

# The Perceived Psychological Empowerment of Women Using Mobile Dating Applications: The Case of Tinder

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**Abstract**— Modern romance and dating are currently experiencing a ‘digital revolution’ that is powered by online dating platforms. Different forms of social media and social networks, such as dating apps, are gradually tapping into the Internet’s acclaimed ability to empower users. Social media has been described a tool which plays a significant role in enabling women to gain control of and improve the quality of their lives. Literature suggests that online dating is of particular importance to women who seek to gain more control of their dating lives. While online dating apps and literature may cite women empowerment as the overall goal of dating apps such as Tinder, there is a need to empirically investigate the extent to which the use of dating apps empower women. The purpose of this study was therefore, to explore how women’s use of mobile dating apps promote or hinder their psychological empowerment. This study applied a qualitative, single case-study strategy of the Tinder dating app. A deductive approach was taken, as the study relied upon a conceptual model to illustrate Tinder’s affordances and features alongside the components of psychological empowerment. The research findings confirm that the use of mobile dating app affordances and features, to some extent, promote as well as hinder particular psychological empowerment components. The identified findings could further contribute to the understanding of how the use of specific online dating app affordances and features influence the psychological empowerment of women. An enhanced understanding of how women use these affordances and features, may encourage mobile dating app developers to rethink the design of their apps, in the context of women and their psychological empowerment.

**Keywords-** *Online dating; Mobile dating apps; Tinder, Women; Psychological Empowerment; Affordances; Features*

## I. INTRODUCTION

Modern romance and dating are currently experiencing a ‘digital revolution’ [1]. This revolution is powered by online dating sites and applications (apps). Online dating platforms have claimed the role of conventional matchmakers, which used to include families, friends, and dating agencies [1].

Online dating platforms, such as Tinder, are often referred to as social media applications or social networking sites [2] [3]. Stavrositu et al. [4] claim that social media and social networks are gradually tapping into the Internet’s claimed ability to empower its users. According to Hamid et

al. [5], social media plays a significant role in specifically enabling women to gain control, and improve the quality, of their lives, which is consistent with the definition of Psychological Empowerment [PE] provided by Tahir et al. [6].

Literature suggests that online dating is particularly interesting to women who wish to gain more control of their dating lives, as it presents an opportunity for them to partake in activities that cannot be achieved by traditional means of dating [7]. Similar sentiments regarding a woman’s role in her dating life are shared by the creators of Mobile Dating Apps (MDAs), such as Tinder. Tinder has stressed that one of its overall goals is to empower women [3]. While online dating apps and literature may cite women empowerment as the platform’s overall goal, there is a need to empirically investigate the extent to which the use of dating apps empower women.

It is important to specifically investigate the empowerment of women, as they have been subject to a greater level of disempowerment when compared to their male counterparts [8]. Although development initiatives are still in the process of bridging this gap, scholars have stressed that third parties are unable to directly empower, but they can attempt to create empowering conditions [9] [10]. While significant attention has been given to women’s economic empowerment, there is a need to address their PE, since the construct has been disregarded in the past [8].

To better understand how women’s use of dating apps influenced their perceived PE, this study applied a case study research strategy of the Tinder MDA and collected data from women who participated in semi-structured interviews. The data analysis process was guided by the proposed conceptual model, along with a thematic analysis approach [11]. It is hoped that this research will provide future scholars, as well as dating app designers, insight into how women may use MDA affordances and features to influence their perceived PE.

In Section 2, this research paper will discuss a literature review on MDA affordances, features, and PE. Section 3 will describe the methodology used. The findings will be presented and discussed in Section 4, followed by a conclusion in Section 5.

## II. LITERATURE REVIEW

The following section will discuss the literature reviewed on MDA affordances, features, and PE. The reviewed affordances include mobility, immediacy, proximity, visual dominance, and multimodality. The features are discussed in terms of swiping and un-matching, followed by an explanation of the intrapersonal, interactional, and behavioural components of PE.

### A. Affordances of Mobile Dating Applications

Schrock [12] emphasises that an individual has agency in deciding how a tool should be used. In this study, agency refers to a woman's capacity to make personal choices [47]. It is therefore, important to note that this study acknowledges the role of one's agency by asking the primary research question: How does women's use of mobile dating apps influence their perceived psychological empowerment?

According to Willemse et al. [13] affordances are "the perceived and actual properties of an object, primarily the functional properties that determine just what and how the object could possibly be used" (p. 2). While affordances are not always visible [14], they structure the way in which one can interact with an object by either allowing or prohibiting various actions [15].

In discussing the affordances of MDAs, it is necessary to first discuss the role of mobile media in dating apps. Mobile media fall under a category of mobile technologies, such as smartphones and tablets, which are used to run mobile applications [12]. Users therefore, interact with MDAs by using mobile media [16].

Mobile media consists of four generic communicative affordances: portability, availability, locatability, and multimodality [12]. MDAs depend on all four communicative affordances [16], but also consist of affordances which are specific to dating apps. This study will consider the following MDA affordances: mobility, immediacy, proximity, visual dominance, [15] and multimodality [17]. Although literature has not identified multimodality as a specific MDA affordance, the Tinder app has made changes to its design, which now allows for multimodality [17]. After noticing that users were manually adding their Instagram page links to their accounts, Tinder decided to incorporate the feature into their design [17]. As this study focuses on the Tinder app, it will include the multimodality affordance.

1) *Mobility*: Tinder's mobility affordance is consistent with the generic 'portability' communicative affordance of mobile media [16]. Mobility encourages users to interact with MDA in various locations [15]. The affordance implies that having Tinder on a smartphone or tablet gives one the freedom to use it wherever one desires [18]. There are no restrictions as to where the app can be used, which allows for interaction in private, public, and semi-public spaces [16].

2) *Immediacy*: MDAs aim to provide immediate social interactions [19]. Tinder enables interactions between users to take place quicker, by alerting them to new matches

(indicating mutual interest between two users) or messages [15].

3) *Proximity*: Proximity is associated with the 'locatability' communicative affordance. Both proximity and locatability are provided by Tinder's location-based services [20], as users are required to indicate the preferred distance between them and potential matches [3].

4) *Visual dominance*: Visual dominance refers to how Tinder encourages one to review users based on their profile photos which tend to take up a large proportion of a phone's screen [18].

5) *Multimodality*: The multimodality affordance allows users to connect their other social media profiles, such as Instagram, to their Tinder accounts [16]. The linking of different social media profiles allows women to further present themselves to other users [16].

### B. Features of Mobile Dating Applications

For this study, the swiping and un-matching features were considered. For a match to be made, users must both swipe right on each other's profiles [17]. Users may also use the un-match feature which allows them to remove previously matched people from their list. The person who has been unmatched will not be able to contact the user that initiated the action [21].

### C. Psychological Empowerment

Psychological empowerment has been described as, "a mechanism by which people gain mastery of their affairs" (p. 144) [22]. It is important to note that PE is not static, as it changes over time [10]. There are several studies, which have conceptualised PE in different manners, however, they mainly rely on the Zimmerman [10] PE conceptual model [23]. Zimmerman [10] warns that in order to holistically investigate the PE of an individual, the intrapersonal, interactional, and behavioural components must all be considered. It is also stressed that when applying the PE nomological framework, studies should only consider the measures which are context appropriate [10].

#### 1) Intrapersonal PE

The intrapersonal component refers to an individual's beliefs about their ability to have an impact on their environment and to achieve their personal goals [11]. Zimmerman [10] lists motivation to control, perceived control, self-efficacy, and mastery as sub-components of intrapersonal empowerment. Table I defines each intrapersonal PE factor in the context of this study.

#### 2) Interactional PE

The interactional component emphasises an individual's choice to act in a manner that will help them achieve their goals. In order to have control in a particular setting, one must be aware of one's options [10]. The interactional component also includes an individual's intellectual comprehension of their social environment and whether they possess the necessary resources and knowledge to effect change [10]. These factors include critical awareness,

understanding causal agents, resource mobilisation, decision-making skills, and problem-solving abilities [10]. Table II defines each interactional PE factor in the context of this study.

TABLE I. INTRAPERSONAL PE DEFINITIONS

PE Factor	Definition
Motivation to control	Motivation to control is the extent to which a woman using an online dating app wants to be in control of her self-presentation [17] [24].
Perceived control	A woman’s belief about the level of control she has over her self-presentation when participating in online dating [17].
Self-efficacy	Self-efficacy is a woman’s belief about her ability to reach her online dating goals [25]. One’s self-efficacy influences the extent to which one will take part in certain behaviours [25].
Mastery	Mastery relates to how competent one finds oneself to be [6]. A woman’s self-efficacy will determine her mastery of online dating behaviours [25].

TABLE II. INTERACTIONAL PE DEFINITIONS

PE Factor	Definition
Critical awareness	The degree to which a woman is aware that a dating app may be used as a resource to create close relationships [26].
Understanding causal agents	Causal agents are authoritative figures that can exert control over situations [27]. It is important to understand these agents, their role and involvement in the relevant issue and the factors which may affect their decision-making [27]. Acknowledging these factors is important as they can hinder or promote one’s attempt to gain control in one’s environment [10]. This study will consider the users of dating apps as causal agents.
Resource mobilisation	Resource mobilisation refers to being able to manage an acquired resource to achieve a goal [10]. In this study, resource mobilisation will refer to a woman’s ability to manage a dating app.
Decision-making	A woman’s ability to decide whether she wants to interact with another dating app user [28].
Problem-solving	Problem-solving refers to how women deal with problems related to online dating [20].

### 3) Behavioural PE

The behavioural component of PE is described as the actions which are necessary for a desired result [29]. The interactional component of PE prepares individuals to carry out behaviours which are necessary for achieving their desired goals [10] Table III defines three behavioural PE factors: community involvement, participation, and coping behaviours.

## III. RESEARCH METHODOLOGY

The following section describes the research methodology that was followed for this study. The research model is presented first, followed by a discussion on the nature of this study and its research questions. The methodology then describes the case, followed by a discussion regarding sampling, data collection and analysis, ethical considerations, validity and reliability.

TABLE III. BEHAVIOURAL PE DEFINITIONS

PE Factor	Definition
Community involvement	The degree to which one can openly participate in interactions with other users, beyond the one-on-one style usually allowed on dating apps [30].
Participation	The extent to which a woman engages in dating app activities [31].
Coping	Coping describes the, “behaviours and thoughts which are consciously used by an individual to handle or control the outcome of dealing with responsibilities or problems successfully or in a composed manner” (p.6) [11]. This study will consider the coping behaviours of women using dating apps.

### A. Research Model

The conceptual model which was used for this study is presented in Figure 1. The model has been adapted from Osman et al. [11] by replacing telecentre components with MDA affordances and features. The affordances and features appear alongside each PE component.

### B. Nature of study

The nature of this study was exploratory, interpretive, qualitative, deductive, and applied a case study research strategy. Osman et al. [11] suggest that a case study strategy allows for a modern phenomenon to be empirically explored and thoroughly understood in its real-life context. A single case study approach, therefore, assisted in answering the primary research question, ‘How does women’s use of mobile dating apps influence their perceived PE?’

### C. Research Questions

The following Secondary Research Questions (SRQ) aided in answering the primary question:

- How are women using mobile dating apps? (SRQ1)
- How does women’s use of mobile dating app affordances and features promote their perceived psychological empowerment? (SRQ2)
- How does women’s use of mobile dating app affordances and features hinder their perceived psychological empowerment? (SRQ3)

### D. Case Study: Tinder

Tinder is an MDA which was released in October 2013 [19]. The app aims to connect people who do not know each other but live near each other [20]. The app is often referred to as the female counterpart of the all-male user app ‘Grindr’ which connects gay and bisexual men to each other [3]. Unlike ‘Grindr’, Tinder is not restricted to users of specific sexual identities and has accumulated a growing number of heterosexual females since its launch [20]. The app asks a user to select their gender, age, sexual preferences and the distance of other user’s profiles they would like to view [3]. Once signed in, users can indicate their interest by swiping right or their disinterest by swiping left. Only after a match is made can a conversation be initiated [1].

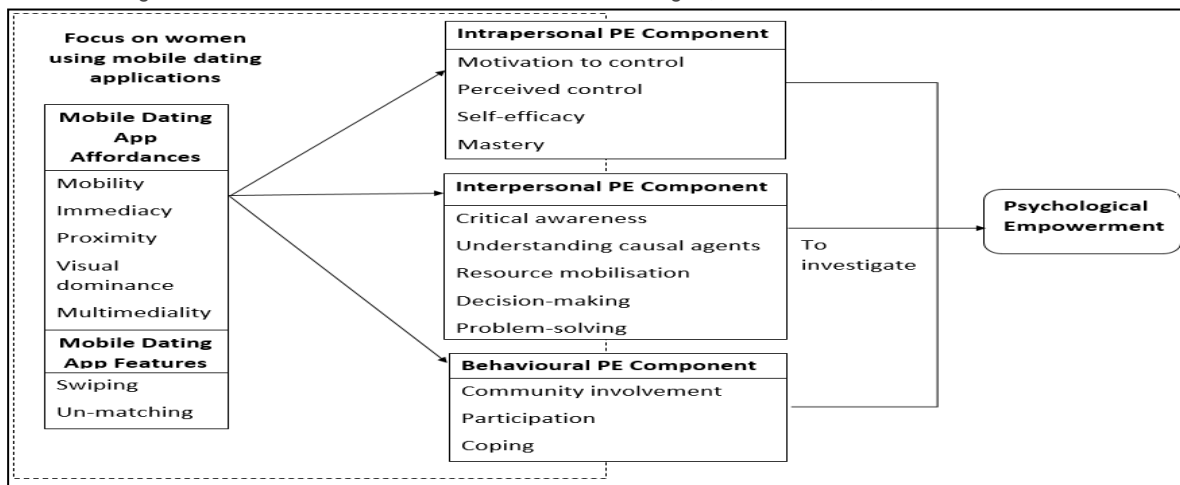


Figure 1. The PE of women using mobile dating apps, adapted from Osman and Tanner [11]

E. Sampling, Data collection and analysis

The sample consisted of ten women. While there is no widely accepted method for choosing an appropriate number of interviews to be conducted, it is suggested that a sample size of seven to ten participants is sufficient for qualitative studies [45]. A purposive and convenience sampling strategy was used. Women who were over the age of 18, living in South-Africa, and had ever registered as Tinder users, served as the unit of analysis and participated in audio-recorded, semi-structured interviews (Appendix A). To make sense of the transcribed data, a thematic analysis approach was used. To generate initial codes, the researcher made use of the conceptual model of PE for women who use mobile dating apps (Figure. 1), while thematic analysis was used to search, define, and name the crucial themes [11]. Saturation was reached at 10 interviews. At this point, there were no new themes that emerged from the data collected.

F. Ethical considerations, Validity and Reliability

This research was conducted in an ethical manner, as all of the participants were informed about the purpose of the research and were asked to sign a consent form. Validity and reliability is of utmost importance in qualitative research [40]. Validity refers to the extent to which a study accurately reports on the views expressed by its participants [41]. Leung [42] describes reliability as the consistency in a study’s procedures and its findings. While Noble et al. [40] argue that there is no unanimously agreed upon criteria to evaluate the validity and reliability of qualitative studies, they suggest several strategies to ensure the credibility of findings. To enhance the credibility of findings, this study adopted verification strategies proposed by Noble et al. [40] as well as Morse et al. [43]. Table IV illustrates each verification strategy along with a description of how it was applied to this study.

I. FINDINGS AND DISCUSSION

The following section will present and discuss the findings of this study. Findings will be discussed in relation to each MDA affordance, feature, and various PE constructs.

TABLE IV. VALIDITY & RELIABILITY VERIFICATION STRATEGIES

Verification Strategy	Application
Methodological coherence [43]	Methodological coherence is the extent to which the research question is consistent with the different elements of the research method used [43]. The primary research question, ‘How does women’s use of mobile dating apps influence their perceived PE?’ was matched with an exploratory, interpretive, and qualitative research method. The method ensured that the question was answered according to the accounts given by the women interviewed.
Appropriate sample [43]	The sample used was appropriate for this study. Purposive sampling ensured that each of the participants were selected based on their ability to answer the research questions. The sample consisted of ten women who had ever had a Tinder account.
Reflexivity [40]	A reflective journal was kept throughout the duration of the study. The journal was mainly used to take note of interesting points made by participants. The decision to add to or amend the interview questions was partly based on the points highlighted in the journal.
Representation of the findings [40]	The audio recorded, semi-structured interviews used in this study allowed for the researcher to revisit the collected data to identify new themes. The flexibility of the interviews also ensured that participants were allowed the opportunity to provide an in-depth account of their Tinder experiences. To support the findings, ‘rich’ and ‘thick’ quotes were taken verbatim. This allowed the study to maintain the true nature of each participant’s account.
Collecting and analysing data concurrently [43]	Similar to reflexivity, simultaneously collecting and analysing data allowed the researcher to identify issues that had been addressed and those which still needed to be further investigated.

A. Mobility

Findings reveal that women’s use of mobility influences the intrapersonal, interactional, and behavioural components of their PE.

1) Intrapersonal and Interactional PE

While literature mainly discusses the ‘motivation to control’ component when referring to a user’s desire to control their self-presentation [17] [24], findings revealed that women were motivated to control aspects beyond self-presentation. Due to Tinder being available on their mobile devices, five of the participants were motivated to control the privacy of their dating lives, as well as where and when they could engage in mobile dating. Participants expressed that the mobility of the app allowed for private use in public spaces, which would not be possible on a computer. Respondent 1 explained that she does not want people to know that she uses Tinder and that using the app on her phone, as opposed to a computer, allows her to keep her dating life private. She added that it would be embarrassing to interact with the app on a computer, as the larger screen would make it obvious to others that she participates in mobile dating.

*“I feel like it’s more privatised on my phone because...sometimes I don’t want people to know that I’m using Tinder.” (Respondent 1)*

a) Perceived control

Findings revealed that women’s need to control the privacy of their social interactions was satisfied by the control they felt they had gained. Respondent 7 felt that by using the app on her phone, she controlled the extent to which people saw her taking part in mobile dating. The findings which describe the motivation to control one’s privacy, as well as the perceived control felt over privacy, are supported by literature. Studies show that there are no restrictions as to where dating apps can be used, which allows for interaction in private, public, and semi-public spaces [16]. Studies also suggest that there is a stigma attached to online dating, as its users may be perceived as being desperate [19].

b) Resource mobilisation (interactional PE)

Tinder’s mobility affordance enhanced five of the participants’ ability to use the app as a resource for meeting new people while travelling or moving to a new city. This finding is supported by Lean et al. [34], who explained that women use the Tinder app as a travel tool.

2) Behavioural PE

a) Participation

Findings revealed that being able to interact with the Tinder app on a mobile phone enhanced the extent to which the majority (9) of the respondents participated on the Tinder app. Timmerman et al. [15] support this finding by stating that Tinder’s mobility increases how often users are able to use the app. Respondent 9 did, however, mention that her participation was negatively affected by only being

able to access the app on her phone. Due to the considerable amount of time she spends on her laptop, she would prefer a desktop version of the app. Table V summarises the occurrence of each mentioned theme.

TABLE V. MOBILITY THEMATIC ANALYSIS

PE Component	Theme	Sub-theme	Count	Resp.
Intrapersonal	Motivation to control	Motivation to control privacy	5	1, 4, 7, 8, 10
	Perceived control	Control over privacy	5	1, 4, 7, 8, 10
Interactional	Resource mobilisation	Travel/ New city	5	1, 2, 3, 5, 8
Behavioural	Participation	Encouraged participation	9	1, 2, 3, 4, 5, 6, 7, 8, 10
		Limited participation	1	9

B. Immediacy

Findings reveal that women’s use of the immediacy affordance influenced their resource mobilisation (interactional PE component). A new finding indicates that while dating apps claim to offer immediacy, four participants reported that the Tinder app did not deliver or notify them of any new messages from users. This hindered the extent to which some women could manage the app to interact with their matches. Table VI summarises the occurrence of each mentioned theme.

TABLE VI. IMMEDIACEY THEMATIC ANALYSIS

PE Component	Theme	Sub-theme	Count	Resp.
Interactional	Resource mobilisation	Faulty notification system	4	3, 4, 5, 9

C. Proximity

Emerging findings indicate that women’s use of the proximity affordance influences the intrapersonal, interactional, and behavioural components of their perceived PE.

1) Intrapersonal PE

a) Motivation to control

Five of the participants reported that it was crucial for them to have control over their maximum distance settings, to ensure that they would only interact with users within a specific distance. The proximity affordance of the app enhanced the extent to which women wanted to have control over their maximum distance settings.

*“... when I first got Tinder I had the location settings very narrow, because I was like, why do I want to swipe for people that I’m not ever going to be in contact with?” (Respondent 5)*

b) Perceived control

When asked how they felt about the proximity affordance, four participants expressed that being able to adjust their maximum distance settings allowed them to have some control over the matching process and possibly meeting with nearby users.

*“..you get people closer to you and it increases the probability of you meeting the person if they're closer to you.” (Respondent 9)*

An emerging finding suggests that a few women’s feelings of control over the matching process and their safety were hindered. For example, three participants reported that although a preferred distance would be set, the app would return user profiles outside of the participant’s location boundary. It is important to draw special attention to this finding, as Tinder stressed that the app was developed in a way which considered women’s issues, such as ‘proximity and control’ [3].

2) *Interactional and Behavioural PE*

a) *Critical awareness and resource mobilisation*

By indicating the distance between women and other users, participants were made more aware of how Tinder could be used as a resource to locate potential matches. Tinder’s proximity affordance enhanced women’s ability to use the app as a resource for specifically meeting users who were nearby. Participants were able to eliminate users who were too far to meet up with.

*“I love that because then you know who’s close by and who isn’t.” (Respondent 6)*

This finding is supported by literature which explains that the proximity affordance encourages users to match, exchange messages, and meet face-to-face with matches that are nearby [15] [16] [19]. The enhanced perceived control, critical awareness, and resource mobilisation also contributed to women’s participation (behavioural PE) on Tinder. This finding is partially supported by Zimmerman [10], who stated that there is an association between perceived control and an individual’s participation. Table VII summarises the occurrence of each mentioned theme.

D. *Visual dominance*

Findings reveal that visual dominance influences the interactional component of women’s perceived PE

1) *Interactional PE*

a) *Decision-making*

Five women expressed that their decision to interact with a potential partner is influenced by that person’s appearance. Tinder’s visual dominance contributed to women’s ability to review several users’ looks and decide on who they wanted to interact with.

*“So, I feel like that is like good about Tinder..I can choose how the people look that I am talking to.” (Respondent 3)*

Respondent 8, however, suggested that it was slightly difficult to decide on a potential partner based on their profile photo, instead of considering their personality. This

finding is supported by Hess et al. [35] who criticise visual dominance (as well as the swiping feature) for forcing users to make hasty judgements based on images. Table VIII summarises the occurrence of each mentioned theme.

TABLE VII. PROXIMITY THEMATIC ANALYSIS

PE Component	Theme	Sub-theme	Count	Resp.
Intrapersonal	Motivation to control	Motivation to control maximum distance settings	5	1, 5, 6, 7, 9
	Perceived control	Enhanced control over matching process	4	1, 9, 6, 7
		Incorrect location boundary	3	4, 5, 9
		Less control over safety	2	8, 10
Interactional	Critical awareness	Awareness of potential matches	5	1, 5, 6, 7, 9
	Resource mobilisation	Locating nearby potential matches	5	1, 5, 6, 7, 9
Behavioural	Participation	Encouraged participation	5	1, 5, 6, 7, 9

TABLE VIII. VISUAL DOMINANCE THEMATIC ANALYSIS

PE Component	Theme	Sub-theme	Count	Resp.
Interactional	Decision-making	Assists in choosing a potential match	5	3, 4, 5, 6, 9
		Difficulty in choosing a potential match	1	8

E. *Multimediality*

Findings reveal that women’s use of the proximity affordance influences the intrapersonal and interactional components of their perceived PE.

1) *Intrapersonal PE*

a) *Motivation to control*

Four participants expressed that they needed to be in control of how much other Tinder users knew about them. Respondent 10 revealed that if she was not given the option to link her Tinder profile to other social media sites, such as Instagram and Facebook, she would not have signed up to use the app. Respondent 6 similarly expressed that by being presented with the option to apply multimediality, she was motivated to control how much other users knew about her. Three other participants also revealed that multimediality added to their motivation to control how they were presented to other users. Respondent 7 shared that she wanted to present herself as someone who has both masculine and feminine characteristics, and used the social media linking option to do so.

David et al. [17] support these findings by explaining that the “motivation to control how one is seen” (p. 4) is apparent in the manner in which users learn how to present a particular version of themselves on online dating apps. This presentation may include using pictures from social media.

*b) Perceived control*

For some participants, the motivation to control self-presentation was followed by the experience of perceived control. Respondent 9 reported that she was able to provide users with a “more rounded view” of who she is. This finding is supported by Ward [24], who claims that individuals that operate in online platforms experience more control over self-presentation.

Other participants felt that their level of control over privacy was limited, as signing up with a Facebook account or linking one’s Instagram account created an opportunity for strangers to easily contact them on those platforms. Participants explained that while Tinder only allowed users to communicate if there was consent from both parties, linking one’s Facebook or Instagram account to their Tinder profile encouraged other users to initiate unwanted contact.

*“And then another guy invited me on Facebook and Tinder, ag (I mean) Instagram in like a day of me like just like swiping around in his profile. And I was just like, ‘that is creepy’.” (Respondent 3)*

This finding is supported by a study conducted by Pond et al. [36], in which other women also described the unwanted contact via other social media sites as ‘creepy’. This type of privacy is referred to as social privacy which includes receiving unwanted and inappropriate friend requests on social media platforms [16]. Emerging findings from the study reveal that while enhanced control through self-representation was an attractive outcome for some women, others were concerned about how multimediality compromises the control they have over their social privacy.

*2) Interactional PE*

*a) Understanding causal agents*

Multimediality allowed half of the interviewed women to gain a better understanding of potential matches. This was due to being able to review the social media profiles of other users. Respondent 6 revealed that checking a match’s other social media profiles gives her ‘a more holistic’ perspective of who they are.

*“I’ve gone into someone’s Instagram and gone as far as looking at Twitter for instance and see what they post and what they say.” (Respondent 6)*

This finding is confirmed by Pond et al. [36] who reported that it is a common practice for women using dating apps to visit a user’s other social media accounts in an effort to “learn more about them” (p. 15).

*b) Decision-making*

Findings revealed that to some extent, multimediality contributed to a woman’s ability to decide whether she would interact or meet face-to-face with another user. Four participants decided to interact with other users based on

Tinder’s mutual friend feature, which identifies common Facebook friends between two users. A study conducted by Timmermans et al. [15] supports this finding by explaining that Tinder users often use the ‘mutual friends’ indicator to choose which other users they want to interact with. Table IX summarises the occurrence of each mentioned theme.

TABLE IX. MOBILITY THEMATIC ANALYSIS

PE Component	Theme	Sub-theme	Count	Resp.
Intrapersonal	Motivation to control	Motivation to control privacy	4	3, 5, 6, 10
		Motivation to control self-presentation	3	1, 7, 9
	Perceived control	Limited control over social privacy	2	3, 8
		Control over self-presentation	3	1, 7, 9
Interactional	Understanding casual agents	Learning about other users	5	1, 2, 3, 6, 7
	Decision-making	Social Interaction choices	4	1, 4, 5, 7

*F. Swiping*

Findings show that women’s use of the swiping feature affects the intrapersonal, interactional, and behavioural components of their perceived PE.

*1) Intrapersonal PE*

*a) Perceived control*

The swiping feature played a critical role in promoting women’s perceived control. While existing literature has emphasised a dating app user’s control in terms self-presentation [24], swiping allowed the majority (8) of women to feel a sense of control over other aspects of mobile dating. By allowing women to indicate their interest or disinterest, the use of the swiping feature improved their sense of control regarding who they matched up with.

*“I think it’s because you literally are in control, you choose who you like, so if you haven’t liked anyone back there is no way they can match with you. So, you’ve sort of eliminated them.” (Respondent 10)*

This finding is supported by Timmermans et al. [15] who revealed that using the swiping feature enhances a user’s sense of control. Participants also conveyed that the swiping feature allowed them to control who had the ability to directly send them messages. Respondent 7, who had previously used the online dating website OKCupid, explained that she preferred Tinder, as when she was last on OKCupid, she did not have control over which users could interact with her. Timmerman et al. [15] support this finding by stressing Tinder’s need for mutual interest and consent in allowing one user to interact with another, unlike online dating websites which allow users to freely contact one another. In December of 2017, OKCupid made changes to its messaging system in an effort to reduce unwanted messages

from other users [44].

2) *Interactional PE*

a) *Resource mobilisation*

It is interesting to note that Tinder was used for more than just a resource for finding romantic partners. For example, respondents 3 and 7 used Tinder as a way to improve their self-confidence, by swiping and reviewing the list of users who were interested in them. Sumter et al. [37] support this finding by adding that both men and women used Tinder’s swiping (and matching) features to validate their self-worth.

b) *Decision-making*

Respondents 5 and 7 felt empowered by the swiping capability as it encouraged them to be more decisive in terms of choosing which users to interact with.

*“It allows us to be decisive and that’s empowering, and it encourages us too...Here in this space you have no choice, you have to put either left or right there isn’t a maybe.” (Respondent 7)*

Literature supports the role of swiping in decision making by explaining that the swiping gesture demands a “firm, decisive, micro-action” from its users (p. 7) [17]. It is, however, necessary to consider the extent to which the quick swiping action improves a woman’s decision-making capability. Similar to visual dominance, a participant acknowledged that swiping limited her criteria to make decisions by requiring a quick action while emphasising the appearance of a user. Respondent 8, who also had issues with the app’s visual dominance, felt that the fast-paced nature of the decision-making led her to place greater value on a user’s looks, as opposed to considering their possible personality traits. This finding is supported by a study in which users felt that the decision-making process is fast paced and at times involuntary [17]. While online dating apps insist that users make a decision, it is important to question the quality of the decisions made. There is no indication of whether urging a user to decide to swipe left or right affects their ability to make a successful and effective choice [38].

3) *Behavioural PE*

a) *Coping behaviours*

When asked about how it feels when another Tinder user does not reciprocate a right swipe (interest), three respondents felt disappointed while four others exhibited a way of thinking which helped them cope with the feeling of being rejected. These four women were able to develop coping behaviours to deal with unfavourable circumstances.

*“You’re allowed to say no, you’re allowed to have preferences, you’re allowed to like who you like or not like who you like.” (Respondent 6)*

Due to Tinder only allowing users to view their match list, users are encouraged to focus on people who are interested in them, as opposed to those who have rejected them [39]. Table X summarises the occurrence of each mentioned theme.

TABLE X. SWIPING THEMATIC ANALYSIS

PE Component	Theme	Sub-theme	Count	Resp.
Intrapersonal	Perceived control	Control over matching	8	1, 2, 4, 5, 7, 8, 9, 10
		Control over social interactions (messaging)	2	6, 7
Interactional	Resource mobilisation	Improving self-confidence	2	3, 7
	Decision-making	Interaction choices	2	5,7
		Difficulty in choosing a potential match	1	8
Behavioural	Coping behaviours	Acceptance of being rejected	4	2, 6, 7, 8
		Disappointment in being rejected	3	3,10, 9

G. *Un-matching*

Findings indicate that women’s use of the swiping feature affects the intrapersonal and behavioural components of their perceived PE.

1) *Intrapersonal PE*

a) *Perceived control*

When asked about being able to un-match someone on Tinder, most (9) participants expressed that they felt they had control over who they interacted with, while two others also emphasised control over their safety

*“I think it is extremely important to have things like that...I have been in a situation where I am very grateful that you can block people off all of your social medial accounts Like, especially as women, you have to be aware of your safety.” (Respondent 3)*

When asked about how it feels to be un-matched, the majority (7) of participants reported that they were unaffected by the feature, as they did not notice that they had been unmatched, or they soon forgot about it. Two of the ten participants felt that they were no longer in control of their Tinder interactions. The two participants explained that the same platform which initially improved their sense of control, by allowing them to indicate interest in potential partners (swiping), deteriorated that control by allowing other users to un-match them without an explanation as to what they had done wrong. Respondent 4 did not speak to issues of control but felt that her level of confidence was negatively affected by being un-matched.

2) *Interactive PE*

a) *Problem-solving*

Un-matching provided participants with a way to solve problems related to social interactions on Tinder. Respondent 1 controlled the outcome of her conflicts by un-matching users who harassed her. She explained, *“so, the thing about Tinder is, right, if you harass me online and I unmatched*



you, I will never ever get to see you again". Harassment was a common theme mentioned by seven other participants. Unlike the majority of the participants, respondent 5 interestingly said that she preferred to ignore users who harassed her and only un-matched those who she had accidentally swiped right for. Respondent 7 did not feel the need to un-match people due to being harassed. She added, "I think it's mostly because I interact with women. Women aren't like that. I haven't experienced a woman who's been vulgar, obsessing or..."

b) Coping behaviours

Respondents 8 and 9 used the un-matching option to cope with men who they felt fetishised black women.

"Ja (yes), so if white guys are just like, mentioning things like you can be my chocolate queen...I can be your white man, ja. Ooh, I'm going to un-match with you, I cannot entertain that bulls\*\*t."(Respondent 8)

These findings are partially supported by Richey [21] who concluded that being able to use the un-matching feature allows one to manage the process of dealing with inappropriate users. Table summarizes the occurrence of each mentioned theme.

TABLE XI. UN-MATCHING THEMATIC ANALYSIS

PE Component	Theme	Sub-theme	Count	Resp.
Intrapersonal	Perceived-control	Control over social interactions	9	1, 2, 3, 4, 6, 7, 8, 9, 10
		Control over safety	2	3, 8
Interactional	Problem-solving	Loss of control (being-unmatched)	2	8, 10
		Unaffected (being-unmatched)	7	1, 2, 3, 5, 6, 7, 9
		Harassment	7	1, 2, 3, 4, 6, 8, 9
	Coping-behaviours	Accidental Swipe	1	5
		Fetishisation of Black women	2	8, 9

II. CONCLUSIONS & FUTURE WORK

The purpose of this study was to investigate the extent to which women's use of mobile dating apps influenced their perceived PE. The research strategy was a case study of the Tinder app. Data were collected from women who participated in audio-recorded, semi-structured interviews. To answer the primary research question, this study analysed how women's use of each affordance (mobility, immediacy, proximity, visual dominance, multimodality) and feature (swiping, un-matching) hindered or contributed to components of their perceived PE.

It is important to note that although this study presented its findings in a manner which identified the thematic count for each investigated mobility or feature, the goal of qualitative research is not to necessarily produce generalisable findings [46]. The aim is to thoroughly explore

issues related to a phenomenon and to provide more understanding [46].

The first secondary research question for this study was: how are women using mobile dating apps? Findings revealed that women use MDAs not just for seeking romantic partners, but for making friends, meeting new people while travelling, and improving their self-confidence. Two additional secondary research questions asked: how does women's use of mobile dating app affordances and features promote (SRQ2) or hinder (SRQ3) their perceived PE? Findings suggest that women found the mobility and proximity affordances to be empowering, while the immediacy affordance hindered their sense of PE due to Tinder's faulty notification system. Findings also revealed that women's use of the majority of affordances and features resulted in an ambiguous effect on their PE. Affordances, such as visual dominance and multimodality, along with features, such as swiping and un-matching, were found to both promote and hinder women's PE. Women's sense of control can be highlighted as the most common theme throughout this study. Women expressed that using certain affordances and features influenced the control they had over their safety, privacy, social privacy, app usage, self-presentation, and interactions.

It must be emphasised that although women's use of online dating apps hindered or contributed to certain PE components, there was no indication of whether participants were able to achieve PE outside of the Tinder platform. Participants highlighted that certain actions, such as anonymously communicating one's interest or disinterest in a potential romantic partner (by using the swiping feature), or permanently disallowing someone from communicating with them (by using the un-matching feature), cannot be replicated outside of the mobile dating space. It can, however, be argued that there may be a few PE factors, such as coping-behaviours, which women may apply to their everyday lives. It is also important to note that most of the findings were only partially supported by literature, as there is a lack of studies which have specifically highlighted women's use of dating apps in relation to PE components. Existing studies have mainly focused on users (both men and women), as opposed to differentiating between the two.

The contribution of this research is twofold. First, it proposes a conceptual model which can be used by the wider research community to investigate the PE of women who use mobile dating apps. The model provides a way to holistically evaluate PE by taking into account the affordances and features of mobile dating apps, as well as the relevant PE constructs. Second, the findings of this study are addressed to those involved in mobile dating app development. This research provides app developers with more insight into the experiences of women using dating apps, while shedding light on critical issues, such as security and social privacy. Engaging with the findings of this study will encourage developers to address these issues by evaluating the design of their apps.

The exploratory nature of this study allowed for each participant to openly share their Tinder experiences. It is, however, necessary to conduct further studies in which

certain themes can be explored with more depth. Future studies should consider drawing special attention to the role of certain features, such as swiping and their role in PE, as there seemed to be a degree of ambiguity regarding the influence of swiping on women’s decision making. A possible research question would be: How does the swiping feature on mobile dating apps influence a woman’s decision-making? It would also be interesting to conduct a similar study which includes both men and women. This would allow for comparisons to be made between the two groups.

APPENDIX A

General Opening Questions

1. How long have you been using Tinder?
2. Why did you download Tinder?
3. Do you still use Tinder? (Why or why not)
4. In what ways does Tinder allow you to achieve the goals you just mentioned?
5. Is there anything challenging about using the app?
6. How did you overcome this challenge?
7. What does empowerment mean to you?
8. Why do you choose to use Tinder over traditional manners of meeting people?
9. Would you say you’re a person who likes to have control in situations?
10. Does that extend to your dating life or the relationships you have with others?
11. When you use the Tinder app, do you feel that you have or don’t have control over any parts of your life?
12. In what ways does Tinder give you more or less control over certain parts of your life?

Immediacy

13. How do you feel when you receive a match notification from the app?
14. What do you do once you receive the notification?

Proximity

15. What do you think about the location settings?
16. How do you feel about being able to pick a maximum distance?

Visual Dominance

17. How did you set up your profile?
18. How did you choose your pictures?
19. Do you ever feel commodified or objectified because of your profile?

Mobility

20. How do you feel about being able to use the app through your mobile device instead of having to use a computer?

Swiping

21. How do you feel about being able to swipe left or right on someone’s profile?

22. How do you feel about people swiping your profile left or right? (Do you ever feel like you’re a commodity?)

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