Integrated Practice: Expert-Informed Physical Exercise Regimens to Enhance Vocal Athlete Performance

Anna Holden
2118218

Module 6 - BMPF7010 Presentation
9 September 2024

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Prifysgol Cymru
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University of Wales
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Introduction

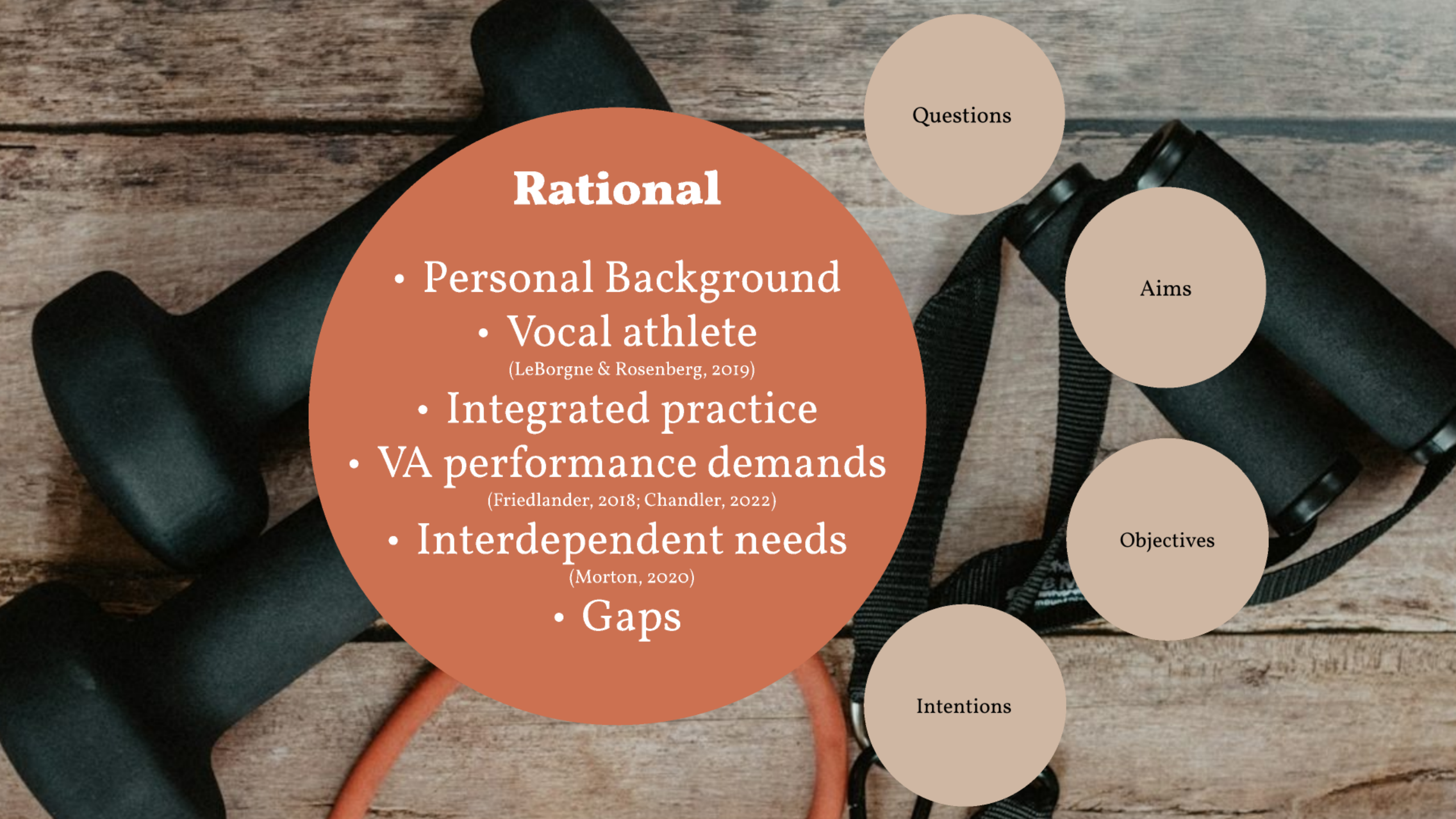
Methodology

Literature Review

Discussion

Findings

References



Rational

- Personal Background
- Vocal athlete
  (LeBorgne & Rosenberg, 2019)
- Integrated practice
- VA performance demands
  (Friedlander, 2018; Chandler, 2022)
- Interdependent needs
  (Morton, 2020)
- Gaps

Questions

Aims

Objectives

Intentions

Research Questions

- How can insights from experts inform the development of optimised PER for VAs while safeguarding vocal health?

- What changes or adaptations do VAs perceive in their training and performance before, during, and after implementing the PER?

- What are their thoughts on the overall PER experience?

Justification

Justifications

- Mitigate challenges
- Compensations, lack of stamina, strain, misue or injury
- Lack of specialised programming for the demographic



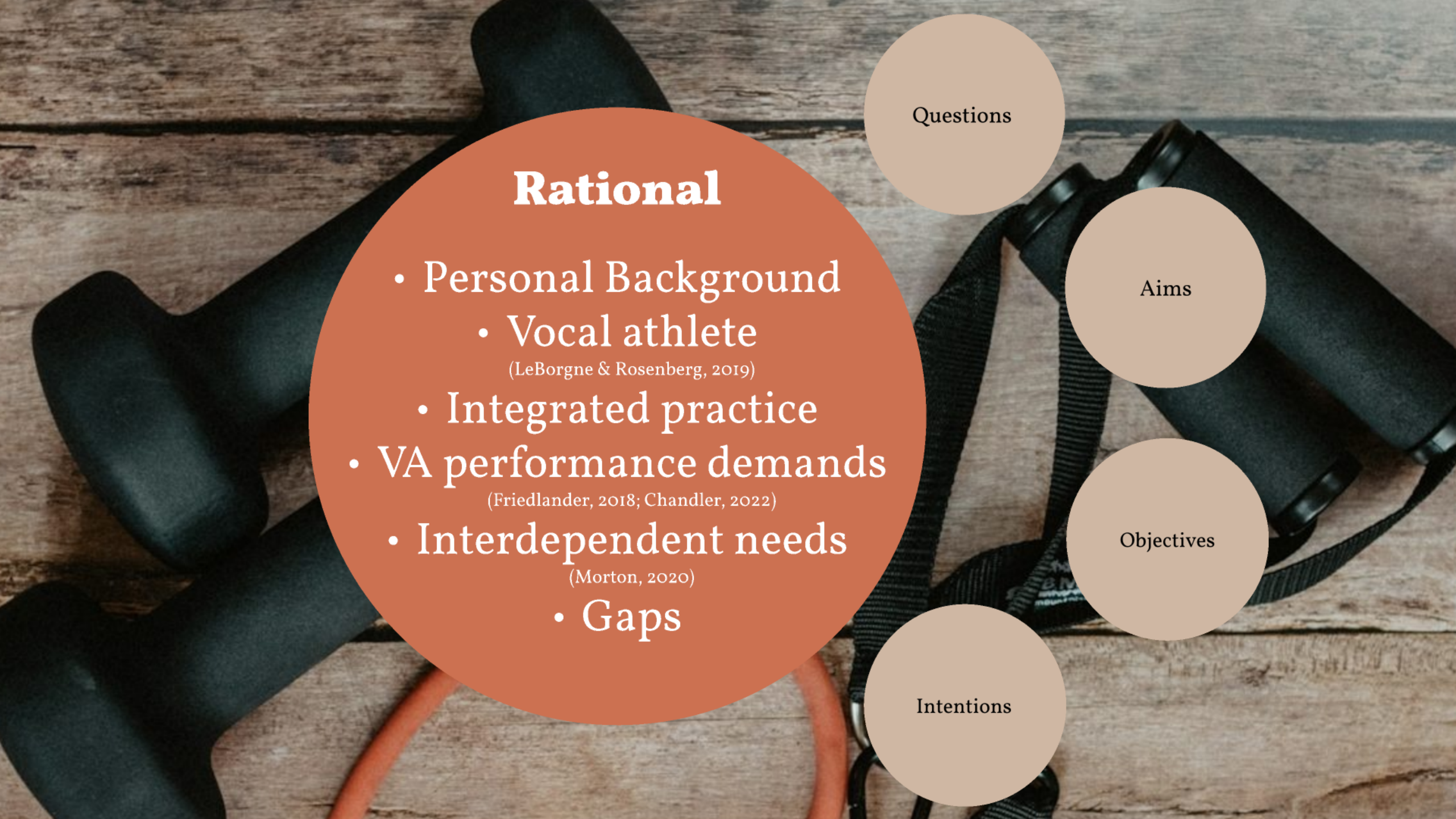
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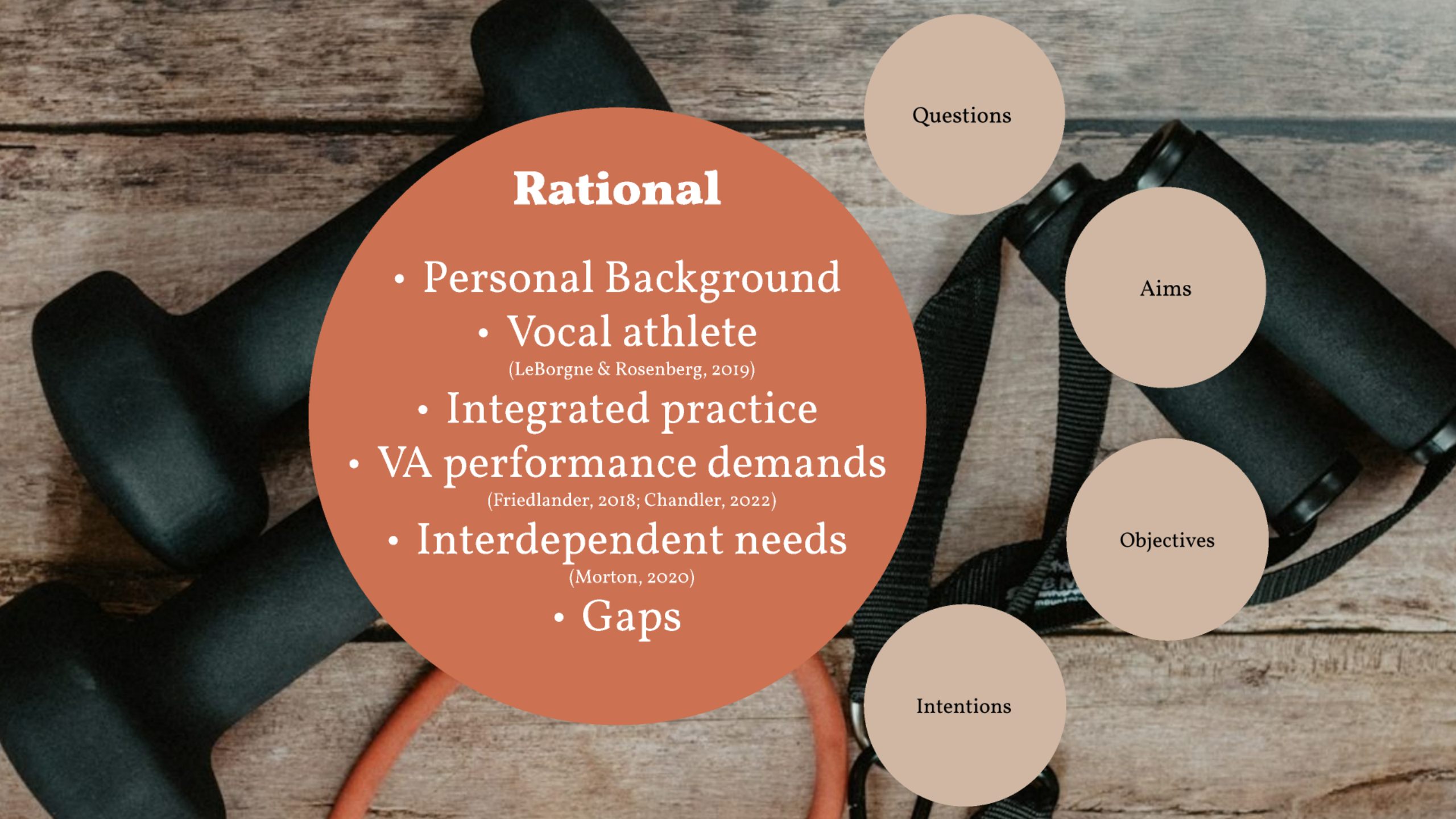
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Intentions



Aims

- Gain expert recommendations
- Consider performance goals, demands, and vocal well-being
- Customise a PER that aligned with demands
- Investigate VAs' perceptions on the PER
- Explore the reported experiences, benefits, challenges, adaptations and effectiveness



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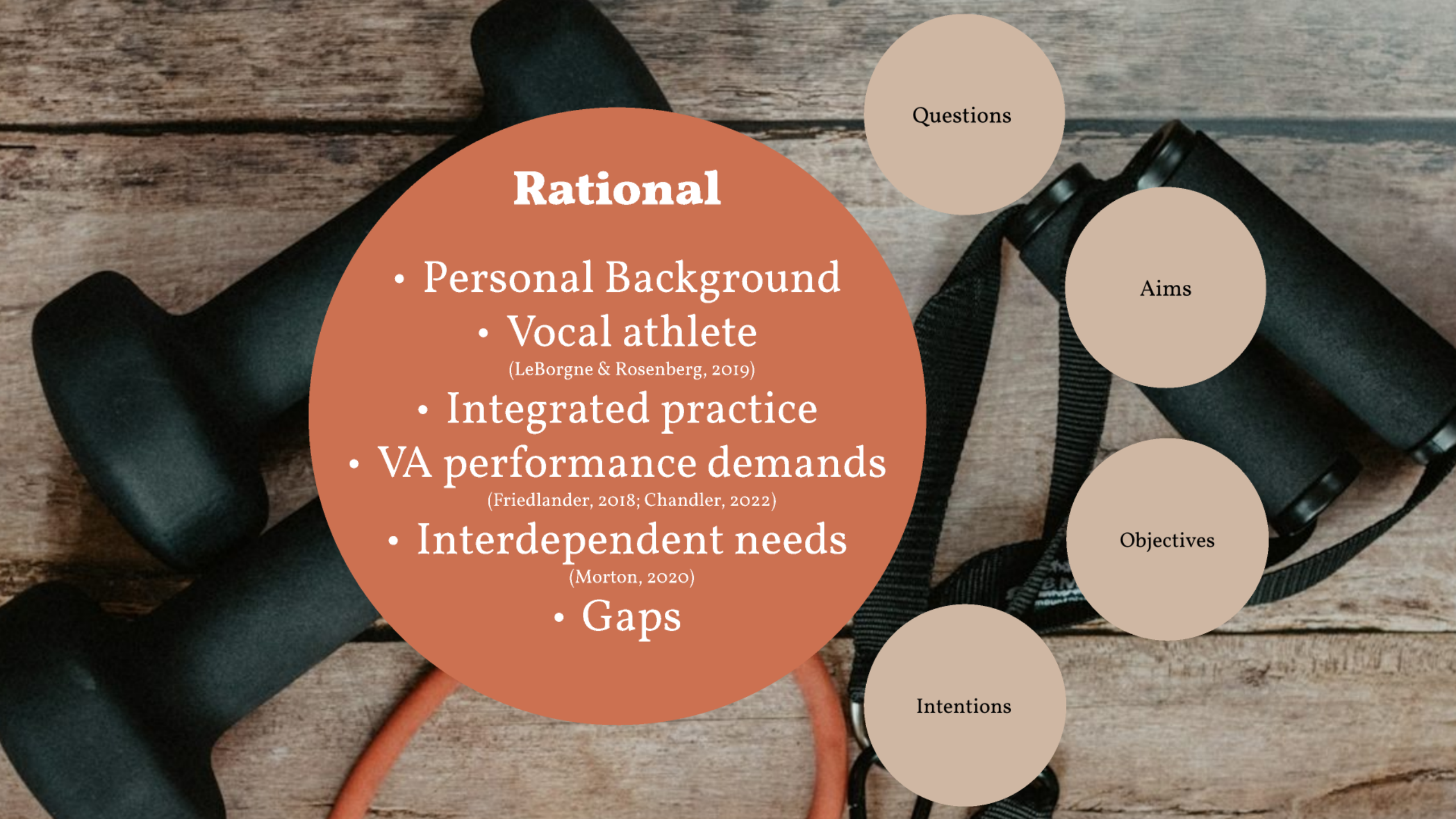
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Objectives

- Gain expert insight
- Using specific criteria to design an ethical and effective PER aligned with VA demands, health, and goals
- Facilitate a collaborative process



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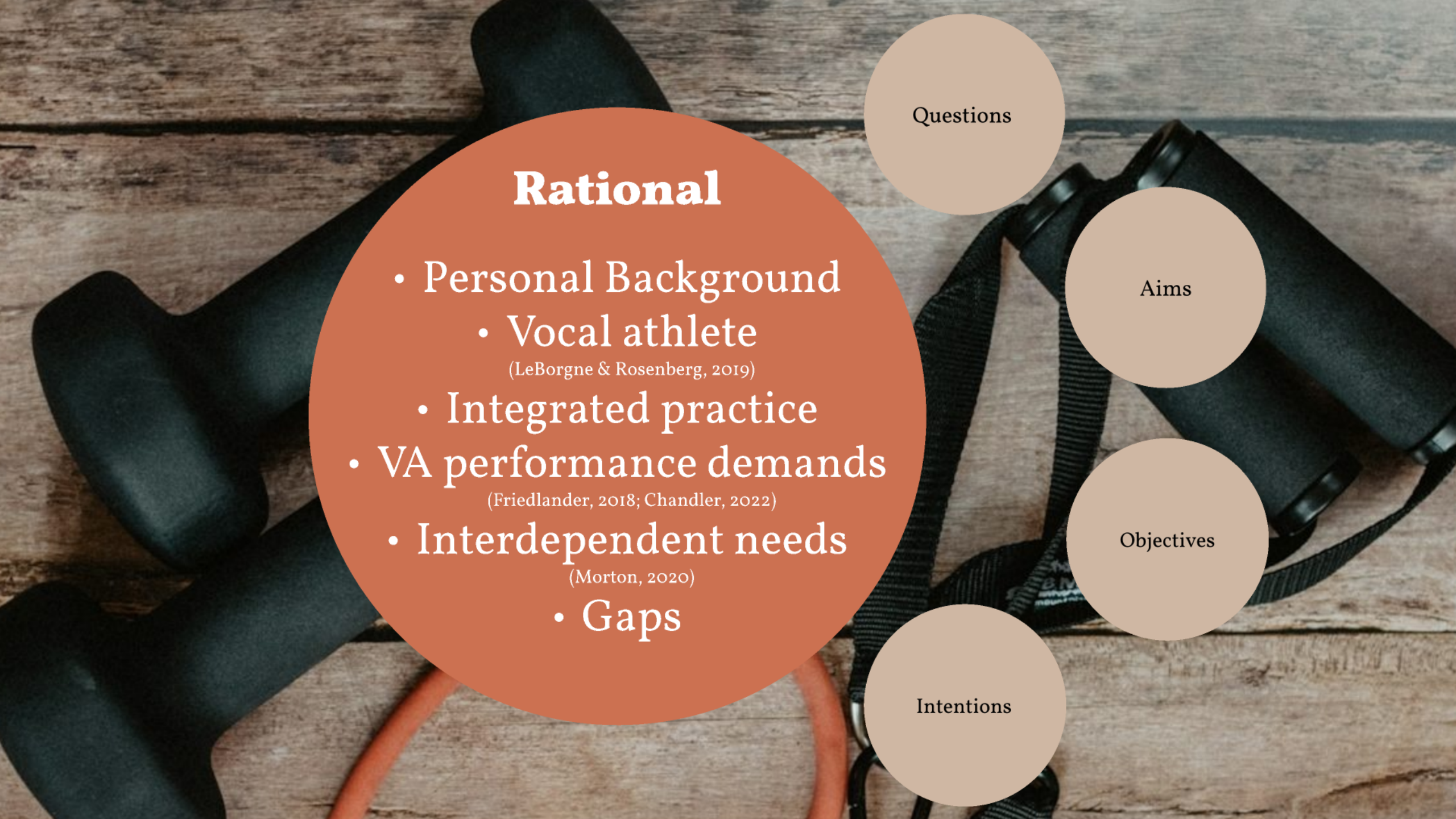
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Intended Impact

- Inspire VAs to reach full training and performing potential
- Tools for VAs and coaches to elevate well-being, stamina and professional longevity
- Interdisciplinary collaboration



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Narrative Literature Review

- **Key words:** Vocal athlete, vocal performance, vocal health, physical exercise, interdisciplinary collaboration, exercise science, laryngeal/skeletal bioenergetics, physical and vocal synergy, programming

- **Search engines**: Google Scholar, JSTOR, ScienceDirect, ProQuest, EBSCOhost, ResearchGate

- Exclusions

VA Needs

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- Qualitative
  (Braun & Clark, 2008)
- Subjective epistemology
- Relativistic ontology
- Constructive paradigm
  (Killam, 2013)
- Health vs non-health fields
  (Pauline et al., 2006)
- Transparency

Research Design

Data Collection

Ethics

Research Design

- Ethical consideration
(Fereday & Muir-Cochrane, 2006; Pauline et al., 2010; Schlabach & Peer, 2024)
- Literature found and analyzed
- Purposeful sampling
(Field & Hole, 2013; Creswell, 2018)
- Semi-structured expert interviews
(Adams, 2015; Kyngäs, 2020)
- 3 VA qualitative surveys
(Dearnly, 2005)
- Reflective journal
(Kolb, 1984; Almeida *et al.*, 2021)

Criteria



Participant Criteria

Experts

- Professional experience with VAs or program development
- Collaboration or research reflecting an integrated approach

VAs

- Performers between 18-45 with no underlying conditions
- Minimum 3 years performance experience

Research Design

- Ethical consideration
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- PER creation and implemention
  (Pauline *et al.*, 2015; Van Hoye *et al.*, 2015;)
- 3 qualitative VA surveys
  (Dearnly, 2005)
- Coding processes
  (Castleberry & Nolen, 2018; Saldanña, 2021;
- Figure development
  (Fagan et al., 2017)
- Analysis and reporting

Timeline

GANTT

Data Collection Timeline

01

Research Design

- Ethics form accepted
- Literature found, read, and analysed
- Research questions set
- Interview questions formulated

02

Interviews

- Expert participants sampled from research and social media
- Interviews scheduled
- Interview questions finalised
- Interviews take place and are transcribed

03

PER Creation

- Interviews coded with multiple rounds
- PER drafted and edited using the information and themes from interview coding
- VA participants found in studio
- Survey questions formulated and surveys created

04

PER Implementation

- PER finalized
- Intake assessment completed (survey 1)
- All VA passed health requirements
- PER circulated

05

Monitoring

- Monitored and gave form feedback on exercises
- Mid-program survey (survey 2) and reminder sent
- Post-program survey (survey 3) and reminder sent

06

Analysis

- Survey data analysed via multiple coding rounds
- Mind maps created to connect and synthesise data
- Figures developed to match data collection and findings
- Limitations and need for future research noticed

07

Reporting

- Assignment collated
- Findings presented

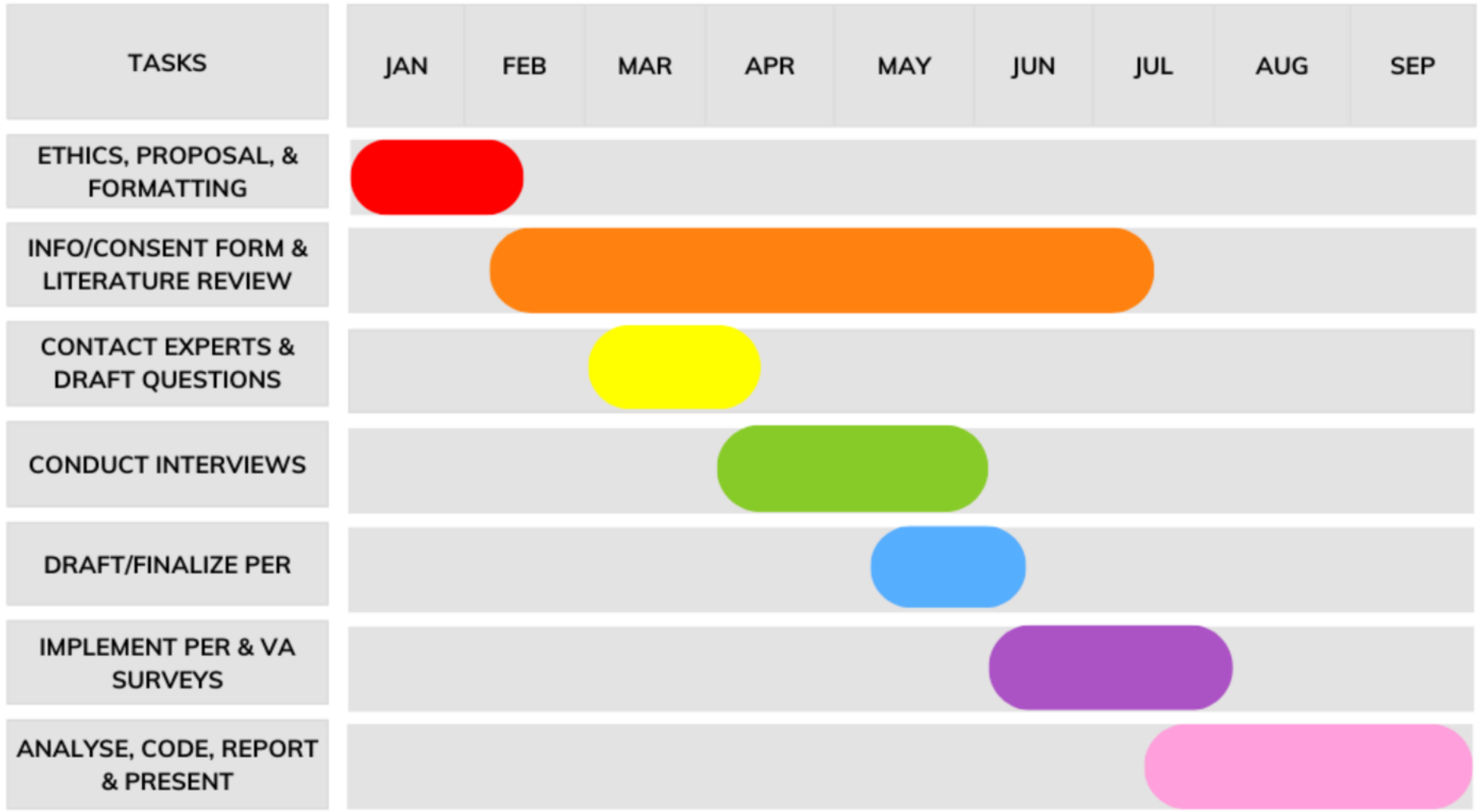
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MODULE 6 BMPF7010 GANTT CHART



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Research Design

Data Collection

Ethics



Ethical Considerations

- Successful ethical review
- Participant criteria
  - (Haff & Triplett, 2016, Leavy, 2014)
- Participant awareness, safety, privacy and anonymity

(Field & Hole, 2013; Harris *et al.*, 2019)

- Health related information and safety concerns

(Pauline *et al.*, 2010; Warburton *et al.*, 2011)

- Certifications and scope

(Schlabach & Peer, 2024)

- Referrals
- Insider research

(Denscombe, 2003; Saldaña, 2021)



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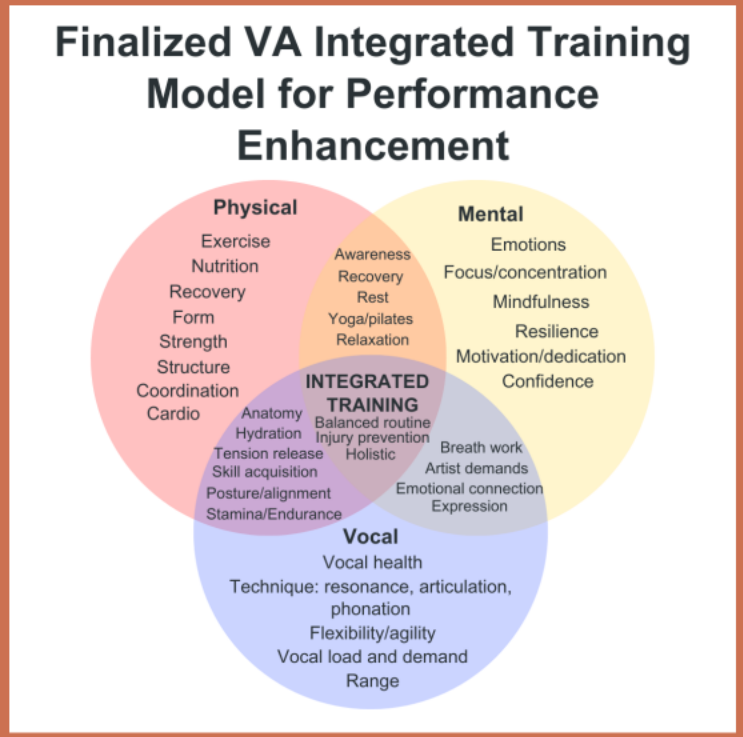
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Literature Review

Expert Interviews

Findings

Inductive and Interative



Program Creation

VA Surveys

Literature Review Findings

VAc Demands

Current training

(Morton, 2020)

VA Needs

(Nanjundeswaran *et al.*, 2017; Nesbitt, 2023)

Load vs Demand

(Orlikoff, 2008; Hunter *et al.*, 2020; Chandler, 2022)

Muscular and Biomechanical Knowledge

(Tellis *et al.*, 2004; Hoh, 2005; Plotkin *et al.*, 2021)

Stamina and Endurance

(Røksund *et al.*, 2014; Sandage & Smith, 2017)

Dynamic Structure and Alignment

(Schneider *et al.*, 1997; Lee *et al.*, 2020)

Kinesthetic Awareness

(Friedlander, 2018; Malde et al., 2020)

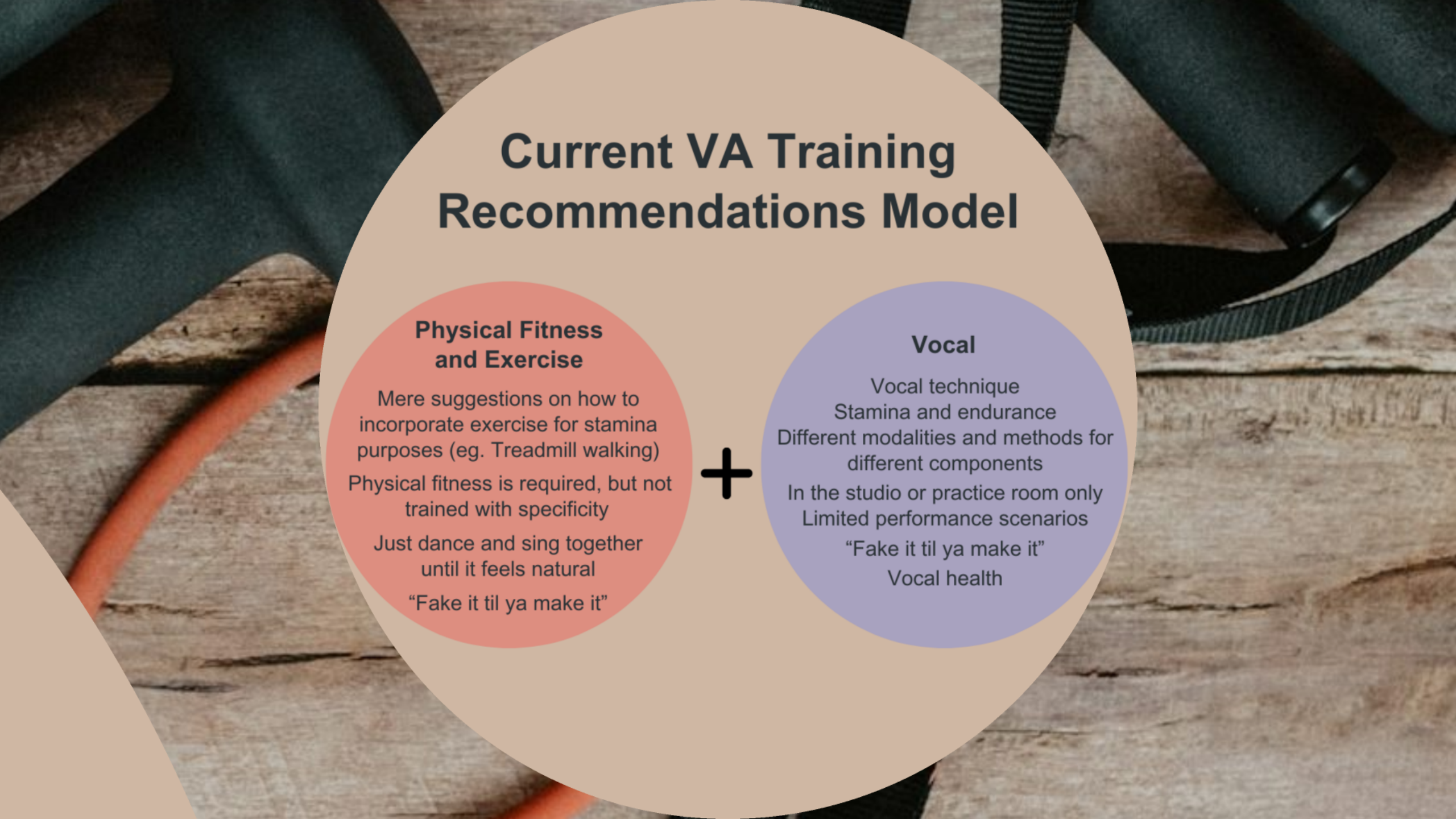
Tension

(Orlikoff, 2008; Primov-Fever *et al.*, 2014; Lee *et al.*, 2020; Snell *et al.*, 2020)

Program Requirements

Current Model

Updated Model



Current VA Training Recommendations Model

Physical Fitness and Exercise

Mere suggestions on how to incorporate exercise for stamina purposes (eg. Treadmill walking)

Physical fitness is required, but not trained with specificity

Just dance and sing together until it feels natural

"Fake it til ya make it"

+

Vocal

Vocal technique
Stamina and endurance
Different modalities and methods for different components

In the studio or practice room only
Limited performance scenarios

"Fake it til ya make it"

Vocal health

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Program Requirements

Current Model

Updated Model

Literature Review Findings Continued

VAc Training Requirements

(Friedlander, 2018; Lawrence, 2022; Nesbitt, 2023)

Exercises

(Petterson & Westgaard, 2004; LeBorgne & Dal Vera, 2015; Sandage & Smith, 2017; McCall, 2019; Chandler, 2022; Blake & Solberg, 2023)

Exercise Science Principles

(Sandage, Connor, & Pascoe, 2013; Schoenfeld & Contreras, 2016; LeBorgne & Rosenberg, 2018 Johnson & Sandage, 2021; Nesbitt, 2023)

Challenges

(Røksund, 2012; Rumbach, 2013; Fontan et al., 2017; Spivey & Saunders Barton, 2018; Schlabach & Peer, 2020)

Recommendations

(Van Hoye *et al.*, 2015; Amonette *et al.*, 2016; Schoenfeld & Contreras, 2016; Shannon & Zizzi, 2017; Rumbach *et al.*, 2019; Schlabach & Peer, 2024)

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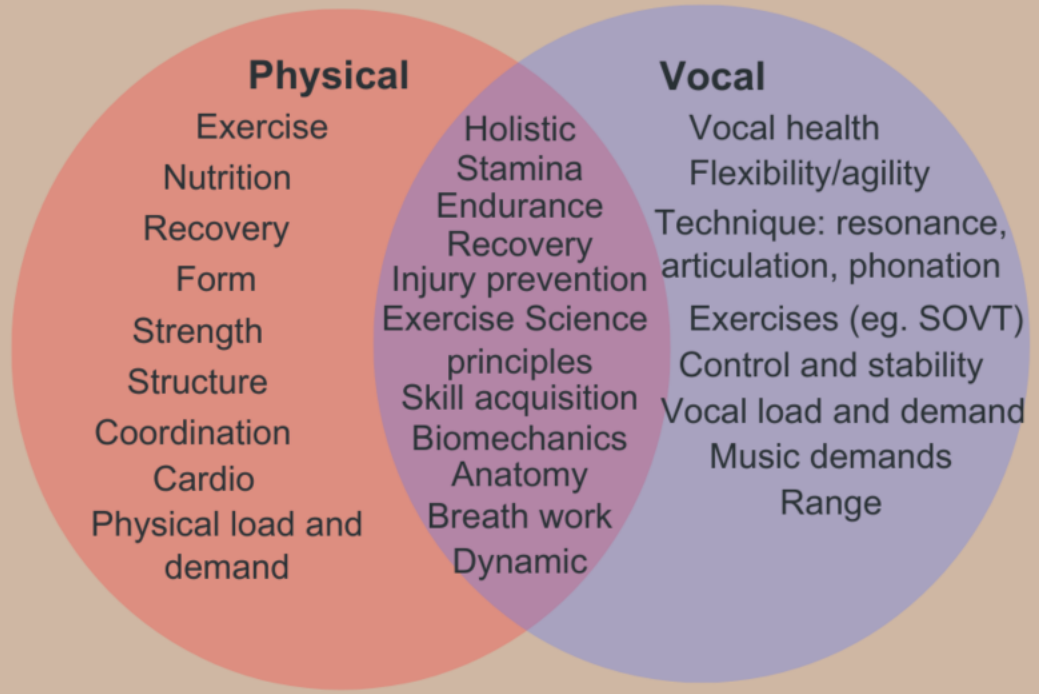
(Orlikoff, 2008; Primov-Fever *et al.*, 2014; Lee *et al.*, 2020; Snell *et al.*, 2020)

Program Requirements

Current Model

Updated Model

Updated VA Integrated Training Model for Performance Enhancement



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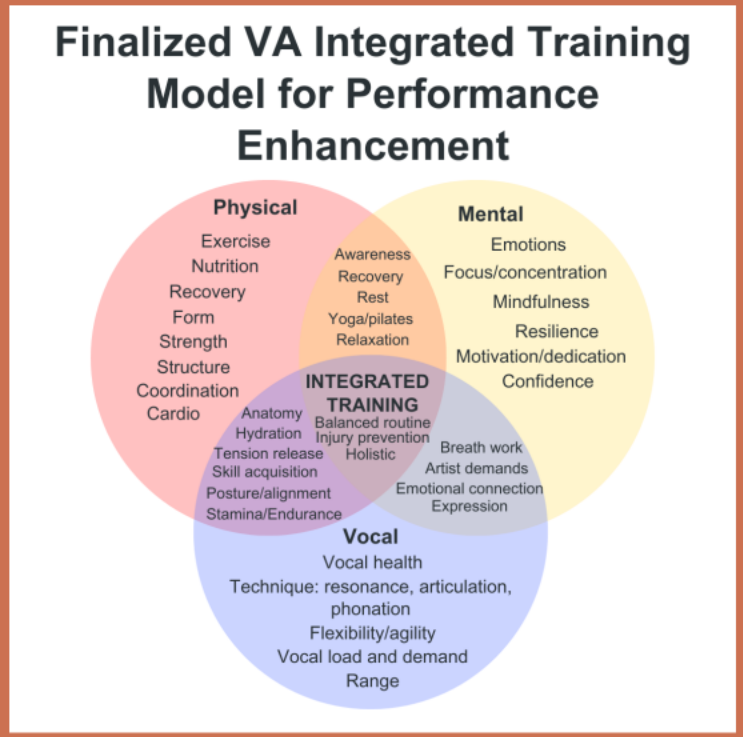
Updated Model

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Expert Interviews

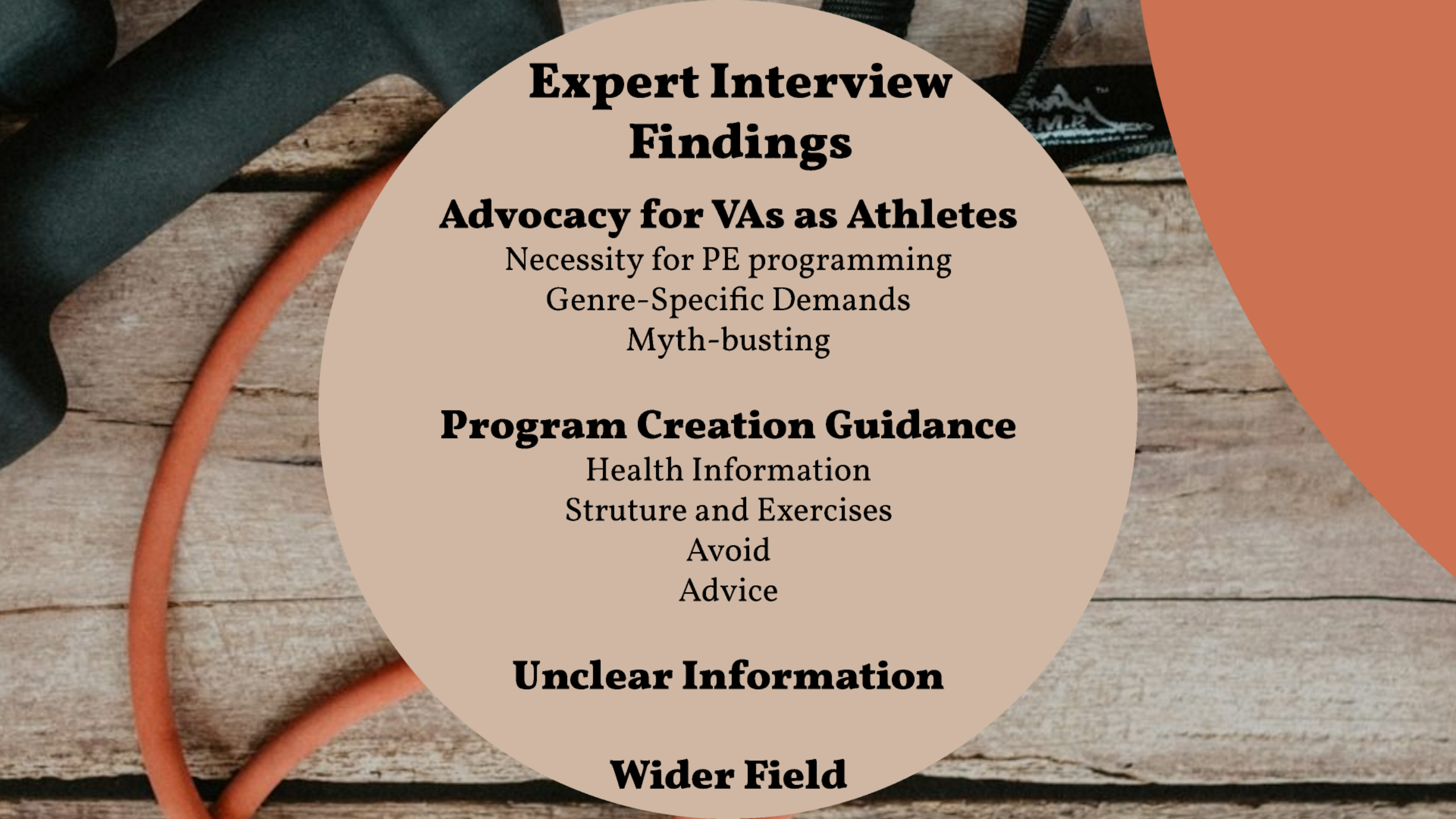
Findings

Inductive and Interative



Program Creation

VA Surveys



Expert Interview Findings

Advocacy for VAs as Athletes

Necessity for PE programming
Genre-Specific Demands
Myth-busting

Program Creation Guidance

Health Information
Struture and Exercises
Avoid
Advice

Unclear Information

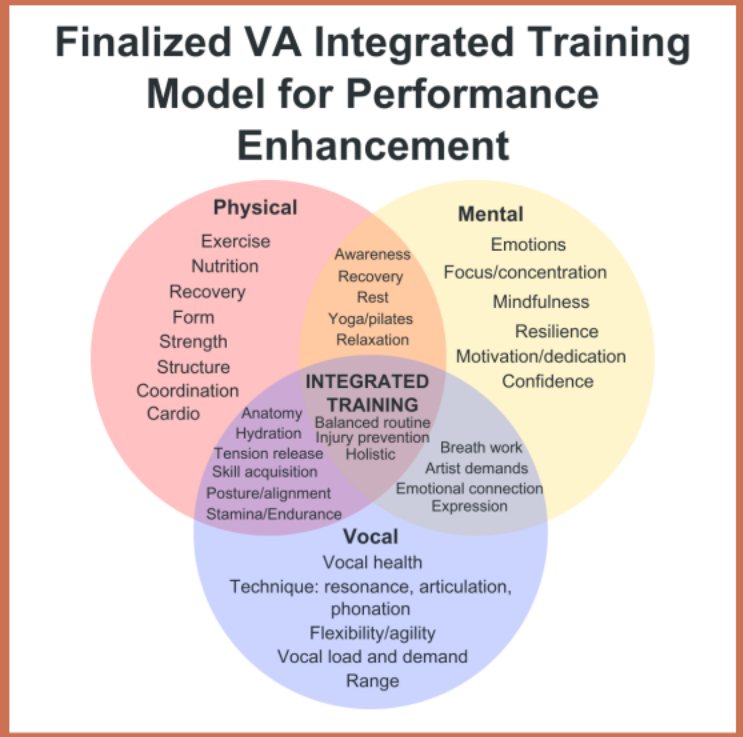
Wider Field

Literature Review

Expert Interviews

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Inductive and Interative



Program Creation

VA Surveys

Program Creation Flow Chart



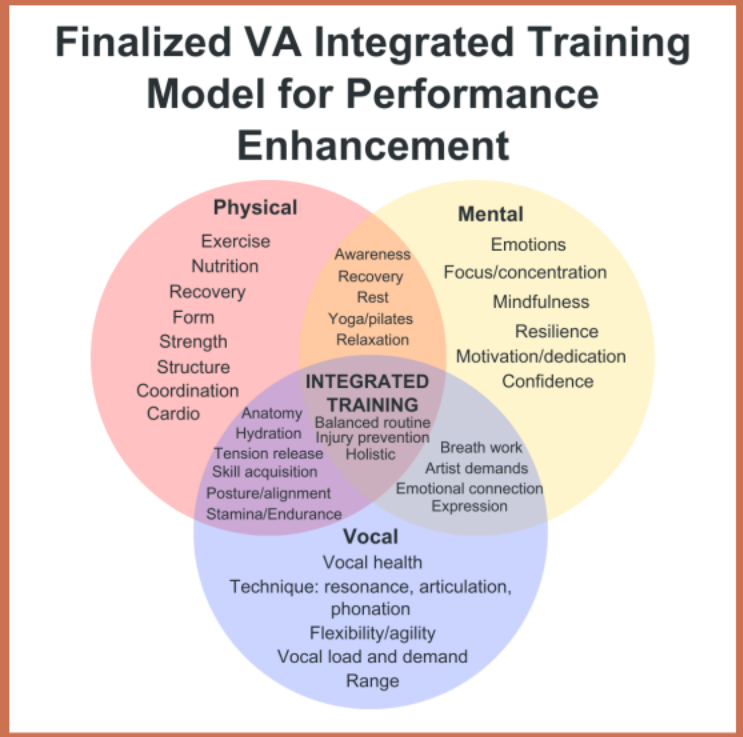
- Tension Stimulating and Tension Relieving Days
- Warm- up
- Balance and Mobility
- Pre- Breathing Exercises
- Strength and Resistance
- Core Development
- Cardio
- Cool-Down

Literature Review

Expert Interviews

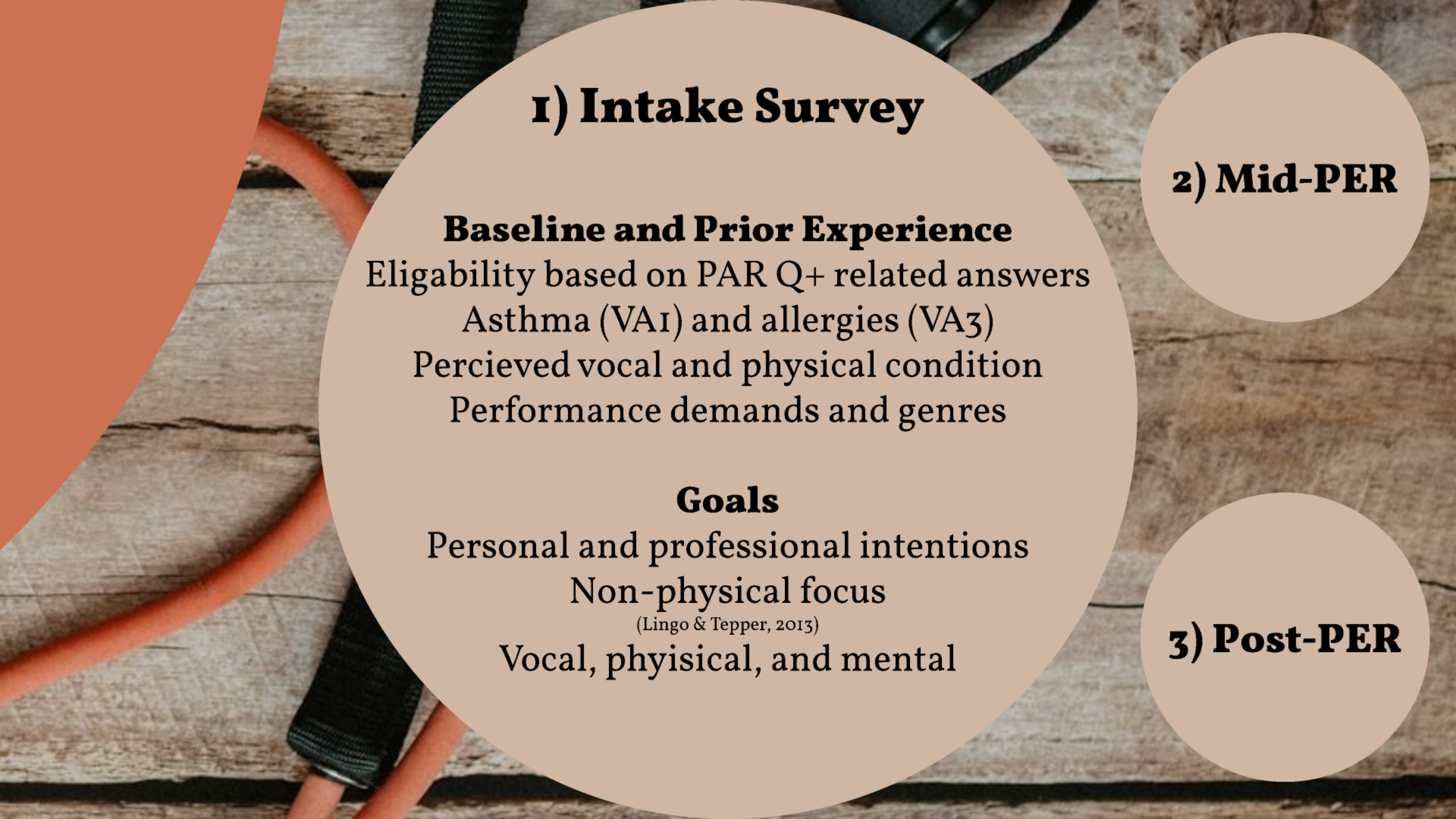
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Program Creation

VA Surveys



1) Intake Survey

Baseline and Prior Experience

Eligability based on PAR Q+ related answers

Asthma (VA1) and allergies (VA3)

Percieved vocal and physical condition

Performance demands and genres

Goals

Personal and professional intentions

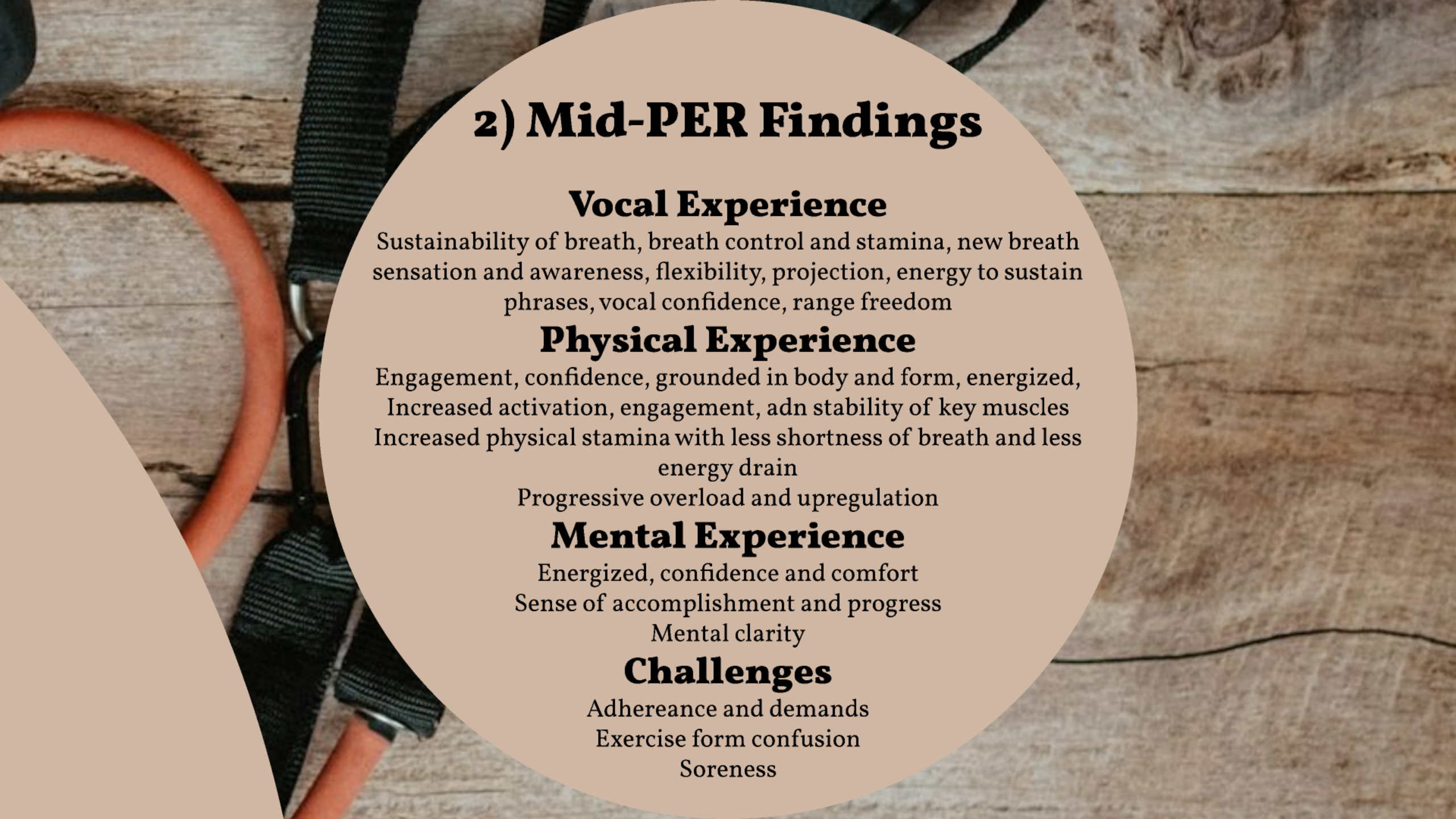
Non-physical focus

(Lingo & Tepper, 2013)

Vocal, phyisical, and mental

2) Mid-PER

3) Post-PER



2) Mid-PER Findings

Vocal Experience

Sustainability of breath, breath control and stamina, new breath sensation and awareness, flexibility, projection, energy to sustain phrases, vocal confidence, range freedom

Physical Experience

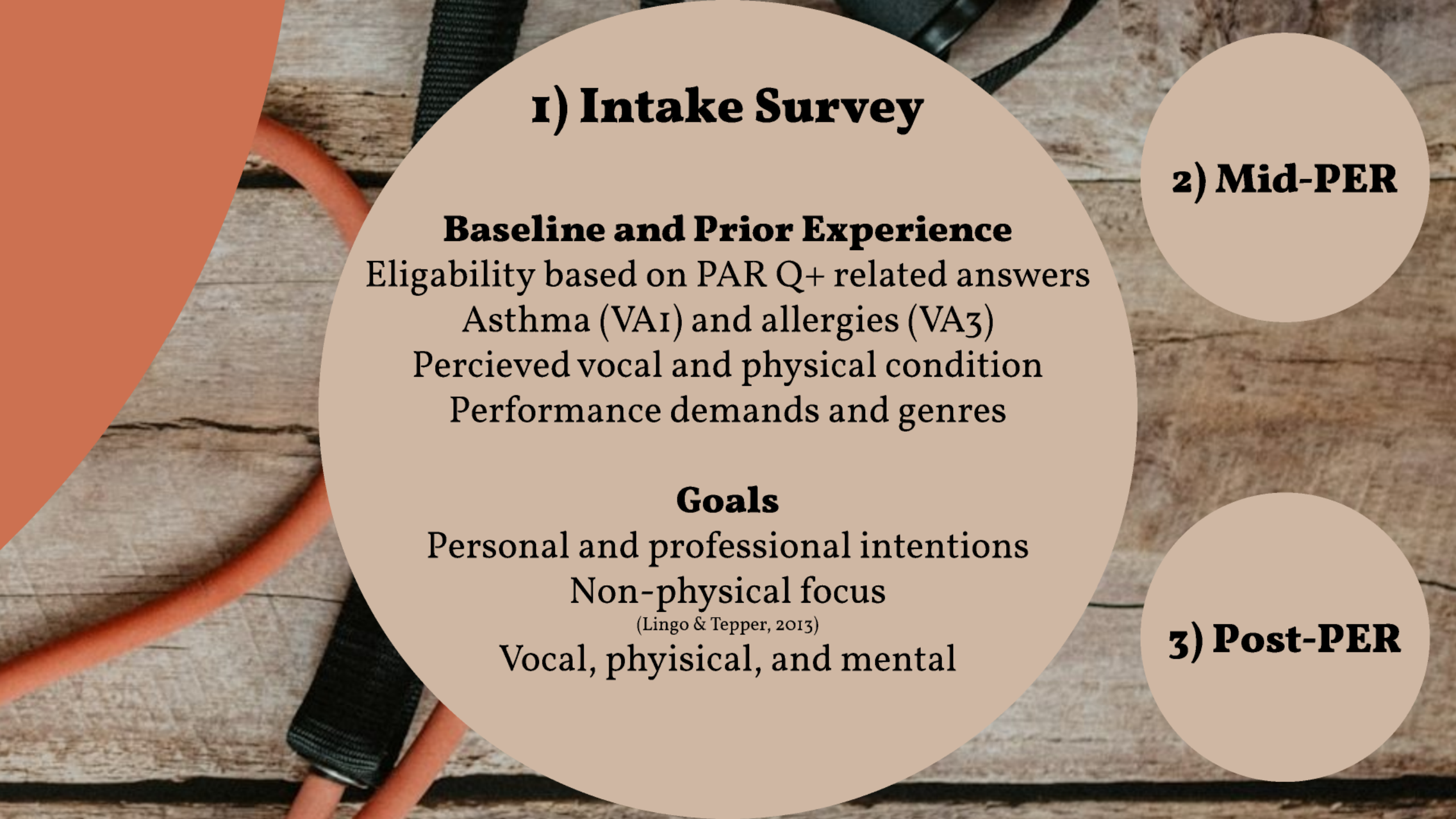
Engagement, confidence, grounded in body and form, energized,
Increased activation, engagement, adn stability of key muscles
Increased physical stamina with less shortness of breath and less energy drain
Progressive overload and upregulation

Mental Experience

Energized, confidence and comfort
Sense of accomplishment and progress
Mental clarity

Challenges

Adhereance and demands
Exercise form confusion
Soreness



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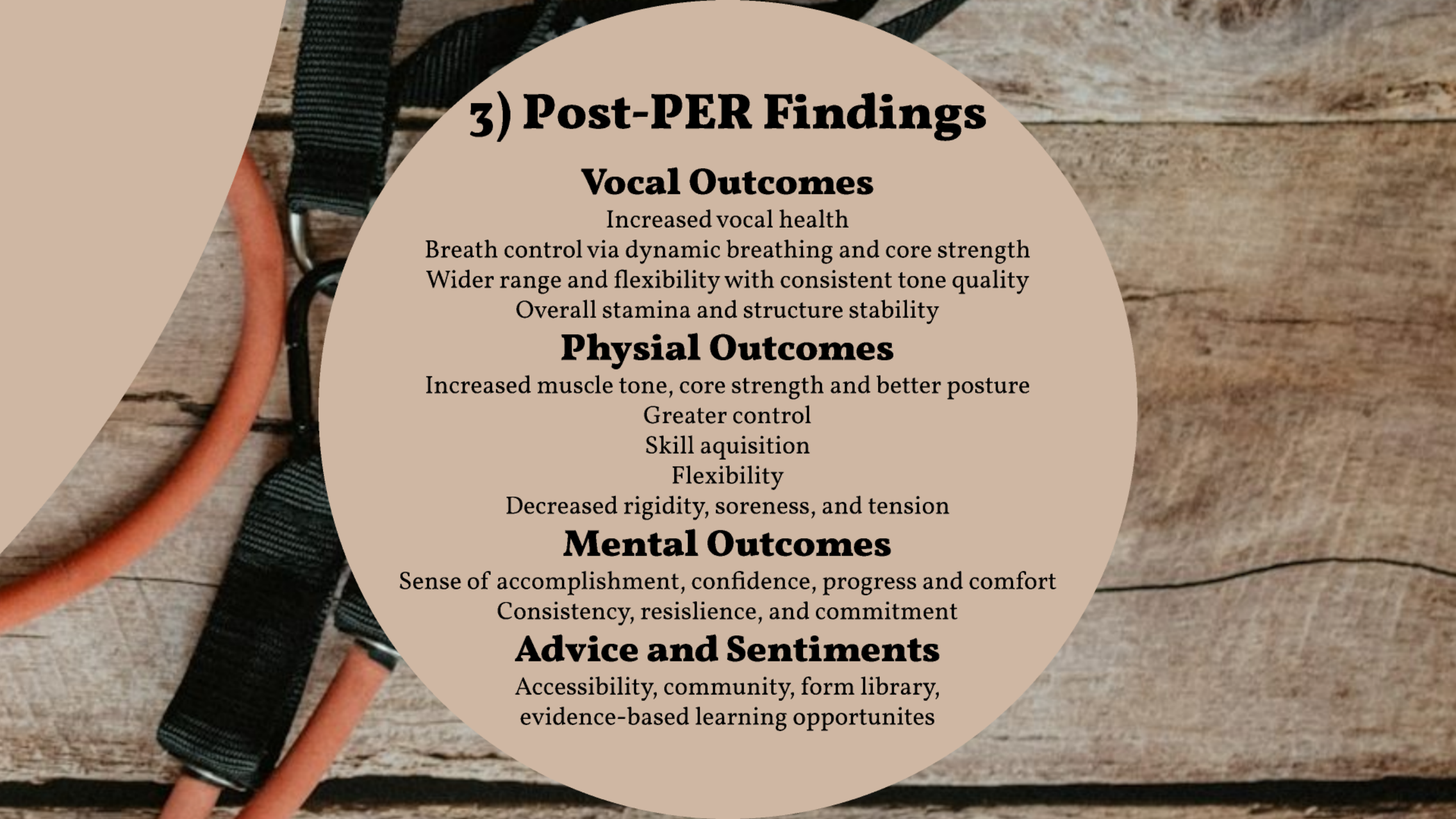
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2) Mid-PER

3) Post-PER



3) Post-PER Findings

Vocal Outcomes

Increased vocal health
Breath control via dynamic breathing and core strength
Wider range and flexibility with consistent tone quality
Overall stamina and structure stability

Physial Outcomes

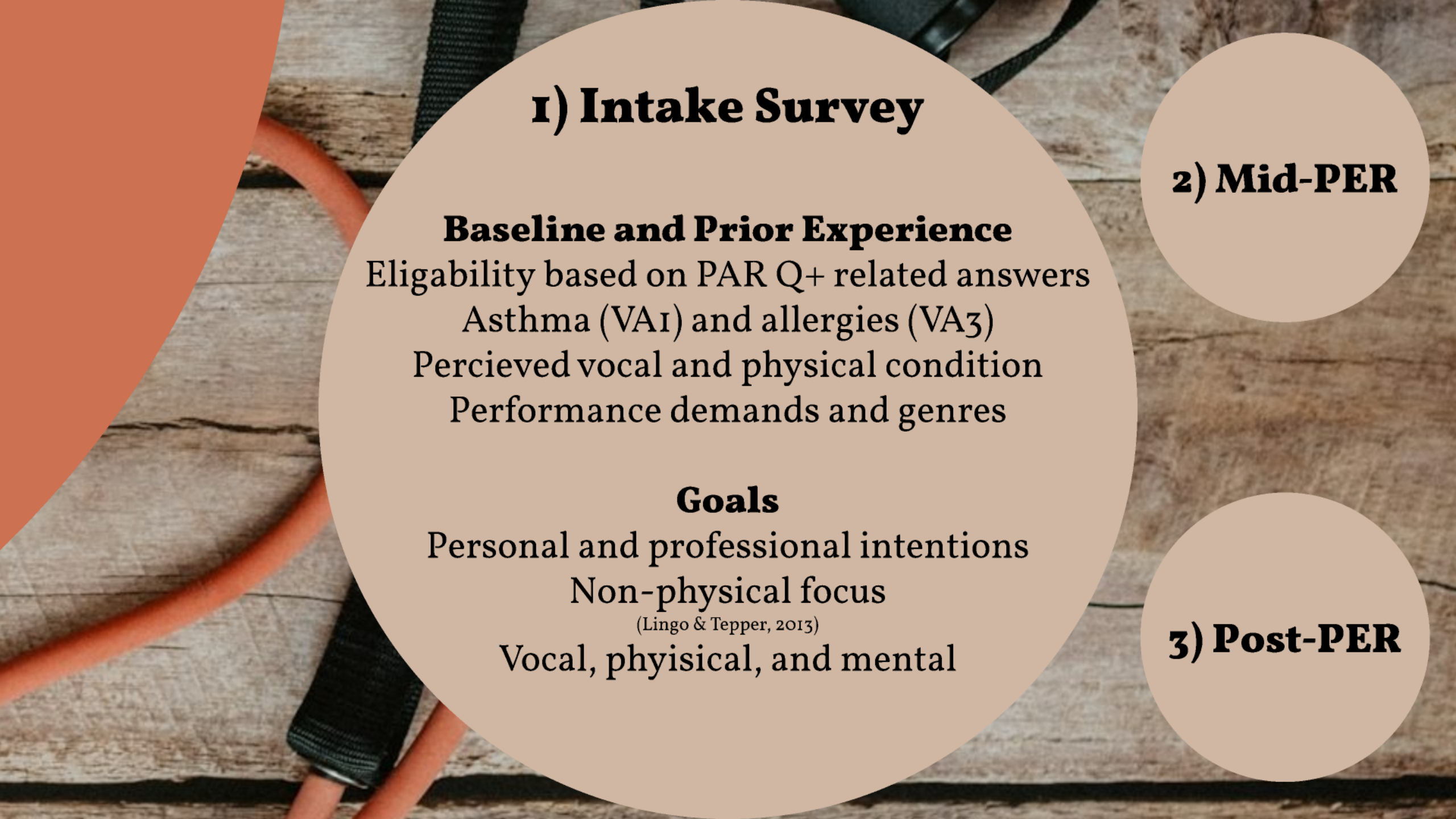
Increased muscle tone, core strength and better posture
Greater control
Skill aquisition
Flexibility
Decreased rigidity, soreness, and tension

Mental Outcomes

Sense of accomplishment, confidence, progress and comfort
Consistency, resislience, and commitment

Advice and Sentiments

Accessibility, community, form library,
evidence-based learning opportunites



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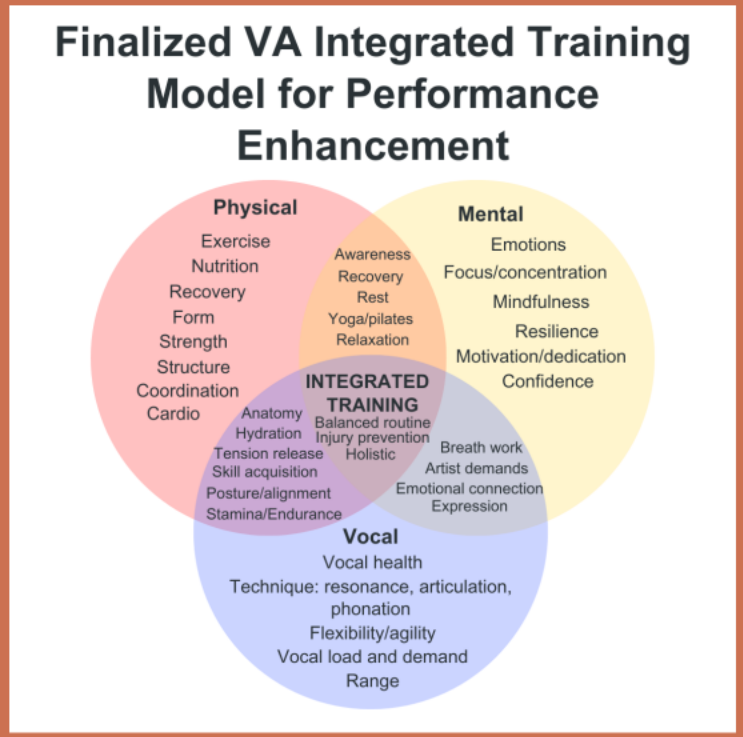
3) Post-PER

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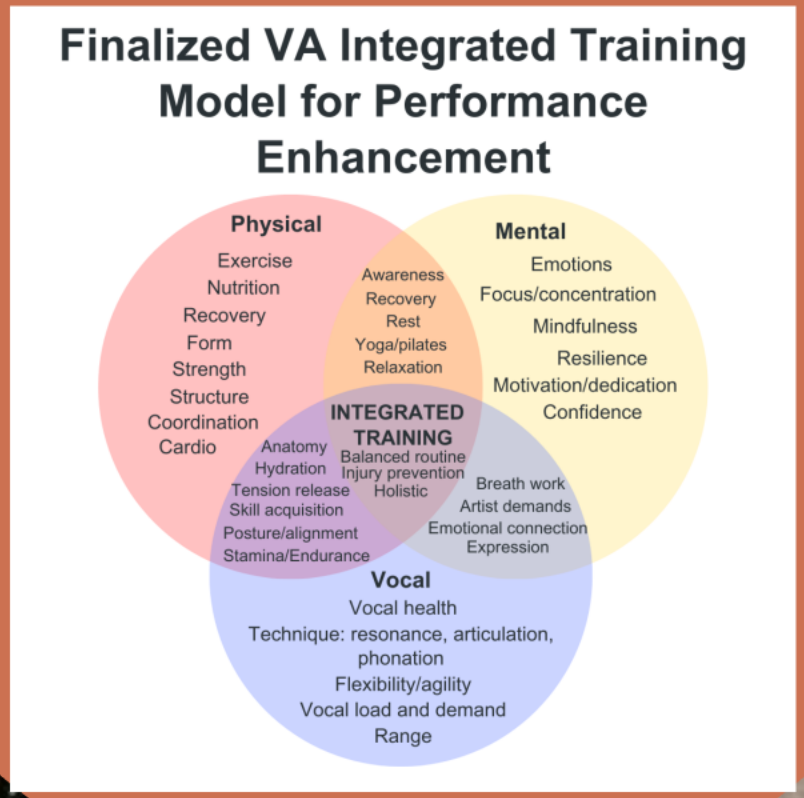
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Impact

Limitations

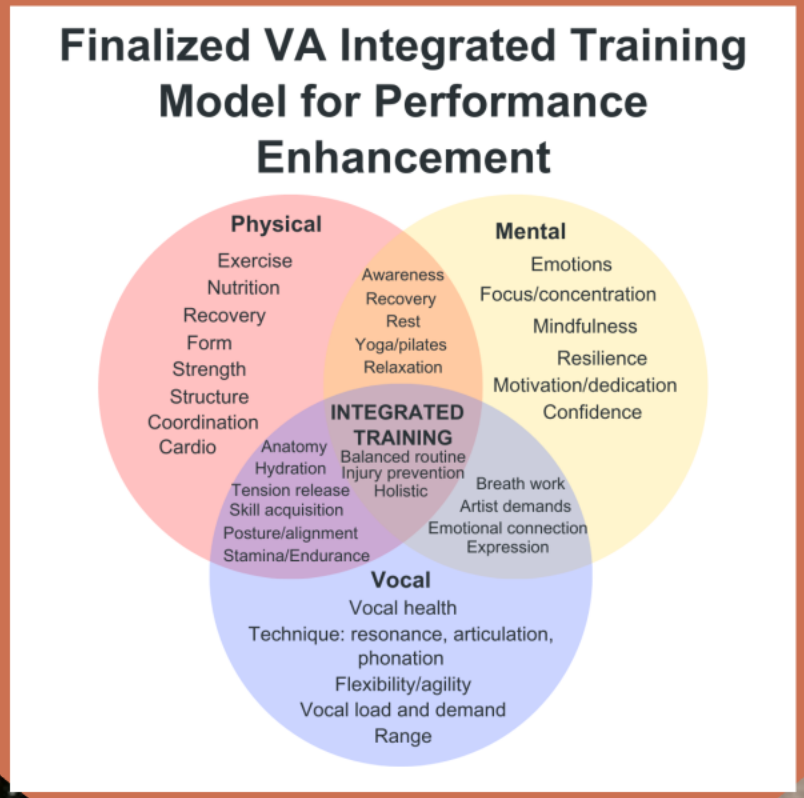
Recommendations



Impact

- Successful on a personal and professional level
- Knowledge gained for future programming and research endeavors
- Successful PER integration with VA adhereance
- Desire to continue
- Collaborative process completed
- Integration

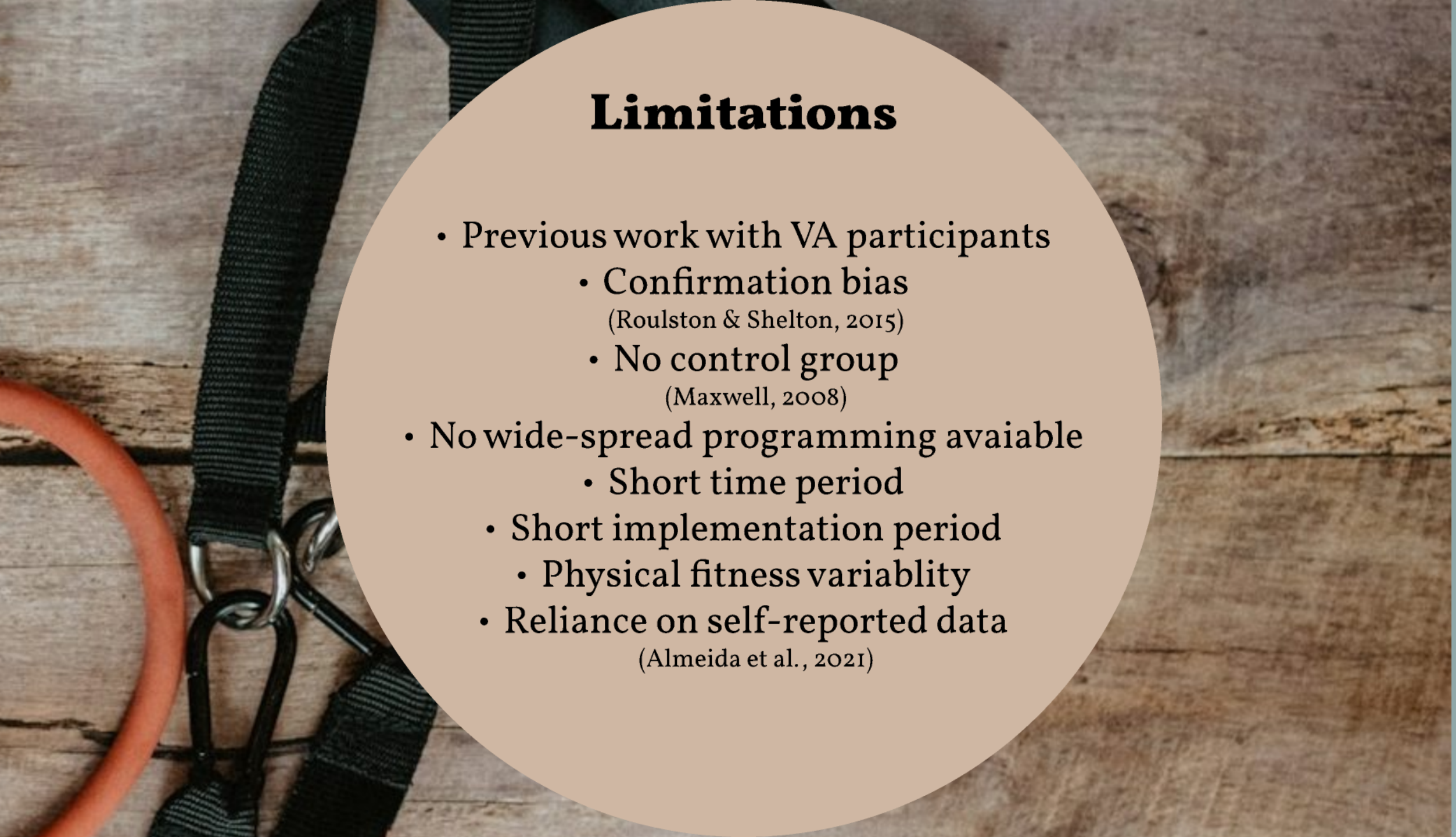
Discussion



Impact

Limitations

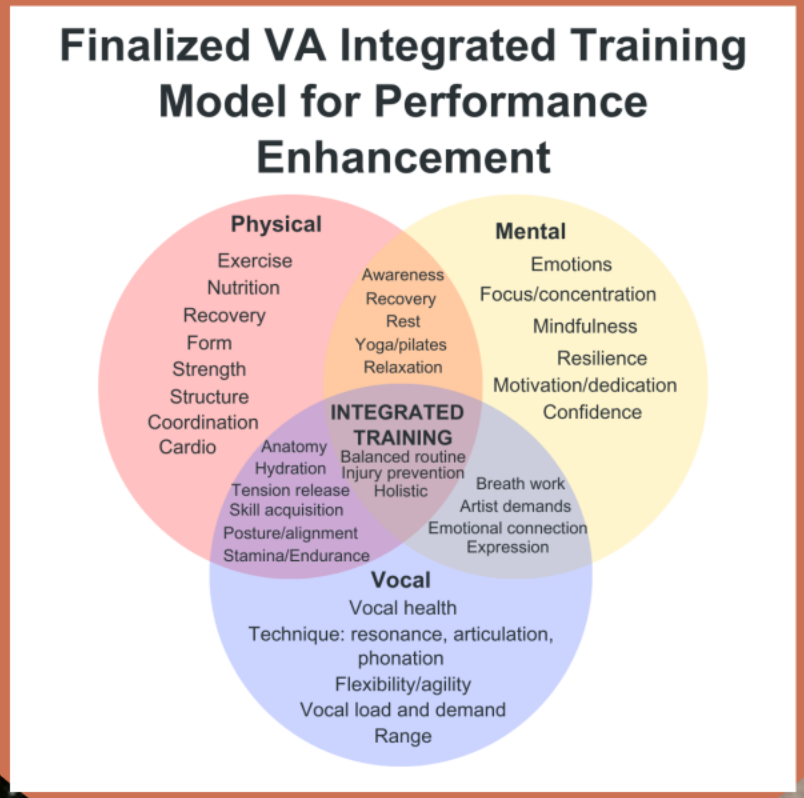
Recommendations



Limitations

- Previous work with VA participants
- Confirmation bias
  (Roulston & Shelton, 2015)
- No control group
  (Maxwell, 2008)
- No wide-spread programming avaiable
- Short time period
- Short implementation period
- Physical fitness variablity
- Reliance on self-reported data
  (Almeida et al., 2021)

Discussion



Impact

Limitations

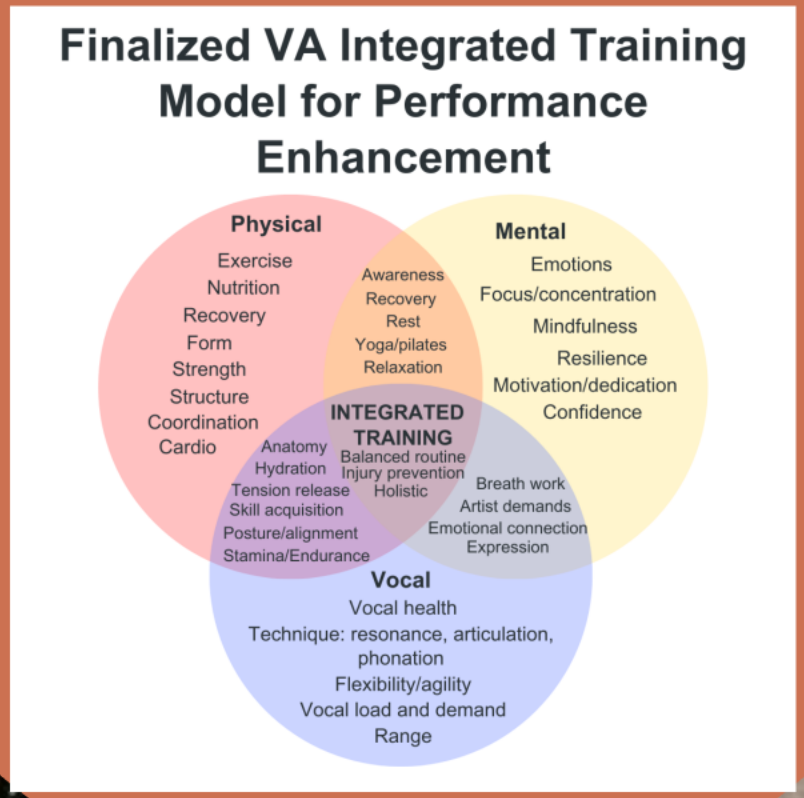
Recommendations



Recommendations

- Laryngeal view during exercise research
  (Naito & Niimi, 2000; Orlikoff, 2008; Røksund, 2012; Sandage & Smith, 2017)
- Genre-specific training
  (Spivey, 2018; Chandler, 2022)
- Customizable, scalable, and accessible programming for VAs
  (Cranton, 2006; Kirkpatrick & Kirkpatrick, 2016)
- Trainings for coaches
- Longer research timeline
- Gender specific
- Ability

Discussion



Impact

Limitations

Recommendations

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