To explore whether exercise duration and the type of exercise has an impact on individual well-being and to provide a more in-depth insight to why this might be.

Charlotte Evans

2206694

Bachelor of the Arts (hons) in Applied Psychology.

Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Background literature

Aerobic vs Anaerobic (Wahid et al., 2016; Patel et al., 2017).

2.5 hours of moderate exercise per week (World Health Organisation, 2024).

80% of adolescents and 27% of adults don't meet the recommended timeframe (World Health Organisation, 2024).

Herazo-Beltran et al. (2017) study on barriers faced within exercise.

Studies

- COVID-19 led to reduced physical activity and a rise in depression and antidepressant use.
- Antidepressant prescriptions increased (Gray, 2022).
- Regular exercise promotes neurotransmitters like endorphins – supports Endorphin Theory (Craft & Perna, 2004).
- Enhances social interaction and self-identity (Hovland et al., 2023).
- Longer exercise duration (Basso et al., 2022).
- Dance and yoga groups showed greater well-being and community compared to control (Welford et al., 2022).
- Motivation differs: men are more intrinsically motivated, women extrinsically (Granero-Jiménez et al., 2022).
- Men prefer individual workouts; women prefer group settings for social support (Agius et al., 2024).

Rationale

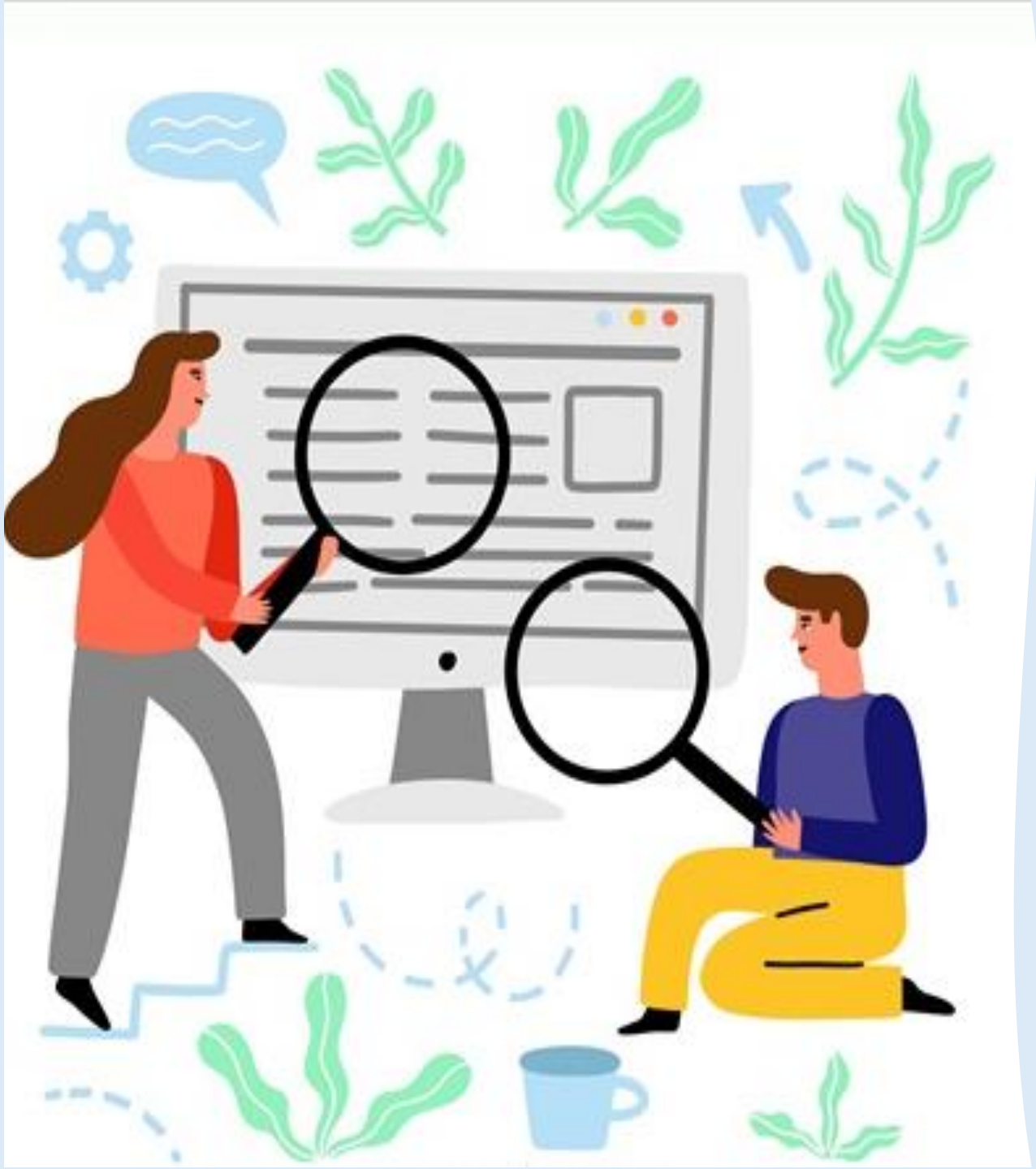
- Exercise improves mental well-being
- Research gap: Effects of exercise type and duration underexplored
- Previous studies: small samples, limited methods
- This study uses a mixed-methods approach.
- Warwick-Edinburgh Mental Well-being Scale (Tennant et al., 2007)
- Open-ended questions for personal experiences
- Aims to deepen understanding of exercise's impact on well-being.

Hypotheses

The participants in the 150+ minutes group will have a higher score on the well-being score compared to the other groups.

The aerobic group will have higher scores on the well-being scale compared to the other groups.

The duration of aerobic exercise will have a positive effect on well-being, such that longer durations of aerobic exercise will lead to greater improvements in well-being scores.



Methodology

53 **Participants**

Aerobic group= 35 and Anaerobic group=18.

150+ group

60–150-minute group

less than 60-minute group

‘no exercise’ group

53= Quantitative 50=Qualitative

Mixed-method, web-based design

Quantitative - Measured exercise type, duration, and well-being

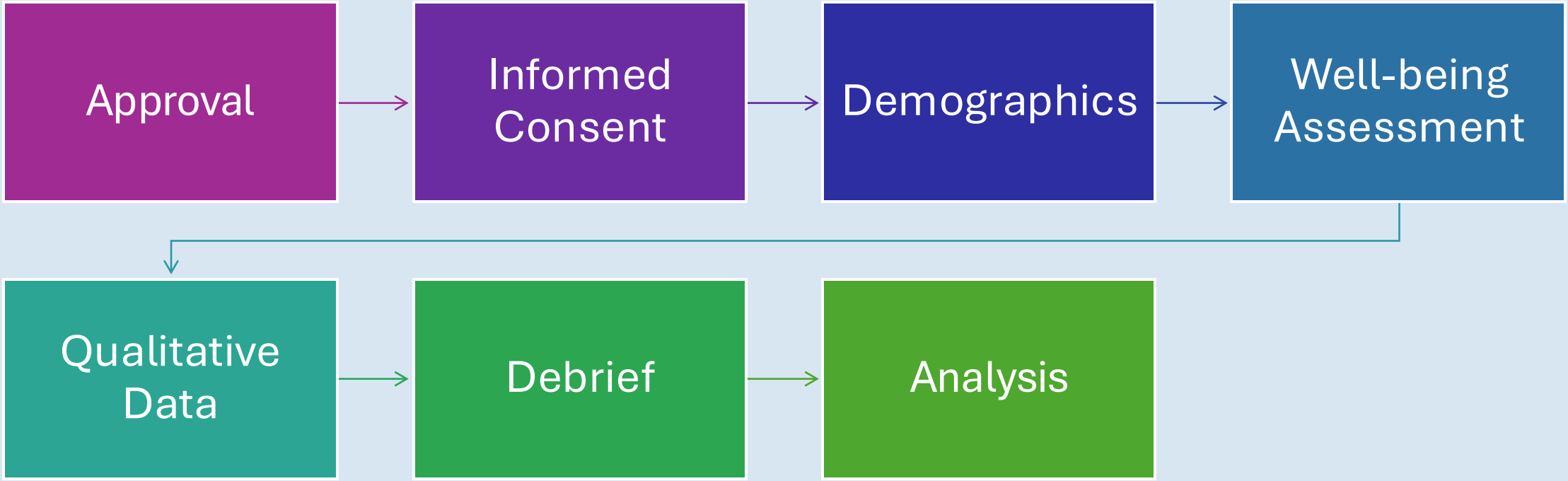
Used Warwick-Edinburgh Mental Well-Being Scale - Analyzed with 2x4 ANOVA (SPSS)

Qualitative - 5 open-ended questions - Thematic analysis: 67 codes - 4 themes

Materials-

Warwick Edinburgh Well-being Scale (Tennant et al., 2007).
Open-ended questionnaire used for qualitative data.

Procedure


Approval
Informed Consent
Demographics
Well-being Assessment
Qualitative Data
Debrief
Analysis

Quantitative Results

3.1 Table 1

Mean and standard deviation scores for well-being scores on the Warwrick Edinburgh well-being scale for type of exercise and duration of exercise (Main Effects).

Variable	Mean	Standard deviation
Aerobic	44.94	7.69
Anaerobic	46.55	11.17
+ 150 Minutes	48.42	9.27
60-150 Minutes	48.66	5.40
Less than 60 Minutes.	44.50	6.64
No Exercise.	38.00	11.63

Well-being Scores and duration

Highest: 60-150 minutes/week

Lowest: No exercise

Well-being scores and type

The type of exercise (aerobic vs. anaerobic) was not significant.

Interaction Between Exercise Type & Duration

Highest Well-being Score = *Anaerobic exercise (60–150 mins/week)*

Lowest Well-being Score = *Anaerobic / No Exercise*

Duration < impact > type of exercise.

Qualitative results

-Self-perception and mental well-being.

-Barriers to exercise.

-Personal preference in exercise.

-Physical health and fitness goals.

Discussion of the Quantitative results

Hypothesis 1 – Longer duration increased well-being scores – Supported Iwon et al. (2021).

Hypothesis 2 – Aerobic exercise would have higher well-being scores – Not supported Welford et al. (2022).

Hypothesis 3 – The 150+ minutes/week of aerobic exercise would have higher well-being scores – Not supported Basso et al. (2022).

Discussion of Qualitative results

- **Mental benefits** – Endorphin hypothesis and Cardiovascular Adaptation Theory (Craft & Perna, 2004; Vega et al., 2017).
- **Fitness goals** -muscle building or weight loss - boosted participants' self-esteem and motivation. (Iwon et al., 2021).
- **Personal preference -** group / solo training (Agius et al., 2024).
- **Barriers in exercise** (Herazo-Beltrán et al., 2017).
- **Implications** - Exercise plans – Reduce reliance on Anti-depressants.

Strengths

Used a mixed method – enhance validity and depth of findings.

Variation in primary exercise and duration/week - compare differences – range of perspectives

Limitations and future research

- Equal participants in each group.
- Wording of question 11.
- Focus on age of participants

Conclusion

- Longer duration = increased well-being
- Type of exercise = not significant
- Benefits and barriers
- Prevention of exercise
- Acquiring a gym partner

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Basic Acknowledgement format of AI tool use

I acknowledge the use of Grammarly https://www.grammarly.com/ on May 17th, 2025, to check my work by using the following prompt. I used the prompt(s):

1. Please check the following text for grammar.

I confirm that I have not presented any AI generated text as my own work. I confirm I have copies of my drafts, notes, and other resources I used before, and after the use of AI tools which I may be asked to provide in evidence.