

Can Neuro Coaching Change Unconscious Bias?



MA Professional Practice (Neuro Coaching)

Module: BMPF7010

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Research Background



The Problem

Unconscious bias presents a **complex challenge**: it operates at the individual level, often beyond conscious control, contributes to systemic inequalities, and undermines the objectives of equity legislation that organisations are required to comply with.

Justification

- A multi-million dollar training effort in workplaces across the Anglo-Western world has failed to deliver a change.
- No prior studies using any form of coaching have sought to change unconscious bias.
- Neuro Coaching routinely engages with the unconscious mind to support clients in the workplace to achieve their developmental goals.

Research Background



Aim

This research aims to challenge the assumption that unconscious bias is beyond individual control. It posits that if it is learned, then it may be possible for intrinsically motivated people to unlearn, with the support of an effective methodology.

Research Questions

The core research questions were evaluative:

1. Can Neuro Coaching change unconscious bias?
2. If so, is it possible to identify one technique with a greater correlation to change?
3. What is the subjective experience of any change for the Coachees?

Methods

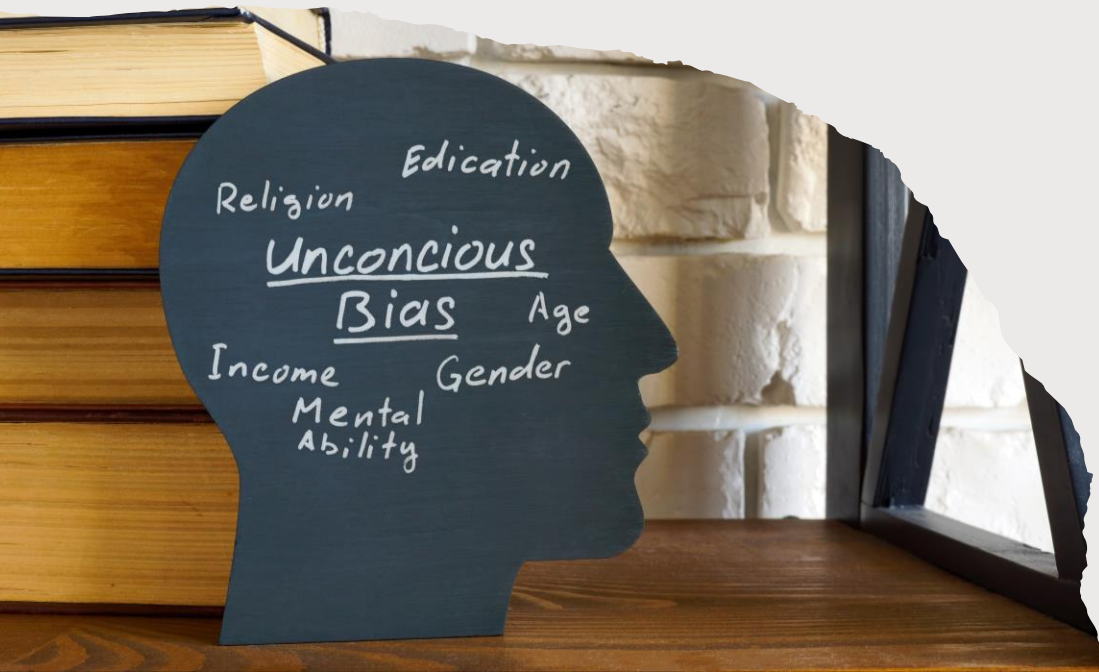
Intended

A mixed-methods, quasi-experimental design, blending quantitative measures and qualitative data, relying heavily on the Implicit Association Test (IAT) to contrast changes in results between a coachee and a control group based on statistical significance.

Actual

A flexible mixed-methods design that drew on:

1. **31 Coaching Session Transcripts:** analysed for evidence of changes discussed and for coaching tools and techniques.
4. **Coachee Surveys:** pre-, mid-, and post-coaching, tracking participants' reflections on bias-related changes.
5. **Coach Journal:** capturing overview of coaching sessions and coach reflections.
2. **Case Studies:** captured all data for each participant to provide a coherent and human perspective on the coaching journey. Included a summary of coaching session transcripts.
3. **Pre- and Post-Coaching IATs:** measured shifts in implicit bias for both coachees and the control group.



Methods

Context

The research took place in **the researcher's own company**, the Neuro Coaching Academy.

Participants were recruited from the public and screened using inclusion/exclusion criteria.

All participants were **selected blindly**.

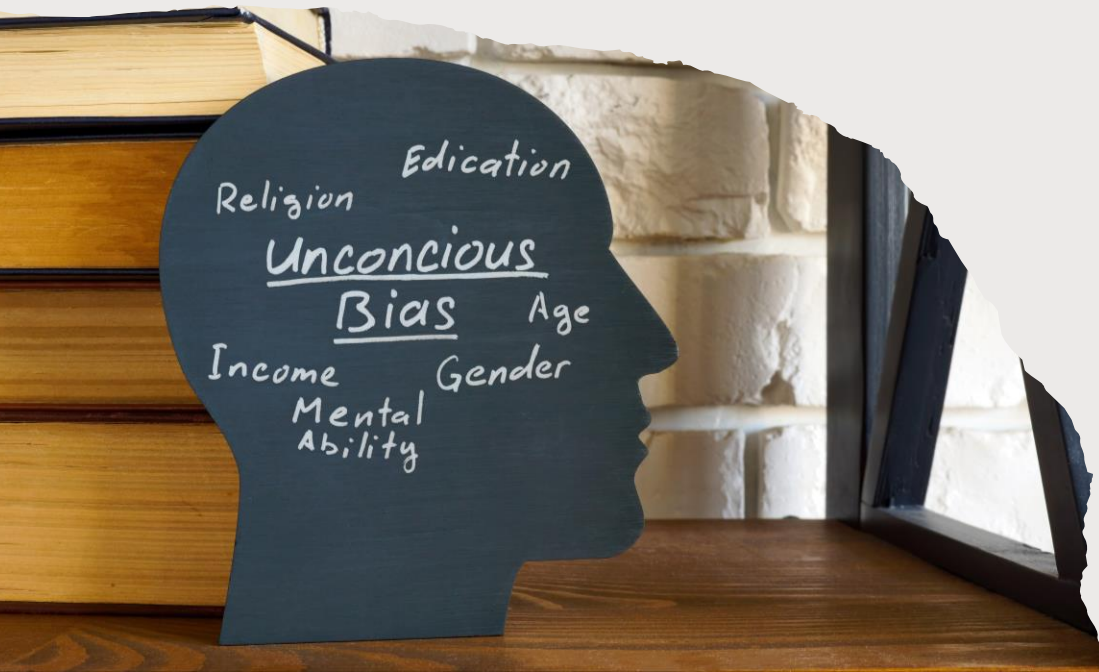
Coachee Group

The study commenced with **10 and ended with 8 Coachees**, with the Control Group membership adjusted to match.

- Coachees were offered **4 x 1-hour online coaching sessions**, spaced fortnightly.
- **Coachees chose the bias** they wished to change and took the IAT and pre-coaching survey.
- Mid-coaching Survey reports of changes were explored in coaching session 3.
- Coachees completed the **IAT and post-coaching survey 2 weeks after** their last coaching session and these were not discussed with them.

Control Group

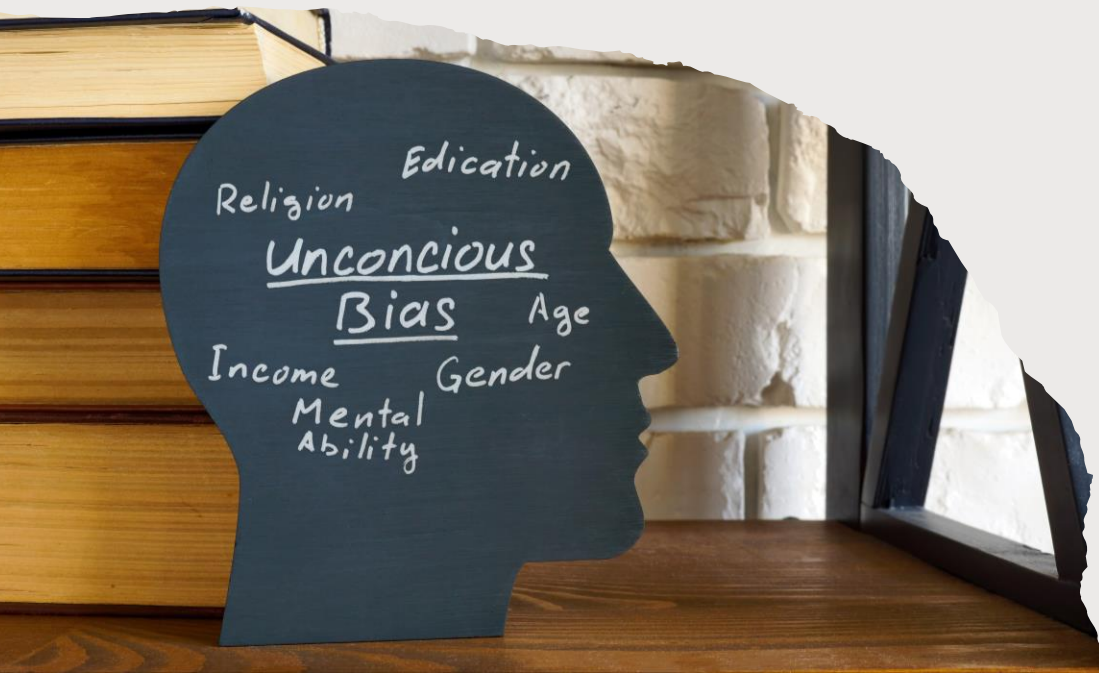
- Matched the coachee frequency for taking the IAT (in pairs).
- Chose the bias to take the IAT survey on.



Methods

Ethical Considerations

- **Informed consent** - via participant information sheets and agreements.
- **Anonymity and confidentiality** - data anonymised using participant codes.
- **Right to withdraw** - reminders of this were provided, and one coachee withdrew due to time constraints.
- **Researcher bias mitigation** - transparency about potential conflicts of interest.
- **Consequences** – coachees' were asked in the post-coaching survey if they felt safe with the use of coaching tools and challenging conversations. All responded that they had felt safe. All coaching tools were used inline with ethical guidelines of the coach's professional association.



Methods

Quantitative Data in Analysis

The instrument was found to be 0.5 reliable when used on social biases and weighting as a form of evidence was adjusted down. Analysis was limited to comparison by group of:

- Means in the difference over time.
- Directions of movement in the *qualitative* assessment of levels bias.

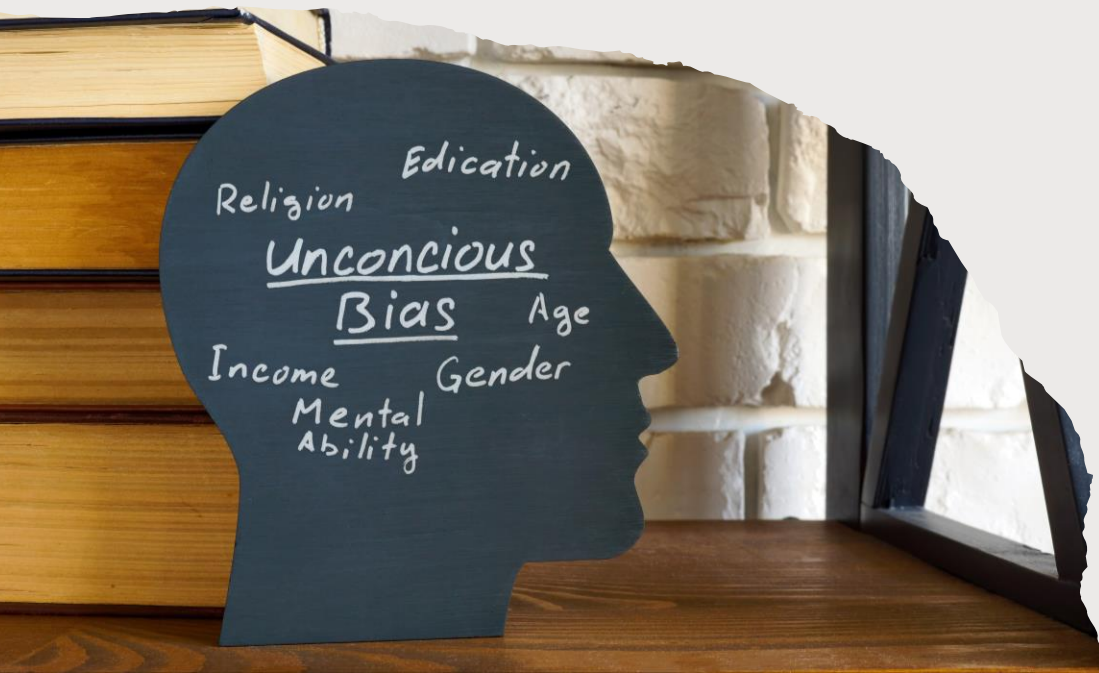
Qualitative Data in Analysis

Data intended to answer the question of the subjective experience of the coachees was triangulated with the IAT data and became the most weighted source of evidence in answering the core evaluative question. This drew on:

1. **31 Coaching Session Transcripts:** discussions of changes observed in self
2. **Coachee Surveys:** mid- and post-coaching questions tracking participants' descriptions of bias-related changes and their own assessment of if they had changed the bias.
3. **Comparison of 1 and 2 to Coaching Goal**

Evaluation of coaching tools and techniques drew on this analysis of change above, together with:

1. Analysis of coaching tools and techniques in **transcripts**
2. **Case Studies:** providing a detailed insight into the coaching process, drawing on the **Coach Journal**.
3. **Coach's assessment** of the relative significance of the different change outcomes.



Findings – IAT Results

Means of Differences over Time Compared by Group

The **coachees' mean improvement** is **twice as high** as the control group's slight regression, suggesting the coaching intervention's positive impact.

Mean Difference	
Coachees	Control Group
0.22	- 0.11

Table 1: Level of Change Pre and Post Test –
Comparative Means between Groups

Findings – IAT Results

Changes in Level of Bias

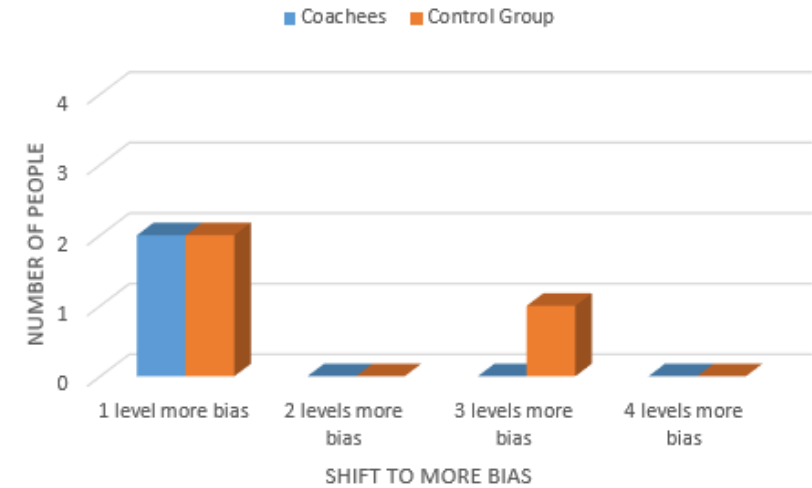
1. Coachees:

- Greater shifts from “**moderate**” or “**strong bias**” to “**slight bias**” or “**neutral**.”
- One participant exhibited a dramatic change, moving from “**moderate bias**” to a “**moderate preference**” for non-conforming pairings (opposite of bias).

2. Control Group:

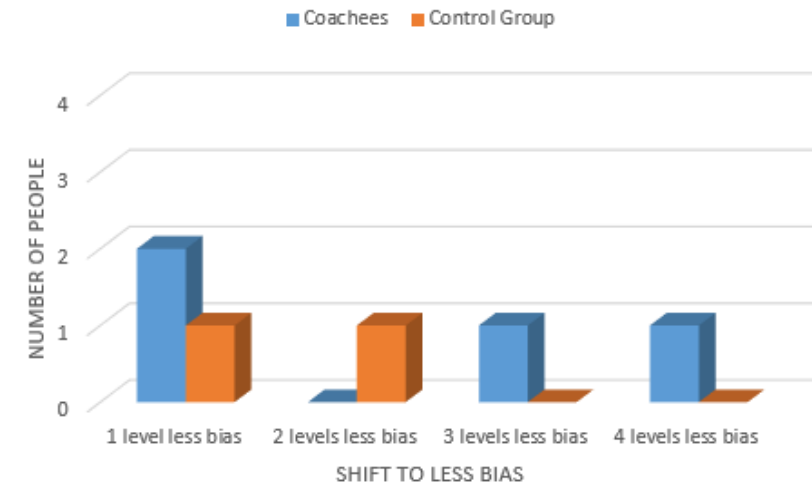
- Minimal positive shifts, with some participants showing regression (e.g., slight to moderate bias).
- Slightly higher proportion of participants experienced increased bias compared to coachees.

Comparative Change across Groups in Qualitative Assessment of More Bias



Graph 1: Participants by Group – IAT shift towards less bias

Comparative Change across Groups in Qualitative Assessment of Less Bias



Graph 2: Participants by Group – IAT shift towards more bias

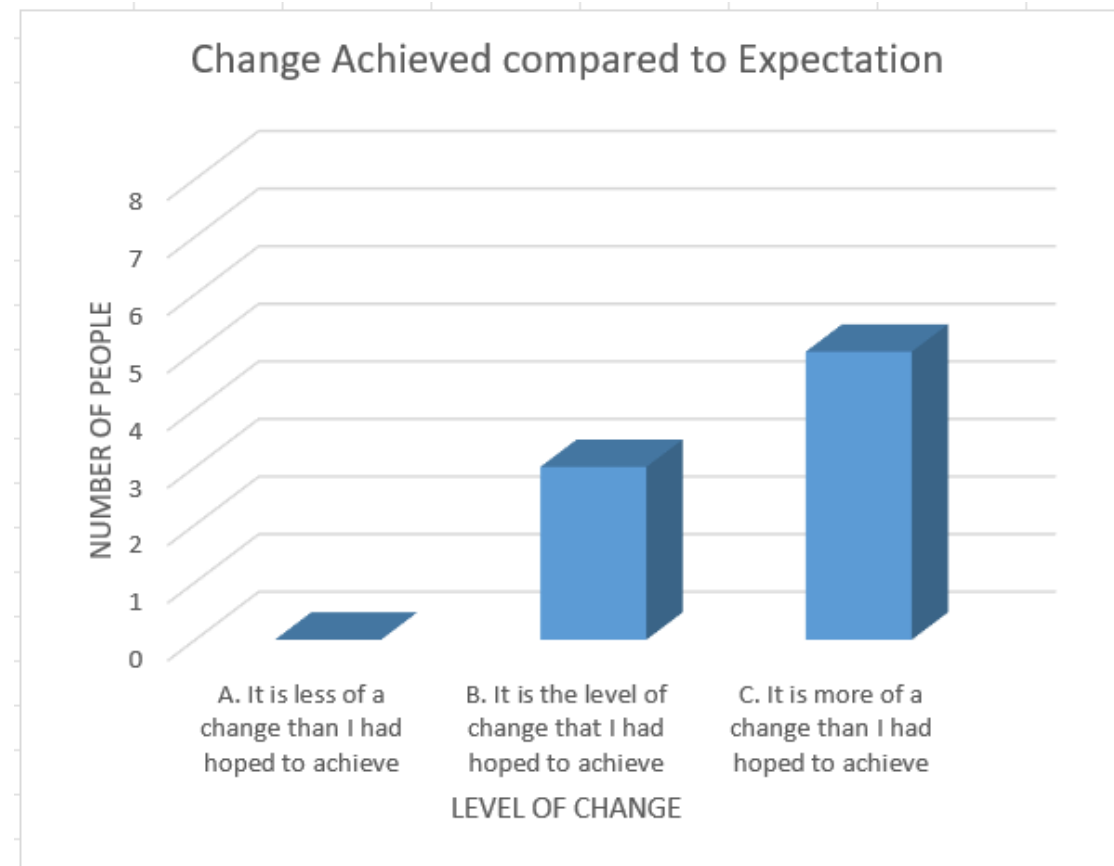
Findings – Post-coaching survey

Coachees' Subjective Assessment of Change

100% (8/8) Coachees responded
‘Yes’ to the yes/no question:

Do you believe there has been a noticeable change in your internal process (thoughts or feelings) about the group you were working on being a better ally for?

Slightly more identified the change as
“more of a change than I had hoped to achieve” (5/8)

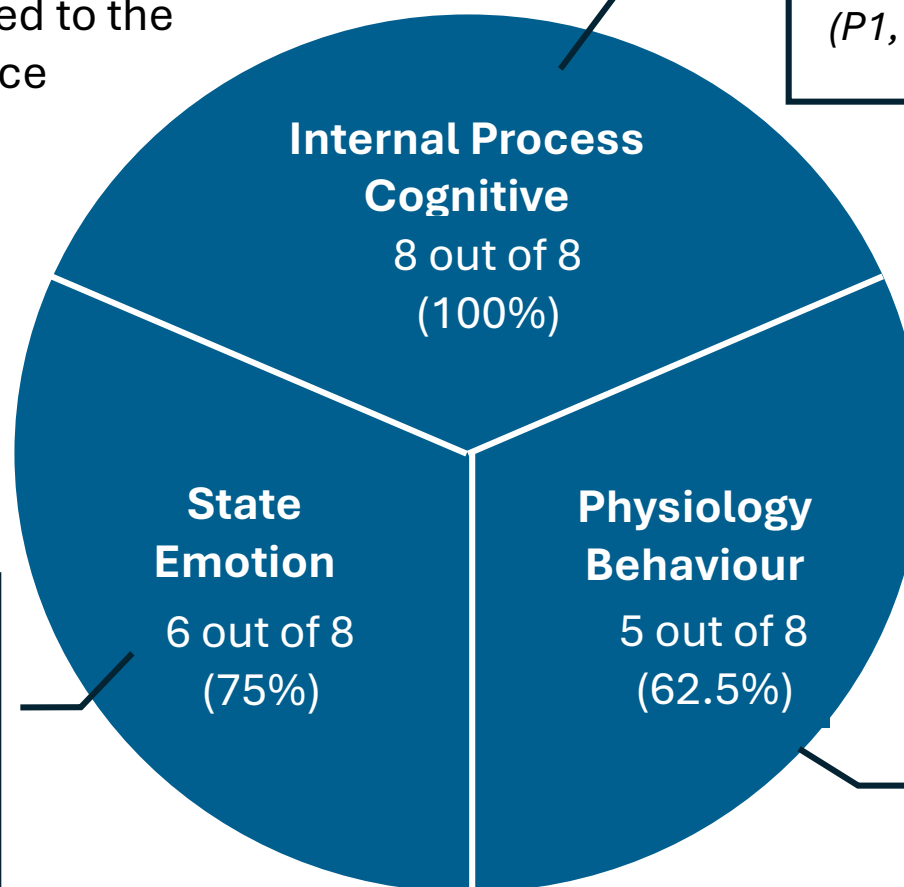


Graph 3: Question 12 Results – compared to level of change hoped to achieve

Changes by Category

Changes categorised and mapped to the Structure of Subjective Experience

Improved emotional regulation, reduced judgement, and increased emotional breakthroughs.
(P1, P2, P3, P5, P6, P8)



Reframing biases, adopting neutral or positive perspectives across all participants.
(P1, P2, P3, P4, P5, P6, P7, P8)

Observable changes in actions, interactions, and proactive decision-making.
(P4, P5, P6, P7, P8)

Not a pie chart

Participant-Specific Changes

1. Participant 1 (Gender/Career Bias – male perspective):

- **Goal:** Resolve internal conflict about caregiving roles.
- **Change:** Achieved calm and confidence when thinking about being primary parent. Started discussing options with female partner, instead of assuming traditional gendered roles.

2. Participant 2 (Gender/Career Bias – female perspective):

- **Goal:** Reframe biases about men and women's career decisions.
- **Change:** Developed curiosity and excitement about discussing career breaks, regardless of gender, detached own feelings about own experiences from the conversation. Experienced feelings of flow and being 'present'. No longer experience an involuntary 'pause' when men discuss being a primary parent.

3. Participant 3 (Disability Bias):

- **Goal:** Replace pity with respect for differently abled individuals.
- **Change:** Developed genuine admiration, reframed stereotypes.

Participant-Specific Changes

4. Participant 4 (Body Image Bias):

- **Goal:** Reduce physical reactions to overweight individuals.
- **Change:** Eliminated judgmental thoughts, replacing them with curiosity and neutrality, no longer experiencing disgust response.

5. Participant 5 (Race Bias):

- **Goal:** Overcome barriers to genuine authentic connection to Aboriginal people.
- **Change:** Engaged in natural, spontaneous interactions (micro-behaviours) with strangers. No longer experienced intrusive racist thought or distress related to monitoring this. No longer experienced projected feelings of hopelessness that triggered an urge to 'rescue'.

6. Participant 6 (Body Image Bias):

- **Goal:** Shift focus from body size to personal traits.
- **Change:** Achieved faster-than-expected progress, developing neutrality and emotional regulation. No longer experiencing disgust response.

Participant-Specific Changes

7. Participant 7 (Cultural & Race Bias):

- **Goal 1 - Cultural:** Feel neutral about colleagues speaking other languages in the workplace.
- **Change:** Shifted from suspicion to acceptance, engaging in light conversations.
- **Goal 2 – Race:** Stop crossing the street to avoid Aboriginal strangers.
- **Change:** No longer feel fear/cross the road to avoid Aboriginal strangers.

8. Participant 8 (Age Bias):

- **Goal:** Reframe aging as a growth opportunity.
- **Change:** Took concrete actions to build relationships with elders in family remotely, saw aging as a privilege and unexpectedly experienced a 'live life to the full' outcome for self in the present, taking spontaneous action, such as joining a hockey club.

Primary research question:

Can Neuro Coaching Change Unconscious Bias?

Yes it can

And:

- Same bias in different people has different forms, however there is potential for a similarity (e.g. disgust response across two people with no contact).
- The change has potential to be transformative (to generalise to other positive benefits) for coachee.
- Multiple coachees felt they had achieved their change goal in two sessions, and some chose to 'deepen' the change. These people experienced more transformational outcomes for self.

Note:

- Changes discussed in post-coaching survey had lasted 2 weeks or more.
- Changes were based on self-observation.

Based on the analysis of transcripts, mid and post-coaching surveys compared to coachees' goals.

Triangulation with IAT Means and Levels of Bias data across Coachee and Control Groups

Secondary question:

Are any coaching tools more effective than others?

There is no one tool that is associated with changing unconscious bias in all Participants. Two participants did not experience an explicitly proposed 'change tool' as understood in Neuro Coaching.

- The Coach used a full and diverse toolkit and did an unusual amount of personal sharing.
- Some customised tools and common questions to 'surface' the bias were developed in action and used across participants.

Coaching Tools that were used with all Coachees:

- Well Formed Outcome – incl. future pace, chunking up to highest intention, surfacing of concerns
- Frame of 'allyship'
- Reframing conversations
- Meta-Model questions, and other Powerful Questions
- Milton-Model pre-supposition that change is possible
- Psychoeducation for transparency on tools, Neuroscience, NLP and on working theory of unconscious bias.
- Observing self without judgement/mindfulness

Additional Tools used with Coachees who in the Coach's assessment achieved a higher volume of significant changes:

- Belief Change with Submodalities for assumptions
- Integral Eye Movement Therapy for emotions
- Clean Language with metaphors
- Multiple Brain Integration Technique (mBIT)
- Strategy interrupt (A and K)
- Visual Goals Alignment
- Anchoring positive states (spontaneously occurring)

Secondary
question:
*Are any
coaching tools
more effective
than others?*

Emotion	Bias	P#
Disgust	Body Image	P4, P6
Awkwardness Hopelessness/urge to rescue	Race bias (Aboriginal Australian)	P5
Fear Wariness/suspicion	Race bias (Aboriginal Australian) Cultural bias (People of Colour)	P7
Pity/‘sorry for’	Differently abled bias	P3
Defensive/Conflicted	Gender/Career	P2

It was notable that the coach’s skill in working with emotion was relevant and that the IEAT was not the only tool required to support the resolution of emotions that were connected to ‘how the bias operated’. All tools remained in Neuro Coaching Toolkit.

Secondary question:

How do Coachees' experience the frame of 'coaching to develop as an ally'?

- Pre-framed contact through pre-coaching survey and was then discussed in Session 1 and put aside.
- Coachee used their own definition of allyship from pre-coaching survey and this was superseded by the coaching goal based on: *'what would it mean for you to be an ally to ____ without this bias?'*
- It was intended to provide psychological safety as follows:
 - Reinforce that unconscious bias originates from societal messages outside of one's control, though its impact can contribute to inequality.
 - Emphasise that Coachees are fundamentally good people who can choose to change how these messages influence them.
 - Highlight that this change enables Coachees to become better allies, reducing complicity in structural discrimination and inequality.

Conclusion

The study concludes that **Neuro Coaching** is capable of reducing unconscious bias. Key findings include:

- **Effectiveness:** All participants reported progress, with 62% stating outcomes exceeded expectations.
- **Scalability:** Techniques demonstrated adaptability across diverse biases and participants. Speed at which biases were able to be changed suggest suitability to working to change multiple biases in the normal length of coaching engagement.
- **Participant Experiences:** Changes included cognitive, emotional, and behavioral shifts, including positive changes that were unexpected and not directly consciously related to the biases.
- **Toolkit and Capability:** coaching required a full toolkit and a proficiency in working with emotion.
- **Learning about the nature of bias:** the coaching process offers insight into how bias operates in the subjective experience (e.g. no emotions cleared were connected to negative events with the outgroup).

Recommendations

Future Directions in Research:

- Investigate the sustainability of bias reduction outcomes over a longer time.
- Develop standardized coaching tools for supporting the surfacing of 'how the bias operates'.
- Seek out a sponsoring organisation to test long-term systemic outcomes from a cohort of leaders creating like-changes.
- Investigate the scalability of outcomes through the replication of results by different coaches.
- Utilise participant journals and the benefits of new technology to process high volumes of qualitative data. Potentially influencing 'unhooking' this field of research from dependence on the IAT.



Reflection on Personal and Professional Learning Experience

The Research experience

- Enjoyable, and made possible by support of Research Assistant throughout, and AI analysis of qualitative data in the final weeks.
- Noticed blindness to the IAT limitations in the first Literature Review and project design.
- I have realised the influence of Cultural Studies frames and Mindfulness frames and would want to explore these more thoroughly with literature.
- An immense learning about AI in the final weeks.

The Coaching experience

- Aligns with values of social change and combines this with the work that I love.
- If it were to continue, I would seek coaching supervision to work on my own biases and 'what comes up' as some of the material is potentially shared based on shared dominant culture.
- The level of personal sharing could be mitigated by more tools for surfacing associations of bias.
- The ultimate goal is to train others to do this at scale and this vision has been highly motivating.