

Interpersonal touch interventions for reducing stress in adult ICU patients: A realist review

Sansha Harris, Elizabeth Papathanassoglou, Susan Hampshaw,
Lenita Lindgren, Annette Haywood

Stress in ICU patients

- Stress hormones, PTSD, self report
- Physiological ↔ psychological
 - Pain, dyspnoea, drugs, anxiety, vulnerability
 - ‘I’ve never been surrounded by so many people and felt so alone’ (Stayt et al, 2015)
- Impact uncertain
 - Delirium, compromised respiratory function, delayed weaning

Interpersonal touch interventions



- Complex interventions
- Safe
- Kangaroo Care in NICU → 40% reduction in mortality
Conde-Agudelo & Díaz-Rossello (2016)
- Adult ICU → large reductions in stress

Jagan, Park & Papathanassoglou (2019)

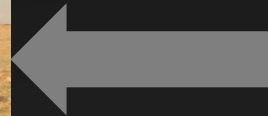
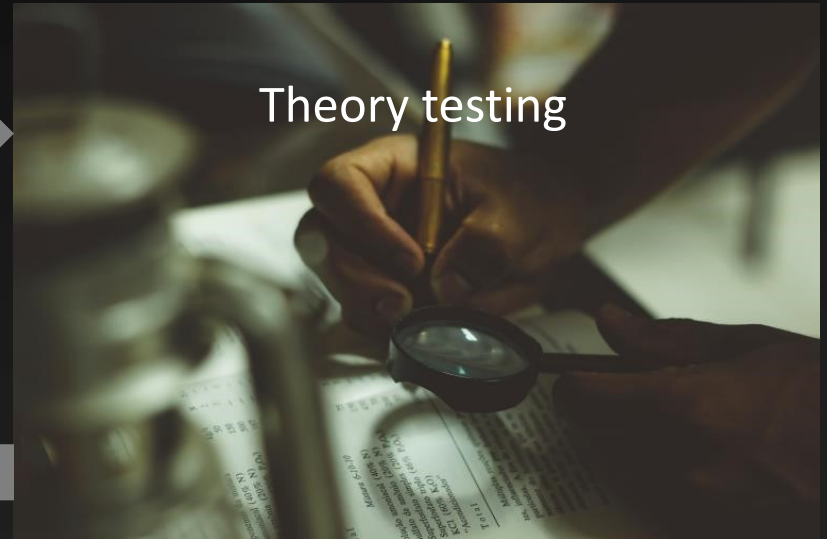
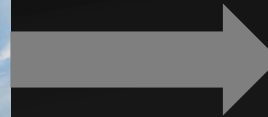
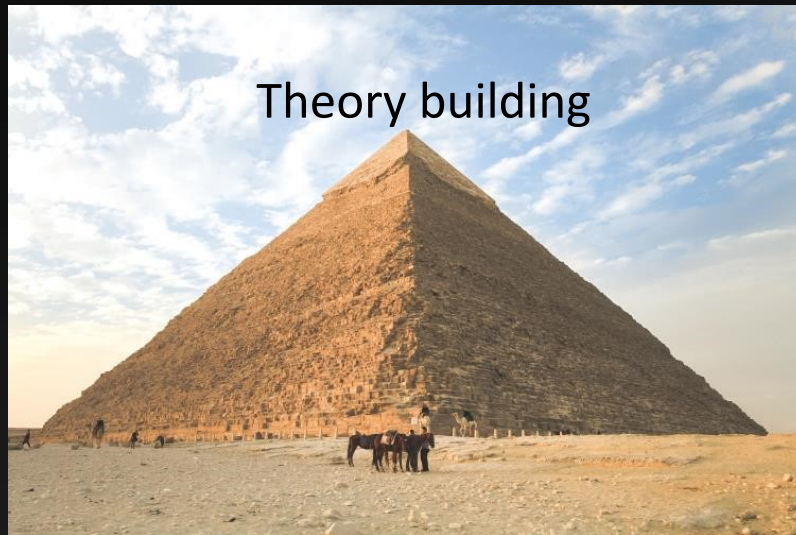
What is a realist review?



- How do interventions 'work'?
- In what situations do they work?
- Theory driven approach
- Good for complex interventions
- Lack of principles to guide design of touch interventions

Pawson (2002)

Two-stage review process



- Diverse evidence sources
- Testable hypotheses
- Theoretical framework to inform future studies

- Systematic search for ICU studies
- Mixed Methods Appraisal Tool
- Data selection based on quality & relevance

Focused hypotheses



- i. Moving touch reduces stress more effectively
- ii. Touch works better for less sedated patients
- iii. Touch by close family is more effective
- iv. Repetition leads to cumulative benefits

Study characteristics



- Twelve ICU studies
- Mostly small RCTs
 - Two included qualitative studies
- Interventions
 - Massage, reflexology, acupressure, social touch
- Outcomes
 - Vital signs, pain, anxiety, dyspnoea, oxytocin, cortisol

<u>Intervention vs Standard care only</u>		<u>Intervention vs Active comparator + Qualitative</u>		
Akin Korhan et al (2014) Turkey	Reflexology	Henricson et al (2008ab, 2009) Sweden	Tactile touch & soft music v Soft music	Phenomenology
Olleveant (2003) UK	Massage†	Boitor et al (2015), Martorella et al (2014) Canada	Hand massage v Hand-holding	Qualitative descriptive
Maa et al (2013) China	Acupressure	Bagheri-Nesami et al (2015) Iran	Acupressure v Sham acupressure†	
Çınar Yücel & Eşer (2015) Turkey	Massage & acupressure	Souri Lakie et al (2012) Iran	Wrist-holding v Human presence	
Yousefi et al (2015ab) Iran	Social family touch	Tsay et al (2005) China	Massage & acupressure v Massage & hand-holding	
		Ebadi et al (2015) Iran	Reflexology v Surface touch v Standard care	
		Adib-Hajbaghery et al (2015) Iran	Nurse massage v Family massage v Standard care	
<u>Pre-post intervention</u>				
Kaur et al (2012) India	Massage & reflexology			

Mixed Methods Appraisal Tool study quality: High ■; Moderate ■; Low/Very low ■

Moving touch vs static touch



- Two ICU studies supported moving touch

Boitor et al (2015)/Martorella et al (2014),
Tsay et al (2005)

- Focus on pain
- Proximity of tactile stimuli to pain location
 - Advances in Gate Control Theory
Mancini et al (2014)
 - Target painful area

Sedation vs no sedation



- Studies of mechanically ventilated patients
 - Two with sedation vs six without sedation
- Data comparisons supported no sedation
 - Small number of studies
 - Confounding variables
- Patients wished to be more alert

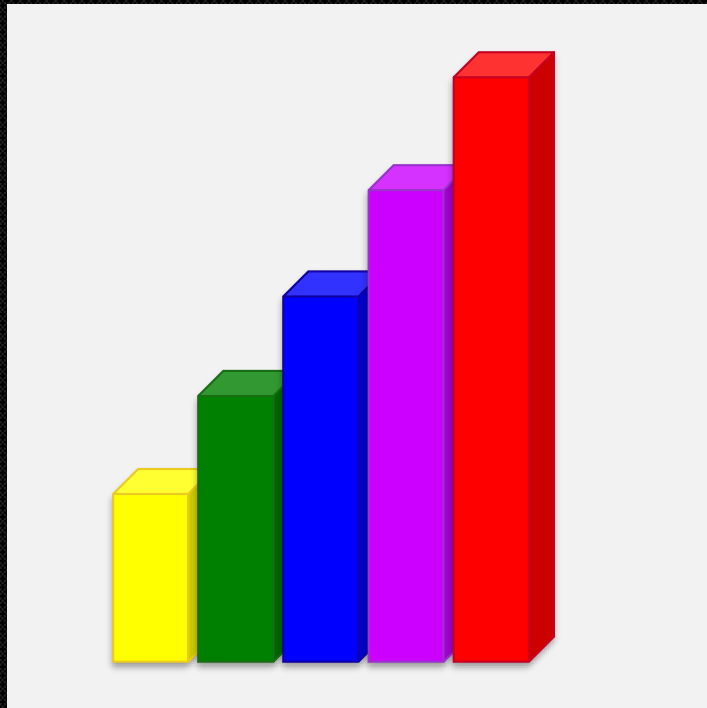
Henricson et al (2009)

Family touch vs nurses' touch



- One coronary care study
Adib-Hajbaghery et al (2015)
- Single 60-minute full body massage
- Results favoured nurse-delivered massage, but...
 - Study design limitations
 - Choice of dyads
cf. Coan et al (2006)
 - Expert nurse vs performance anxiety of family?

Benefits of treatment repetition



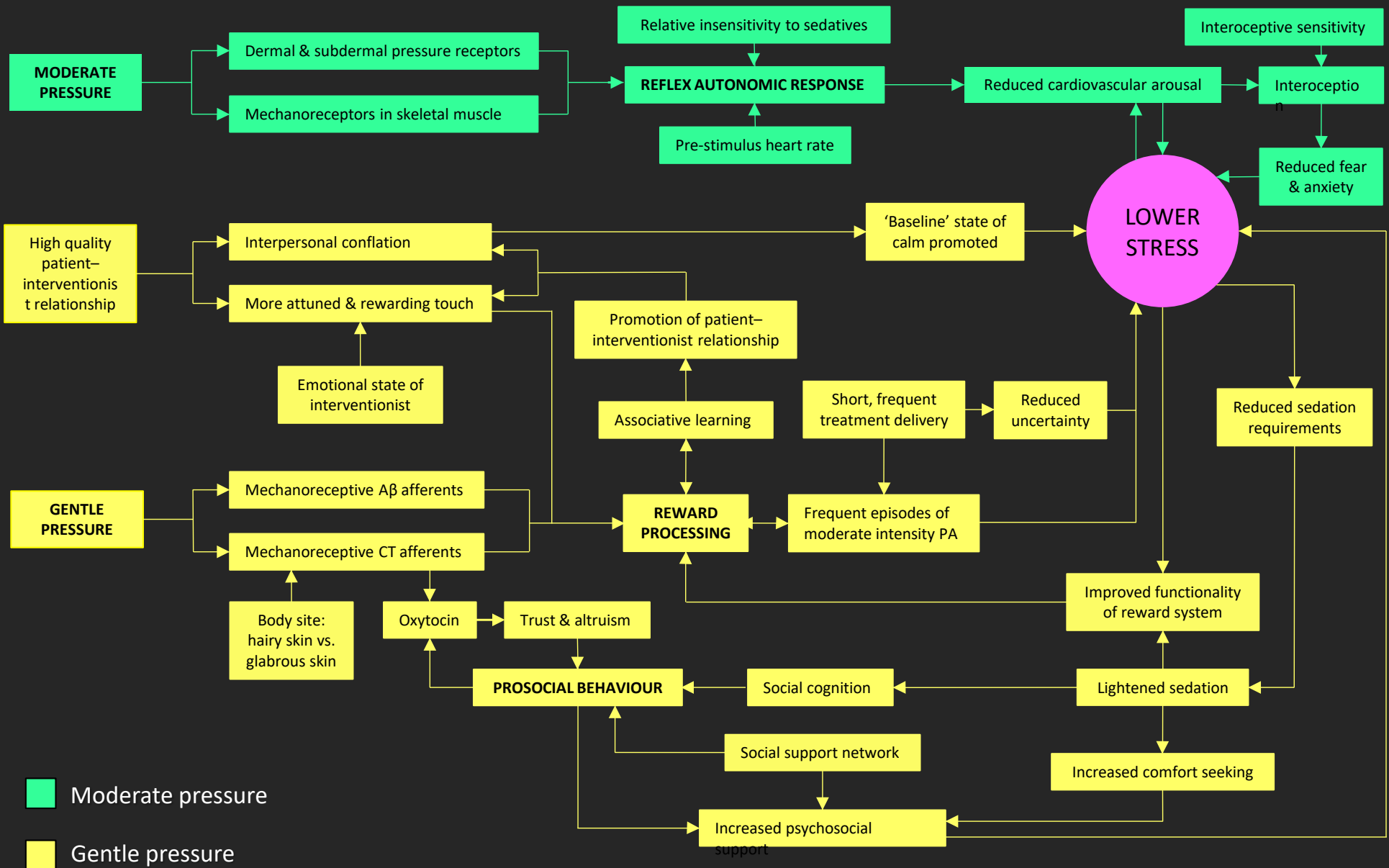
- Nine ICU studies
 - Single treatment suboptimal
 - At least five treatments → stronger evidence
- Two qualitative inquiries
 - Henricson et al (2009), Martorella et al (2014)
 - Contrasting interventions
 - Intervention associated with more intense 😊 also linked to more 😞



Frequent moderate-intensity positive emotions are optimal



- Costs of extreme pleasure
 - Unpleasant emotional contrast
Solomon (1980)
 - Sympathetic 'pro-stress' effects
- Frequent positive emotions may protect against stress
 - Particularly beneficial during high psychological stress (Blevins et al, 2017)
- Frequent predictable events may reduce stressful uncertainty



Moderate pressure touch works better for sedated patients



- Sedatives limit higher brain function (MacDonald et al, 2015)
 - Limit sensory pleasure
 - Restrict social interaction
- Caress-like touch
 - Fragile mechanisms
- Moderate pressure touch
 - Robust mechanisms

Implications for practice

- Understanding how touch interventions work is important
 - Better study designs → evidence → more support in practice
- Current ICU evidence is weak or absent
- Decision to use or withhold touch has consequences
- Specific recommendations:
 - Lightening sedation may enhance benefits of touch
 - Support social touch between family & patient
 - Minimise physical and organisational barriers

REVIEW ARTICLE

Interpersonal touch interventions for patients in intensive care: A design-oriented realist review

Sansha J. Harris¹  | Elizabeth D. E. Papathanassoglou² | Melanie Gee³  |
Susan M. Hampshaw¹ | Lenita Lindgren⁴ | Annette Haywood¹

¹School of Health and Related Research (ScHARR), University of Sheffield, Sheffield, UK

²Faculty of Nursing, University of Alberta, Edmonton, Alberta, Canada

³Faculty of Health and Wellbeing, Sheffield Hallam University, Sheffield, UK

⁴Department of Nursing, Umeå University, Umeå, Sweden

Correspondence

Sansha J. Harris, General Intensive Care Unit, Critical Care Department, Sheffield Teaching Hospitals NHS Foundation Trust,

Abstract

Aim: To develop a theoretical framework to inform the design of interpersonal touch interventions intended to reduce stress in adult intensive care unit patients.

Design: Realist review with an intervention design-oriented approach.

Methods: We searched CINAHL, MEDLINE, EMBASE, CENTRAL, Web of Science and grey literature sources without date restrictions. Subject experts suggested additional articles. Evidence synthesis drew on diverse sources of literature and was conducted iteratively with theory testing. We consulted stakeholders to focus the review. We performed systematic searches to corroborate our developing theoretical framework.

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