- Scientific research is a rigorous process for acquiring knowledge. It's a systematic, empirical, and controlled examination of your hypothesis (using the scientific method!).
- Researcher manipulates one or more variables and observes the result on another variable – looks for cause & effect relationship.

Independent Variable:
Hand Massage

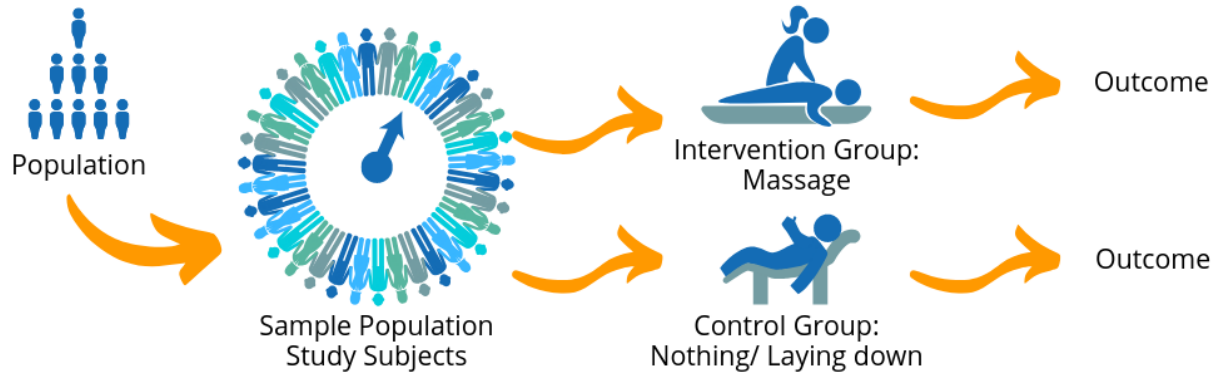


Dependent Variable:
Headaches



What is a Randomized Controlled Trial (RCT)?

- Select subjects from target population (inclusion and exclusion criteria)
- Randomly assign to groups
- Eliminate bias -- blinding





What is the Research Process?

Research Process

Step 1: Identify a Research question

- What are you curious about?
- Read studies to see if it's been answered already
- Develop your best guess as to what is happening
- Clearly identify the independent and dependent variables you want to examine



**Independent Variable:
Pediatric Intercostal Massage**



**Dependent Variable:
Asthma**



Research Process

Step 2: Identify your Hypotheses



- **Alternative hypothesis (H1):**

- Asthma will significantly improve after receiving intercostal massage for pediatric patients (directional).

- **Null hypothesis (H0):**



- There will be no significant difference in asthma after the patient receives intercostal massage. Any difference will be due to chance or other factors.



“reject the null”

Research Process

Step 3: Design the Study

- How are you going to select subjects?
- When will they receive the intervention?
- When will they be assessed?
- What will be your inclusion and exclusion criteria?



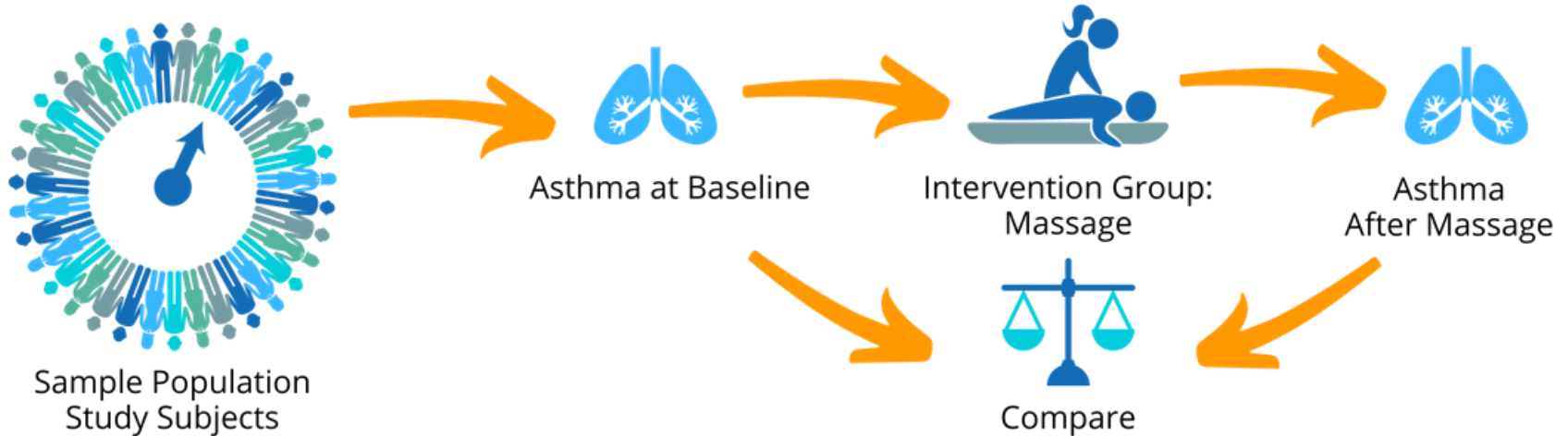
Research Process

Step 3: Design the Study



Research Process

Step 3: Design the Study



Single-Subject Design or Within-Subject Design

Research Process

Step 4: Determine Methods

- What will be your process for collecting the data?
- What are your outcomes of interest?
- How will you measure your outcomes

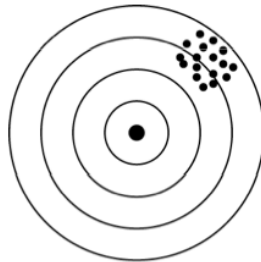
Possible Outcomes	Possible Assessment Measures <i>(also considered Tools/Instruments)</i>
Asthma Symptoms	<ul style="list-style-type: none">- Number of days with symptoms of wheezing, coughing?- Asthma Control Tool
Function	<ul style="list-style-type: none">- Ability to walk up the stairs without wheezing/stopping?



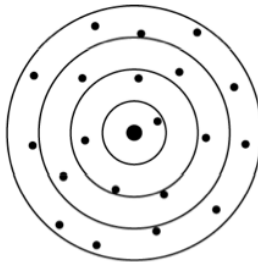
Research Process

Step 4: Determine Methods

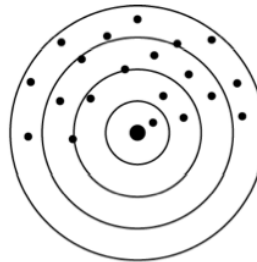
- Assessment Measures should be reliable & valid
- **Reliability:** If the same test is taken multiple times by the same person, are you getting the same result? Are results consistent?
- **Validity:** Is the tool measuring what it's supposed to measure? Are results accurate?



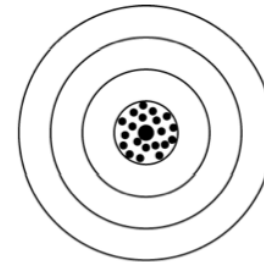
Reliable
Not valid



Valid
Not reliable



Not reliable
Not valid



Reliable
Valid



Research Process

Step 5: Analyze Data

How will you display the data in a meaningful way?

- RCTs use sophisticated tests that report statistical significance
- P-level: probability of making an error
- Set p-level before starting project, $p < 0.05$ (never error-free!)
- If p-value is less than 0.05, then there is less than a 5% chance that the change occurred by mistake
- 95% probability the change did not happen by chance



Research Process

Step 5: Analyze Data

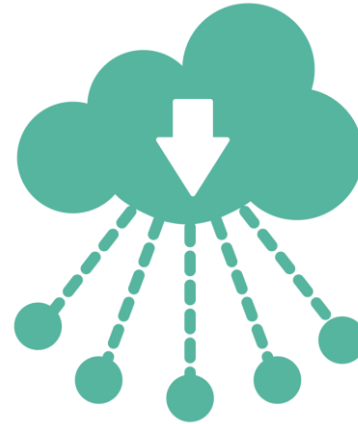
- What is the difference between statistically significant and clinically meaningful?
- **Statistically significant:** Confident there is a mathematical relationship between variables, but it does **not** tell us the magnitude and direction of the change.
- **Clinically meaningful:** Clinicians need to know that the change was enough to make a difference in the lives of their patients. To be clinically meaningful, studies may report on the magnitude, or size of the effect.



Research Process

Step 6: Communicate Findings

- Share findings by publishing in a research journal, presenting at a poster session, or lecturing
- Build on the collective knowledge



The PICO Method

Method of answering a clinical question with research

PICO Method as a Search Strategy	
Patient or problem	Patients with plantar fasciitis
Intervention	Trigger Point Therapy on Soleus
Comparison/Control	No massage/trigger point therapy
Outcomes of Interest	Walking without pain

Will trigger point therapy on the soleus muscle help patients with plantar fasciitis walk without pain?

Components of a Research Paper

Section	Description
<i>Introduction</i>	The introduction serves two purposes: <ol style="list-style-type: none">1. Provides the <i>rationale</i> for the paper (moving from a general discussion of a topic to the specific question or hypothesis being investigated in the paper).2. Attracts interest in the topic (and get readers)
<i>Methods</i>	The methods section (narrowly/in detail) describes: <ol style="list-style-type: none">1. Methodology2. Materials3. Procedures
<i>Results</i>	The results section is used to: <ol style="list-style-type: none">1. Describe & analyze the research findings
<i>Discussion</i>	The discussion section offers information on what has been learned from the research. In this section, the information shared starts with the specific research question and becomes more and more general. Also, connections are made to points laid out in the introduction.

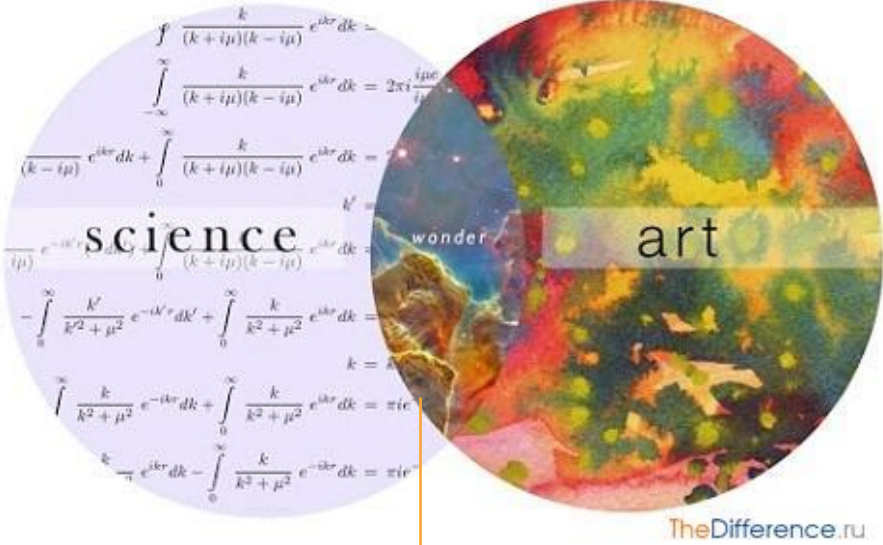
How Do I Know What Findings to Trust?

Critically Evaluate Studies

- Year published (within 10 years).
- Location of the study (may not apply in America).
- Compare design with the methods – did they randomly select from target population and randomly assign? What was the sample size? What was the inclusion and exclusion criteria? Was there bias involved?
- Were findings clinically significant? Were measures valid and reliable?
- Credible author? Conflicts of interest?

Evidence-informed Practice

Relevant
Study Findings



Intuition
Experience
Creativity

Clinical Decision Making

IJTMB.org

International Journal of Therapeutic Massage & Bodywork



● ● ● ● ● RESEARCH ● ● ● ● ● EDUCATION ● ● ● ● ● PRACTICE ● ● ● ● ●

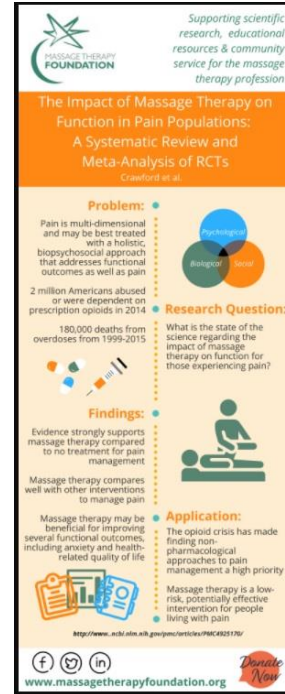
- Free, open-access journal
- The official journal of the MTF and RMTBC (Registered Massage Therapists' Association of British Columbia)
- Peer Reviewed
- PubMed indexed



Infographics/Visual Abstracts

Share them with everyone!

- Clients
- Colleagues
- Other health care providers
- Family and friends on social media





How can our viewers earn 1 CE?

How to Earn 1 CE

First and foremost, thank you for joining us today!

To earn 1 CE for today's webinar, please visit:

<http://massagetherapyfoundation.org/2019webinar/>

Complete the brief form and quiz to earn 1 CE. MTF will provide Certificates of Completion via email.





When is the next NCB/MTF Webinar?

Upcoming Webinar

We hope you will join us again for the next webinar:

Part III: How to Find Quality Resources

- Fall 2019
- Official date TBA



Connect With Us

NCBTMB

- ncbtmb.org
- 1-800-296-0664
- info@ncbtmb.org

MTF

- massagetherapyfoundation.org
- www.ijtmb.org
- info@massagetherapyfoundation.org



Thank You!