

## RESEARCH

# "Thumb Exercise": An Interpretative Phenomenological Analysis of Psychosocial Factors Encouraging Inactive Adults to Engage with Their Smartphones Rather than Physical Activity

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**Background:** Physical inactivity accounts for up to 1.6 million deaths each year. With UK adults spending approximately eleven times longer using their smartphones than exercising, research suggests that frequent smartphone use is linked to poor physical fitness. Previous research on the psychosocial influences of both problem smartphone use, and physical activity barriers and facilitators exist, however insight into the psychosocial underpinnings of why inactive individuals choose to engage with their smartphones rather than physical activity is understudied.

**Aims:** This study provides a qualitative exploration of the psychosocial factors that encourage inactive adults to engage with their smartphones rather than physical activity.

**Methods:** Thirteen (female = 10) participants aged between 18 and 39 completed an online qualitative survey. The subjective experiences and perceptions from participants' survey responses were analysed using interpretative phenomenological analysis, with a phenomenological epistemological approach.

**Results:** Three themes were identified: the first theme identified that the psychosocial influence of smartphone engagement was to escape unpleasant realities; the second theme depicts that the psychosocial barrier of physical activity engagement was perceptions in relation to the financial and task-oriented costs that physical activity incurs; the third theme captured that social support necessities are being fulfilled through smartphone communication, therefore as a counterpart, physical activity is deemed to be a desolate operation.

**Conclusions:** The findings from this study provide recommendations that harness social support and smartphone capabilities for motivating inactive adults to maintain physically active lifestyles.

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**Keywords:** Inactive; smartphone; qualitative

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## Introduction

In modern society, the continuing increase in sedentary behaviour has emerged as an important public health topic (Biddle & Beenie, 2017; Pogrmilovic et al., 2018). Sedentary behaviour is defined as any waking activity that is carried out whilst sitting or lying, and which does not raise an individual's energy expenditure above resting metabolic rate ( $\leq 1.5$  metabolic equivalent) (Tremblay et al., 2017). However, despite sedentary behaviours accumulating low levels of physical activity, research has indicated that those who engage in considerable sedentary time may still meet the weekly physical activity guidelines (Marshall et al., 2004). In the UK, in order to meet the guidelines for physical activity, each week, adults should carry out a minimum of either two and a half hours of moderate intensity activity (such as brisk walking); 75 minutes of vigorous intensity activity (such as running); even shorter durations of very vigorous activity (such as sprinting), or a combination of moderate, vigorous, and very vigorous intensity activity (Department of Health and Social Care, 2019). Those who do not engage in the recommended amount of physical activity can be referred to as being physically inactive.

In 2018, the World Health Organization stated that 1.6 million deaths each year can be attributed to insufficient physical activity. Additionally, Public Health England (2019) provided that, equivalent to smoking, physical inactivity is responsible for the deaths of one in six people in the UK. With UK adults spending approximately eleven times longer using their mobile phones than exercising (UK Active, 2018), research links frequent smartphone use with poor physical activity levels (Lepp et al., 2013). Taken from the participants' expressions during focus group interviews, insufficient time is often the argumentation for not engaging with physical activity (Lees et al., 2005; Sherwood & Jeffery, 2000; Young et al., 2001). However, in additional focus group research, it was communicated that frequent smartphone use was adopted to fulfil entertainment purposes during recreational periods (Deliens et al., 2016; Greaney et al., 2009; Nelson et al., 2009).

From these findings, we can infer that individuals are engaging with their smartphones rather than physical activity during leisure time. This therefore arguably contradicts the common time constraint justifications for failing to meet the recommended amount of physical activity (Lees et al., 2005; Sherwood & Jeffery, 2000; Young et al., 2001), suggesting that additional psychosocial underpinnings may be contributing to smartphone precedence over physical activity. However, merely speculative assumptions regarding the conflicts between the aforementioned findings can be tentatively drawn since the conclusions are from disparate studies. Although, it is important to note here that social desirability bias may have limited the extent to which individuals within the focus groups felt comfortable sharing the psychosocial determinants which govern their excessive smartphone use (Leung & Savithiri, 2009; Smithson, 2000). Further, the question remains as to whether individuals are indeed aware of the underlying motivations for these behavioural enactments.

Physical activity engagement is a complex interaction of psychological, social, biological, and environmental influences (Biddle, 2018). Nevertheless, in order to identify factors that can be targeted in interventions, it is important to consider the 'influences' and 'barriers' concerning physical activity (Biddle, 2015). Extended smartphone use has become ubiquitous in today's society (Cambier, Derks & Vlerick, 2019), however to the author's knowledge, this study was the first to explore the psychosocial underpinnings of smartphone precedence over physical activity engagement. Adopting an inductive approach, this study aims to qualitatively explore and interpret the psychosocial elements that encourage inactive individuals to engage with their smartphones instead of physical activity. Furthermore, in response to the potential limitations of using focus groups, as to allow the participants to privately convey their responses, an online qualitative survey was adopted. Providing a novel application of this particular analytical strategy (Kay & Kingston, 2002; Turner & Coyle, 2000), an interpretative phenomenological analysis of the online qualitative survey responses was carried out.

## Methods

### Design

In response to the potential limitations of focus groups (Braun & Clarke, 2013; Brooki & Wearden, 2006; Fink, 2003), and to also increase participatory convenience, an online qualitative survey methodology was employed. An online qualitative survey was also deemed to be the most appropriate methodology given the ubiquity of smartphone use (De Angelis et al., 2020). Excessive smartphone use was not an inclusion criteria for the participants, however, given that smartphone use is one of the most prevalent forms of sedentary activity (Lepp & Barkley, 2019), this method of data collection was arguably suitable among a cohort of inactive adults. Considering that the study aimed to understand and interpret subjective experiences and perceptions in relation to smartphone precedence over physical activity, an interpretative phenomenological analysis approach was adopted (Smith, Flowers & Larkin, 2009).

### Participants

The participants were recruited via the social media site, Facebook. Individuals were eligible to take part in the study if they were over the age of 18 years old, used a smartphone, and were physically inactive in accordance to the Chief Medical Officer's guidelines (Department of Health and Social Care, 2019). **Table 1** provides an overview of the participant's age and gender distributions.

**Table 1:** Participant age and gender distribution.

	Age (years)				
	18–21	22–25	26–29	30–35	36–39
Male	–	2	–	1	–
Female	2	4	2	1	1

### **Procedure**

Subsequent to the study receiving ethical approval, the digital participant advertisement poster was advertised via Facebook. Interested participants sent a 'private' Facebook message to the researcher. In response to the participatory interest, the researcher provided the hyperlink to the online survey. The survey included 12 questions which were suggested to take between 10–15 minutes to complete.

### **Materials**

The online survey was created and administered using Qualtrics (Qualtrics, 2019) and has been presented in **Box 1**. The questionnaire began with a broad question ('What things do you like to do in your spare time?'), and then moved on to more specific questions as to explore the research aims ('What things would encourage you to go on your phone in your spare time?'). As to minimise response bias (Furnham, 1986), the questions provided an equal distribution of both physical and inactivity depictions, and no questions continued with the presumption of a preference towards spending time on one's smartphone rather than engaging in physical activity. Out of the 12 questions, one was guided by the findings of previous related research (Blanchi & Phillips, 2005; Lapointe et al., 2013) ('If you are feeling lonely, are you most likely to seek your phone, or do something active?'). However, as to coincide with the idiographic principles of interpretative phenomenological analysis (Shaw, 2001), the remaining questions did not prompt a response in relation to previously identified influences.

### **Ethical considerations**

The research study was granted ethical approval by the University of Derby's ethics committee (University of Derby, 2019). The study's details, right to withdraw, and consent statement was provided before the survey (British Psychological Society (BPS), 2018). In order to retrieve valid consent through internet-mediated research (BPS, 2013, 2017), the participants had to click an "I consent" box before Qualtrics allowed them to proceed to the question completion section. In addition to this, once the questions had been completed, the participants were required to re-consent to their data being used for the purposes of this research. To grant confidentiality and anonymity, the participants were not required to provide their name, and instead, could be identified by a unique identifier coding system through Qualtrics (BPS, 2018). Within the study, the participants are identified by numerical pseudonyms (BPS, 2009).

### **Analytic strategy**

Smith, Jarman and Osborne (1999) argue that despite interpretative phenomenological analysis studies typically being applied to semi-structured interviews, there is no reason why other forms of data collection cannot utilise this analytic method. Moreover, previous internet-mediated studies have also carried out interpretative phenomenological analyses of their data (Kay & Kingston, 2002; Turner & Coyle, 2000). The aim of interpretative phenomenological analysis is to explore individuals' subjective experiences and perceptions, whilst the analyst actively interprets these understandings; as such, this analytical strategy is considered to be double hermeneutic (Atkinson, Shaw & French, 2016; Smith, Flowers & Larkin, 2009). This study was approached with a phenomenology epistemological position, therefore during the interpretative analysis of the participants' responses, the participants' lived experiences in relation to smartphone precedence over physical activity was fundamental (Husserl, 1970; Madill, Jordan & Shirley, 2000).

#### **Box 1:** Online Qualitative Survey Questions.

- Q1. What things do you like to do in your spare time?
- Q2. Does this mostly involve sitting down or being physically active?
- Q3. Are you mostly likely to choose to engage in your phone or in physical activity during your spare time?
- Q4. What do you enjoy about this choice?
- Q5. If you are in a bad mood, are you most likely to choose your phone or physical activity to improve your mood?
- Q6. How do you think this choice would be helpful in improving your mood?
- Q7. If you are feeling lonely, are you most likely to seek your phone, or to do something active?
- Q8. How do you think this choice would help you to not feel lonely?
- Q9. Why would you choose not to do something physically active in your spare time?
- Q10. Why would you choose not to go on your phone in your spare time?
- Q11. What things would encourage you to do physical activity in your spare time?

Through the process of interpreting individuals' perspectives, the researcher's own experiences and perceptions will inevitably influence the interpreted content (Jarman, Smith & Walsh, 1997). Thus, in order to bring the research's subjective interpretations of the data to the fore (Broki & Wearden, 2006), the researcher carried out a reflective journal throughout the research process (Collins & Nicolson, 2002; Ortlipp, 2008). This piece of work contributed towards a Health Psychology (MSc) assignment, therefore both triangulation and incorporating judgements from other academics was not permitted. However, as to provide a more credible account of the interpreted phenomenon, a respondent validation of the findings was applied (Morse, Barret, Mayan, Olson & Spiers, 2002; Torrance, 2012). This contribution features at the end of the 'Results' section.

The participant's survey responses were copied from Qualtrics on to a Word document, and were then printed as to enable hand written noting. The process of interpretative phenomenological analysis followed that described by Smith, Flowers and Larkin (2009). The responses were read several times, then interpretative comments and themes were recorded. Subsequent to the initial individual case analysis, taking a phenomenological approach, emergent themes across the participants responses were identified and meaningfully grouped together to form three superordinate themes (Smith, Jarman & Osborne, 1999).

### **Reflexivity**

The researcher is a physically active, Health Psychology MSc student with an interest in physiological and psychological wellbeing. The researcher owns a smartphone and engages with this for communication, internet browsing, and to follow exercise tutorials.

### **Results**

The presentation of the results for interpretative phenomenological analyses typically includes a larger degree of discussion than what is presented within quantitative work since additional depiction is needed for the reader to understand what was found (Smith, Flowers & Larkin, 2009). In this instance, some references to literature is included within this section. The findings will be linked to the wider literature within the discussion section.

### **Theme 1: Psychosocial influence of smartphone use: escapism**

Subsequent to being prompted to provide whether the participants are most likely to choose to spend their spare time engaging with their smartphones or physical activity, the participants were then asked what they enjoy about the enlisted choice. Among those who would rather spend this time using their smartphone, the accounts were interpreted as smartphones being used as a method of escapism. Literature into the entities of escapism denote that, in an effort to avoid unpleasurable or monotonous aspects of one's daily life, this psychological intention involves a perceptual shift towards more pleasurable imagery and sensations (Bentley, 2018; Longeway, 1990).

Participant 1- Female, aged 18–21  
"Going on my phone just passes the time by"

Participant 2- Female, aged 22–25  
"...disengage from reality"

Considering that escapism inherently involves a purposeful cognitive distraction (Kircaburun & Griffiths, 2018), this theme was arguably supported by numerous participants relaying that the absorbing qualities of their smartphone grant psychological diversion from undesirable existences.

'Question 6. How do you think this choice would be helpful in improving your mood?'

Participant 2- Female, aged 22–25  
"...it takes your mind off whatever is upsetting you"

Participant 6- Female, aged 22–25  
"Distracts my mind"

Participant 9- Female, aged 36–40  
"Just takes my mind off things"

Participant 13- Female, aged 22–25

“It could be helpful by taking my mind off it”

Escapism as a form of coping during stressful events gives rise to the mentally relaxing qualities of this disposition (Bowditch, Chapman & Naweed, 2018). Evidence of utilising one's phone for relaxation purposes therefore arguably provides additional support that escapism was the psychosocial influence of smartphone use among this sample;

‘Question 4: What do you enjoy about either spending this time on your phone or doing physical activity?’

Participant 3- Male, aged 30–35

“I find it relaxing and unwinding”

Participant 9- Female, aged 36–40

“Getting to chill out”

However, notwithstanding this interpretation, the participants also relayed that physical activity is beneficial to their wellbeing.

‘Question 6. How do you think this choice would be helpful in improving your mood?’

Participant 3- Male, aged 30–35

“Physical activity also releases good endorphins and makes me feel good/happy”

Participant 4- Female, aged 18–21

“I feel like I can get all the anger and annoyance out through exercise”

Considering that the participants recognised and communicated the psychophysiological benefits that physical activity participation provides them with, subsequent to initially reflecting on smartphone use influences, an alternative interpretation was required to unearth the psychosocial barriers of engaging in regular physical activity.

## **Theme 2: Psychosocial barrier of physical activity: the cost of physical activity**

When prompted to consider ‘Why would you choose not to do something physically activity in your spare time?’ (Question 9), the salience of the participants identifying funding restrictions was evident;

Participant 2- Female, aged 22–25

“Having the facilities or money to do so”

Participant 7- Female, aged 30–35

“...cost”

Although this financial depiction could have been understood in terms of economical deficits among this sample, interpreting this obstacle with regards to the perceptions that physical activity must incur a monetary cost illustrates the centrality of physical activity fundamentally taking place within a gym setting. Likewise, the participant's establishment that ‘going to the gym’ is deemed as the only possible means of carrying out physical activity was signified;

‘Question 9: Why would you choose not to something physically activity in your spare time?’

Participant 6- Female, aged 22–25

“...don't drive and it takes a while to get to”

‘Question 11: What things would encourage you to do physical activity in your spare time?’

Participant 9- Female, aged 36–40

“If it was cheaper and closer”

Consequential to the perception that physical activity is only possible to accomplish at a gym, in accordance to previous research (Lees et al., 2005; Sherwood & Jeffery, 2000; Young et al., 2001), this presented

additional impediment in that physical activity is a time-consuming task, of which, is not possible on top of existing work and life commitments;

'Question 9: Why would you choose not to something physically activity in your spare time?'

Participant 3- Male, aged 30–35

"A lot of other commitments utilising your time and energy"

Participant 5- Female, aged 22–25

"I don't have the time"

This competing priority therefore gave rise to the interpretation that, unlike the recreational attributes of smartphone engagement (Deliens et al., 2016; Greaney et al., 2009; Nelson et al., 2009), physical activity may be deemed as a laborious task.

During further exploration, the participants indicated that vocational demands dominate a large proportion of their time, therefore, in line with previous findings (Lees et al., 2005; Sherwood & Jeffery, 2000; Young et al., 2001), time constraints prohibits them from engaging with physical activity;

'Question 11: What things would encourage you to do physical activity?'

Participant 12- Male, aged 22–25

"...not working as much"

However, in spite of the indication regarding leisure time insufficiency, in accordance with previous research (Lapointe et al., 2013), over half of the participants relayed that boredom encouraged them to engage with their smartphone in their spare time. This therefore arguably implies that spare time which isn't governed by work or life commitments is available. In light of this, a closer interpretation was required in order to construe an understanding of why inactive individuals engage with their smartphone rather than physical activity.

### **Theme 3: Psychosocial influence of smartphone precedence over physical activity: need for social support**

It is commonly held that human's characterise of the innate need to connect with others in order to survive as infants (Johnson, 2014), and prosper as adults (Chen, 2018). This understanding was indicated by the prevalence of participants providing that 'doing it with friends' would encourage them to carry out physical activity in their spare time. Moreover, 77% of the participants relayed that they are most likely to seek their smartphone in times of loneliness; thus, arguably signifying that, as opposed to physical activity, smartphones offer social connectivity. The participants illustrated the proficiency of their smartphones in fulfilling this social necessity;

'Question 8: How do you think this choice would help you to not feel lonely?'

Participant 13- Female, aged 22–25

"It would mean I'm not alone by myself and feel less lonely messaging someone"

Previous studies have also suggested the propensity of smartphones to occupy social outreach (Gauld et al., 2016; Lapointe et al., 2013). Moreover, considering that smartphones provide online social connections via social media sites, this informed the interpretation that, consequent to the multitude of social interactions that are available via one's smartphone, physical activity may therefore be perceived as a solitary and desolate activity.

'Question 8: How do you think this choice would help you to not feel lonely?'

Participant 5- Female, aged 22–25

"To see what everybody else is up to and post on social media for response/convo"

Participant 9- Female, aged 36–40

"Looking at Facebook and Instagram makes me feel involved in what's going on"

Furthermore, self-efficacy shortfalls in carrying out physical activity was interpreted.

'Question 9: Why would you choose not to do something physically active in your spare time?'

Participant 10- Female, aged 26–29

“Sometimes I feel deflated and don’t want to add another pressure to myself”

In addition, potentially due to perceptions of incompetency, physical activity was identified as causing embarrassment.

Participant 13- Female, aged 22–25

“I don’t like exercising in public”

In accordance with previous research (Craven et al., 2018; Duncan & McAuley, 1993), inadequacy perceptions therefore may be a contributing factor as to why inactive individuals need social support from their peers in order to engage with physical activity. Theoretical understandings of this phenomenon lend to conceptualisations from the social cognitive theory (Bandura, 1986). In particular, the social cognitive theory posits that self-efficacy is the core determinant of task-oriented behaviour (Bandura, 2004). In the physical activity domain, additional research suggests that self-efficacy deficits underpin exercise avoidance (see Bauman et al., 2012).

### ***Respondent validation***

In order to shed light on the credibleness of the interpretations, a respondent validation was carried out (Brear, 2019). In correspondence to the main data collection, an online qualitative survey was administered using Qualtrics. The questions within the survey were created as to encapsulate the three identified themes. Also, the respondents were given the opportunity to provide any additional perceptions for each of the questions (‘Is there anything else you would like to say about this?’). In order to reduce perceptions of being identifiable and therefore potentially increasing response bias (Nichols & Maner, 2008), the participants were not prompted to provide age or gender demographics for the respondent validation survey.

### **Theme one: escapism**

Out of the five participants that completed the follow-up survey, four agreed that they use their smartphone as a method of escapism.

Participant 2

“It provides almost a second reality for you to join so you don’t have to think about the unpleasant situation you are currently facing”

Participant 4

“I think if I am ever in an awkward or uncomfortable situation I would use my phone to try and get out of it”

The one participant who did not agree with this theme relayed that;

Participant 5

“If I was experiencing something unpleasant I would try to disconnect from my phone to feel better”

From this statement, it may be possible to interpret that, as opposed to the majority, smartphone engagement causes displeasure for Participant 5, and therefore would not be employed as a method of recreation and relaxation. In this instance, rather than smartphone precedence, other physically inactive behaviours may be elected to contribute towards general physical inactivity for this individual.

### **Theme two: the cost of physical activity**

In response to;

‘2a) When you think about physical activity where do you imagine this to take place?’

100% of the responses indicated ‘a gym’.

In addition, when asked;

‘2b) Is there anything else you would like to say about this?’

the interpretations in relation to both competing priorities, and the hindering task concept of physical activity was supported;

Participant 4

"I feel like time discourages me from physical activity as I feel like there's more important stuff I can do in my time"

### **Theme three: need for social support**

When asked;

'3a) If a gym existed that only your friends attended, do you think you would engage in more physical activity?'

all of the participants stated 'yes'. This potentially implied that, pursuant to the third theme, social support would motivate physical activity engagement. What is more, when prompted to provide any additional perceptions in relation to this question, the interpretation that social support could bring relieve to low physical activity self-efficaciousness was maintained;

Participant 5

"It would be more social and less embarrassing"

Participant 2

"It would be used as a social meet up place the same way a pub is"

This additional information also supports the interpretation that physical activity is currently perceived as a desolate and lonely activity.

## **Discussion**

The aim of this study was to explore the psychosocial elements that encourages inactive individuals to engage with their smartphones instead of physical activity. From the interpretative phenomenological analysis of the participant's responses, three superordinate themes contribute to our understanding of the psychosocial influences of smartphone engagement over physical activity amongst inactive individuals. Firstly, escapism was captured as the psychosocial influence for initially engaging with one's smartphone. Previous research across both qualitative and quantitative research also identified the capability of smartphones in providing this pacifying psychological distraction (Ariel et al., 2017; Gauld et al., 2016; Grellhesl & Punyanunt-Cater, 2012; Lapointe et al., 2013; Panova & Lleras, 2016; Wang et al., 2015). From this, it may be possible to infer that, for the purpose of coping with unfavourable situations, problem smartphone use may be influenced by the "security blanket" hypothesis (Panova & Lleras, 2016) in which smartphones are demonstrating to provide (Nehra et al., 2012). Adopting this approach manifests 'avoidance coping', which research has argued is an unhealthy way to handle problem situations (Demirci, Akgonul, & Akpınar, 2015; Grellhesl & Punyanunt-Carter, 2012; Nehra et al., 2012). Therefore, future health psychology promotion could aim to alert smartphone users of the adverse outcomes of using one's smartphone to avoid psychological discomfort, such as potential increases in social anxiety (Elhai, Tiamiyu & Weeks, 2018).

Following this, the second theme approached the research question from an alternative angle, as instead, the psychosocial barrier of engaging in physical activity was considered. Here, corresponding with previous research findings, the perceptions regarding time and finance constraints were negotiated as prohibiting individuals from having the opportunity to carry out physical activity (Clark, Nigg & Newman, 2005; Lees et al., 2005; Sherwood & Jeffery, 2000; Young et al., 2001). Together with the competing priorities conceptualisation, through critical interpretation, the participant's time insufficiency argumentation was contradicted with the implications that boredom provoked smartphone engagement. In response to this, as to break down this burden perception, public health policy aimed towards increasing physical activity could promote that daily activities can also incorporate 'exercise'. For example, walking from the supermarket with heavy shopping (NHS, 2017). Additionally, physical activity promotion could also advocate the accessibility of using one's smartphone to exercise, such as fitness applications and YouTube tutorials (Higgins, 2016).

The third and final theme interpreted that social support elements informs physical activity avoidance processes. In particular, potentially resultant from physical activity self-efficacious deficits, the participants required social support from their peers in order to reduce embarrassment (Cramp & Bray, 2009; Hinton & Olson, 2001). This also corresponds with theorisations from the social cognitive theory (Bandura, 1989).

Accounting for this, gym memberships could incentivise exercising with friends, such as discounted joint memberships. In addition, whilst factoring social connectivity requirements and also alleviating time, travel, and monetary constraints, mobile fitness applications could feature a social video chat room whereby friends can exercise together online.

### **Limitations**

Despite the intention to recruit an equal age range and gender distribution, females dominated this sample. That said, this imbalance arguably did not induce gender bias within the results since the male participants responses was actively used throughout the theme formation and illustration. However, given that there were no participants above the age of 40, future research would benefit from targeting this age group since it has been suggested that physical activity can decline as age increases (Harridge & Lazarus, 2017; Telama & Yang, 2000). Adopting an online qualitative survey methodology limited the breadth of participant responses. However this data collection choice eliminated geographical participation restrictions.

It is worth noting that interpretative phenomenological analysis does not allow for us to infer causality between any of the psychosocial factors discussed and physical inactivity (Willig, 2008). That said, the utilisation of this analytical method has provided a useful method of enhancing our knowledge with regards to the subjective experiences and perceptions among inactive smartphone users. Also, importantly, it is likely that, if explicitly asked, the psychosocial underpinnings of smartphone precedence over physical activity may be unknown to the participants, therefore this approach was arguably necessary for the aims of this study.

### **Conclusion**

This study provides an original contribution concerning the psychosocial influences of inactive adults choosing to engage with their smartphone during their leisure time instead of carrying out physical activity. The three hierarchical themes deepen our understanding with regards to the psychosocial underpinnings which may govern: smartphone use; physical activity avoidance; and smartphone precedence over physical activity enactment among this population. In particular, from the participant's responses, it was interpreted that 'escapism' was the psychosocial *influence* of smartphone use, 'the cost of physical activity' was the psychosocial *barrier* of physical activity engagement, and the 'need for social support' was the psychosocial *influence* of smartphone precedence over physical activity.

The methodological decision to design an online qualitative survey permitted the participants to express behavioural motivations which they may not have felt comfortable communicating during in-person conversations. Further, the application of an interpretative phenomenological analysis from a phenomenological epistemological position advanced the depth of insight into the psychosocial barriers and influences of why an inactive person, in their leisure time, would choose to engage with their smartphone rather than physical activity. From these findings, exercise campaigns targeted at physically inactive adults could focus on shaping the perceptions that physical activity a) is a costly activity that must be carried out within a gym setting, and b) that physical activity cannot serve social requisites, such as the need for social support. Incorporating communications regarding the pleasurable qualities of using one's smartphone, whilst also factoring both financial aspects, and social support elements, it is recommended that smartphone exercise applications integrate an online video interaction feature. This will eradicate finance constraints, as well as reducing potential anxieties in relation to exercising in public, and also facilitating social support enhancement.

### **Competing Interest**

The authors have no competing interests to declare.

### **Author Contributions**

TH conceived, designed and conducted the study as part of a course requirement, under the supervision of GG. Both authors contributed to final version of the manuscript.

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