Feminist Technologies:

Encoding Feminism in Dating Applications

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Abstract

The topic of this research are feminist technologies. The investigation specifically deals with dating apps as feminist technologies taking on the dating app Bumble as its central case study. The main research question asks how feminism comes to be encoded into dating app technology and how it shapes the contemporary romance economy. Three sub-questions operationalize the research further by asking which feminist ideas are encoded and why, how the design of the app influences interactions and shapes feminist practices, and lastly, what the users' perceptions of the encoded representations are. The theoretical framework introduces various feminist theories but specifically focuses on the intersectional, queer and cross-cultural perspectives of what constitutes feminism. The methodology of the investigation is qualitative and data collection and analysis is done by conducing one-on-one interviews with users of the app. In addition to this, an app ethnography is conducted using the walkthrough method. The findings present results from both parts of the data collection. The main themes that arise are the paradoxical trust relationship between the app and its users, the fluid versus binary understanding of gender roles, the dating expectations that exist with regard to gender, the creation of safe spaces within the app, and the diversity of the matches within the app. The discussion concludes that Bumble encodes feminist ideas at two levels. At the surface, intersectional feminist ideas dominate, while in the core of the app outdated feminist ideas take over. With regards to practices, the influence of the app's design does not always aid Bumble in translating its values from the surface level to the core design and experience of the app, thereby creating a disconnect between what is said and what is done. Lastly, the perceptions of the representations that users hold are different than how Bumble constitutes of these same ideas. The research suggests three points of improvement for Bumble: firstly, updating the gender and sexuality categories and how they are implemented within the app's design; secondly, moving away from gendered ideas of sexuality and assumptions about women's sexual needs. Thirdly, revamping the safety and privacy features of its app to provide a safe space for all.

KEYWORDS: *feminism, technology, dating apps, encoding, bumble*

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1. Introduction

1.1 Choice of topic

One recent development with regards to technology and applications is the rise of platforms engaging with political, socio-economic, and cultural issues. The roots of this movement can be found in the process of platformization. Platformization is characterized by the effect of digital platforms on socio-economic, cultural, and political issues by way of their economic, governmental, and infrastructural aspects (Nieborg & Poell, 2018). Specifically, platforms take on a mediation role whereby the affordances and limitations of that platform can significantly influence and steer interaction with these topics in one way or another. Practically speaking, platforms like Facebook, through their enacted guidelines, terms of service, privacy policy, and similar rules can define what is acceptable content and thereby amplify certain ideas over others (Nieborg & Helmond, 2019). At the core of platformization is the inherent disbalance of power dynamics between the user and the platform behind which a powerful corporation sits defining its participatory ecosystem (Duffy, Poell, & Nieborg, 2019). Therefore, as these platforms make claims to their inclusivity, openness, tolerance, or other values, they are expected to enact these claims in meaningful ways and are now held responsible for the discrimination and harassment that occurs on their platforms.

However, sometimes these efforts can be so limited by the instituted rules that platforms' claim to certain justices can come across as hypocritical. This results in increasing pressure from society to adapt their design so as to match the values they express verbally. It is not enough for a company to claim that they are inclusive; people require companies to take concrete, visible actions to improve their services. For example, Uber and Airbnb have come under scrutiny for sexism and safety-related issues, which have significantly impacted their reputations (Wong, 2017; Vora, 2017). While Uber has not been as successful in addressing its issues, Airbnb has been very quick to make changes to its policy and its website design. They have responded both verbally and infrastructurally. This is in the business interests of any company that claims to be inclusive, feminist, or otherwise. However, for these tech companies to be able to adapt, there needs to be a better understanding of how existing systemic exclusion and limited ideologies can shape their technology.

1.2 Research thesis and question

The topic of this research is feminism and, more specifically, how it comes to be encoded in technologies. Concretely, the thesis aims to raise a discussion about the changing dynamics of romance and sex in society and the influence which can be attributed to dating apps. In recent years, more companies are experiencing pressure from society to adapt and change their technology to become more inclusive. For that reason, the study will explore the case of the self-declared feminist

dating app Bumble (Bumble, n.d; Yashari, 2015) and will consider the extent to which Bumble has the power to shape user experiences in- and outside the app and most importantly, whether the self-declared feminist app is, in fact, feminist.

In order to conduct this study, the central research question of this study is:

RQ: How is feminism being encoded into dating apps, and how is it shaping the contemporary romance economy?

As the research intends to offer a wider, intersectional, and cross-cultural feminist glance on the topic, three angles will be utilized. These angles will also be helpful in segmenting the all-encompassing main research question. The first angle considered will be *representations* and, more specifically, the ways in which gender roles are conceived and encoded. The sub-question states:

SQ$_1$: What kind of feminist ideas are encoded, and why?

These representations will concern mostly gender conceptions coming from a wide scope of feminist theories, Bumble's discursive understanding of gender roles, and its users' understanding of gender roles. In addition, an angle will focus on the intersection of gender with other identities such as sexual orientation, cultural background, and class. The angle offers an interesting answer to why certain ideas of gender roles are encoded, and others are not. This contributes to the cross-cultural feminist approach of this study.

The second angle, *practices*, aims to explore the specific socio-technical affordances of Bumble and their discursive power that dis/enable feminist practices. Therefore, I ask:

SQ$_2$: How are the design features influencing interactions, and to what degree is this enabling feminist practices?

Interactions facilitated through app affordances can create spaces in which certain behaviors and understandings are mandated while others are veto-ed (Chan, 2019). Moreover, this informs the research where certain representations of gender roles and feminism arise and help situate the discursive power with the app, users, or elsewhere.

A central aspect of this study is understanding the *perceptions* held by users of the existing representations and interactions. This informs the study on the various understandings, the extent to which they match, and test the claim that Bumble is a feminist dating app. The extent of the match between feminist understandings held by users and the feminist values Bumble encodes would challenge the genuineness of Bumble's feminist intent and the extent of their influence. For that reason, the final sub-question asks:

SQ$_3$: What are the perceptions of these representations?

1.3 Relevance of the investigation

To begin with, it is important to take a look at some data regarding how women use the internet. A number of research centres have collected data that show an overall increase in the presence of women online, while the digital gender gap has widened over the last couple of years. The digital gender gap here refers to how the internet use of men and women compares; therefore, a widening of this gap indicates that male users outnumber women by more than in the previous years. Specifically, ITU compares data from 2013 and 2019 and notes a global increase from 11% to 17% in the digital divide (ITU, 2019). The factors influencing this gap are accessibility to mobile phones, internet connection and, the ability to afford access (ITU, 2019; OECD, 2018; Mumporeze & Prieler, 2017). Other studies consider factors like the level of safety online, specifically focusing on gendered cyber harassment. Cyberstalking, sexual harassment, and offensive name-calling are all named as common experiences of internet users, especially women (Duggan, 2017; Joiner, Stewart, & Beaney, 2015).

While women experience cyber harassment more than men, this does not necessarily discourage women from accessing the internet so as to avoid cyber harassment. One example is that women often find ways to overcome it, such as through humor or by ascribing aggressive behavior as a normal aspect of masculinity, as one study shows. The author argues that the normalisation of harassment as a necessary and expected experience of using dating apps is quite common among not only men but women as well (Gillett, 2018).

The prevalence of harassment and abuse, the widening digital gap, and the evident risks posed to women all ask for a better understanding of the role technology plays in reinstating, enabling, and even mandating this behavior. Studies also show that online structures often reproduce the existing systemic discrimination that exists in the offline world against certain communities. This is a process by which values are encoded in an often invisible way, and as such, they can often be overlooked or misunderstood (Brown, 2019). Therefore, this evidence calls for a more nuanced and critically discursive exploration of the power dynamics at play.

Similarly crucial, dating apps are expected to grow from 15% to 20% global usage by the end of 2020 (Rapier, 2018). However, another shows a notable decelerating of growth in 2019, noting a difference six times of that in 2016 (Koch, 2019). At the same time, in line with the widening of the digital gap worldwide, women tend to participate in dating apps much less than men (OECD, 2018; ITU, 2019). In addition to this, dating apps while impactful, have not fully transformed societies and habits, and as much as dating apps can be empowering for women, they pose certain risks. Thus, a realistic overview of the extent to which dating apps can shape values and societies is central to both academic discussion, and businesses that want to develop technologies that participate in necessary

aspects of society such as romance. Moving from here, as a lot of literature has discussed dating apps, we will first look at motivations for dating app use, then values encoded in the design of these apps, such as gender representations, and the participation of users and the ways in which values come to be encoded by users.

1.4 Gap in research and objective

Studies on dating apps and feminist technology seem to be limited in several ways. Firstly, gender is considered as a binary logic, and its construction is often discussed as institutionalized by the interface or the perceptions of its users, but not their interrelation. Furthermore, studies on dating apps focus strongly on the app design and interface or on motivations to use the app but regularly avoid dealing with topics of values, ideology, and power dynamics as encoded in the app. Rather, their discursive power remains under-researched.

As such, a gap in the research exists with regards to the lack of cross-cultural, intersectional, feminist angles when discussing whose ideology matters. Moreover, feminist practices are not considered, and the construction of roles is rarely seen beyond a Western feminist understanding of gender. Finally, this shows that a cross-cultural feminist study is necessary to both contribute to the existing debates in the field and to companies facing new challenges daily.

Scientifically, this topic opens a discussion about the lack of cross-cultural feminist understandings and research discussing the changing dynamics of leisure and sex in society, as well as gender role expectations, and stereotypes as romance goes online. As discussed, research has often approached this topic from Western feminist angles, gender binary angles, and has solely focused on the app affordances as the sole perpetrator of discursive power (Bivens & Hoque, 2018; David & Cambre, 2016). Therefore, the study aims to adopt an intersectional and ideologically critical approach that considers the nuances of how technology comes to be, the user spaces that it shapes, and the behaviors that it influences. At the same time, it offers the integration of feminist understandings beyond gender conceptions that consider the combined experiences of gender and sexual orientation, gender and class, and others. The interplay of the various societal dynamics shows a difference in experiences and understandings that have been omitted in studies solely looking at men and women in general.

1.5 Structure

The study will begin by identifying the central debates and tensions in the literature on the digital divide, feminist theory, feminist technology, dating apps, and the transformation of romance. From here on, the qualitative methodology of the investigation is presented through the process of app ethnography and interviews. The operationalization of all relevant concepts from the theoretical framework will be addressed here before moving onto the findings and discussion. These parts will

showcase the overarching themes of the investigation, pointing to the central points of tension in encoding feminist ideology in apps. The research will be consolidated in the conclusion where the research will answer how feminism comes to be encoded in technology. Finally, the research will propose three suggestions for improvement for Bumble, the case study of the research, which can be implemented to improve its claims to feminism.

2. Theoretical Framework

In order to arrive at a clear understanding of the relevant research debates that exist with regards to feminist applications, this theoretical framework will cover five areas of research. Firstly, it will introduce the concept of the digital divide, which is central to the motivation for research into feminist applications. Then, the framework will move on to an overview of relevant feminist theory presenting the intersectional views that will lead to the more specific debates on feminist technology. From here on, the discussion will narrow down the focus to research on dating apps, thereby opening the relationship between feminist apps and romance. This will culminate with the overview of the transformation of romance, which will solidify the cross-cultural aspect of this research.

2.1 The Digital Divide

The concept of the digital divide can be defined as the gap between those who have and those who do not have access to digital media. This is also known as the first digital divide, whereas the second one is concerned with the usage of digital media in the world (Arora, 2019, p.7). At the core of this concept is the belief that all people deserve equal access and usage to digital media, which can empower and improve the livelihoods of its users (Dahlberg, 2015). Therefore, the literature on this topic deals with the narrowing and eventual closing of this gap so as to eliminate the inequalities that exist. However, much of the literature on this topic finds that the digital divide is not as easy to tackle as theory might suggest at first. Multiple scholars suggest that with the arrival of new digital technology, the gap widens (Arora, 2019; Dahlberg 2015; Hilbert, 2016; van Deursen, Helsper, Eynon, & van Dijk, 2017; van Deursen & van Dijk, 2013). What is more, many of these scholars continue to identify new intersections between digital media use and social strata that indicate deep-seated inequalities often linked to bigger social issues whose solution cannot be simply found in more digital media access or usage. As such, Arora shows that gender is an indicator of another digital divide between men and women, especially in patriarchal societies and low-income areas in the Global South, which are now becoming "the next billion users" of these digital media (2019. p.11-12).

A similar disparity, with regards to the second divide, is identified within the Netherlands where women, alongside the elderly, the lower educated and the unemployed users, are more likely to lack skills, understanding of uses and outcomes from these digital media. What is more, women are less likely to engage in economic, operational, and creative uses, which indicates a disparity between genders even in the Western world where these issues tend to be overlooked. The tendency to treat equality as achieved in the Western countries, especially with regards to feminist issues, can be traced in neoliberal ideas which "actively work to obscure the role of exploitative or

oppressive structures by shifting responsibility to the individual" (Popova, 2019, p.76). One criticism of the digital divide discourse is its failure to acknowledge the power differences between users and corporations, institutions, governance, and other users. Dahlberg argues that these topics are worthy of consideration as inequalities stem from the "contextual structuring of the technology concerned" (2015) which often discriminates between users using its algorithmic technologies, paid-for services, and other affordances which institute values of differentiation between users and often replicate real-life discrepancies in the power dynamics. As such, this study aims to explore the access, usage, and related social concepts that contribute to the digital divide with respect to feminist applications, specifically dating apps, and their embedded values and mandated practices.

2.2 Feminist Theory

2.2.1 Feminism and Technology

With the identification of harmful cyber harassment, feminism has pushed technology to encode its values to become more inclusive and sensitive to the audiences it serves. While this rise of encoding feminism in technology is currently pushed for among certain tech activists, the idea is not entirely new. Almost 30 years ago, a monograph on feminism and technology discussed issues with regards to relationships in the workplace, lack of consideration for women in Western medicine research, building sexist city environments, and seeing technology as intrinsically masculine (Wajcman, 1991). However, gendered values in technology design remain a largely unattended focus. The following discussions, therefore, ask how technology discursively influences representations and perceptions of essential notions such as femininity and masculinity (Haywood, 2018). Additionally, the differences in experiencing harassment call for a cross-cultural understanding of these experiences as central interactions of digital media (Duggan, 2017; Gillett, 2018). As new media is considered one of the key stakeholders that have the power to shape society (Vickery & Everbach, 2018), it is important to consider how this functions.

In order to discuss the place of feminism in discussions surrounding technology, we need to begin with a long-standing critique of the gendering of technology. This specific feminist critique concerns the longstanding assumption that technology is masculine. One researcher finds this in Western societies where it is maintained as a truth to this day, both in popular culture and academia (Corneliussen, 2012). She problematizes this by explaining that often that which is considered female has the tendency to also appear as gendered, while that which is considered male passes as ungendered, and therefore as the normal, or the norm. Different feminist philosophies, therefore, have different views on how gendered technology actually is. For example, liberal feminism sees technology as ungendered, while a controversial branch of feminism, eco-feminism, sees it as masculine and therefore suggests that women should reject technology altogether. Domestication

theory suggests that technology is socially constructed, and therefore its meaning is constantly changing, but that it reflects the meanings which are temporarily interpreted. Taking all of these possible views in feminism, Corneliussen argues that discourses are changing as opposed to fixed, but that they have the power to translate into the "moral economy of the household" (2012, p.XX) which indicates the importance of uncovering the influences on people's daily lives. Furthermore, she argues that working with the dualism of gender, as between men and women, is problematic because such views limit the solutions and do not consider all women. Building on Derrida's famous deconstruction, she states that dualisms function like a system of exclusion whereby the two act as opposite poles that necessarily exclude the other. In the case of gender, this actively excludes the possibility of men and women having similar qualities (Corneliussen, 2012), as well as those who perform gender outside of the binary notions of male and female.

Connected to this, Fullick, in her discussion of gendered performances online, discusses how Judith Butler's understanding of gender can contribute to the discussion of what constitutes feminine and masculine (2013). She uses Butler's claim that due to the intersection of many identities, "gender is not always constituted coherently and consistently" (1990). This points to a necessary discussion of romance "scripts," which reflect the heteronormative parts of society and thus define what is masculine and what is feminine. This is important to the extent that people choose to perform gender in line with the readily available "script" for which is which. Coming back to Corneliussen's examination of Derrira (2012), we come to the same problem of a duality where the two oppositions necessarily exclude each other. This easily translates to online spaces, as Fullick shows, even when applications might not necessarily mandate such behavior (2013).

2.2.2 Queer theory

Another perspective that has come into the discussion with feminism is LGBTQ literature. Watson, Snapp, and Wang offer a comprehensive overview of LGBTQ literature and point out the gap in the literature, which again pertains to the lack of intersectional perspectives and lack of studies focusing on queer women's experiences (2017). What the LGBTQ perspective further points out is that there is a lack of operationalization of the phrase 'hook-up' within queer communities which challenges the view that the definition that has been drawn from studies with predominantly white heterosexual respondents applies to queer communities as well (Watson, Snapp & Wang, 2017). Furthermore, they point out that most studies pertaining to the digital developments in the romance economy work with white college students, who are mostly male, and thus a lack of literature is seen as to the intersection of queer and racial or class identities. Connected to the suggestion that male equals normal (Corneliussen, 2012), the majority of queer literature has solely focused on male respondents, and thus the experiences of queer women are left out or assumed to

be the same as those of queer men. A particular study by Duguay (2019) points to how this assumption can be very harmful as queer women often experience a feeling of "scarcity" with their dating options, which is not found with queer men. Watson, Snapp, and Wang also point out that the lack of women respondents shows a sexual double standard, which can be harmful to queer women (2017). Exemplifying this with the lack of definition for hook-ups, the authors show that queer women are more likely to find partners through other friends, while queer men resort to dormitories and similar "institutional settings" (Watson, Snapp & Wang, 2017). Another problematic aspect of dating studies is the double standard that treats queer romance as risky, while heterosexual romance is seen as problematic only to the extent of harassment women can experience. Concretely, many studies discuss how certain sexual behaviors can increase the risk of harm, both medically with regards to sexually transmitted infections and socially with regards to harassment and assault (Watson, Snapp & Wang, 2017). As such, many of these studies focus on risk prevention instead of the entrenched discrimination and double standards. The authors rightly conclude that this bias present in academia creates a gap in the literature that assesses queer experience on the same ground as heterosexual experiences. As such, the authors also call on more literature that looks at the intersection of multiple identities, research which actively considers the experiences of queer women, and women of color (Watson, Snapp & Wang, 2017).

The queer perspective in feminism is also necessary as gender is very often conflated with sex, and is presented as a definitive binary, with a third option that is often "othered." In their research on Bumble and Tinder's construction of gender, MacLeod and McArthur (2018) argue that this binary functions as a "regulatory regime," as Judith Butler has theorized, to force users to fit a box that they do not necessarily identify with. This outright rejection of queer experiences is very common in academia and business, but due to the subtlety with which it is embedded, it often remains overlooked (MacLeod & McArthur, 2018). In the end, however, this shows the need for a more sophisticated understanding of gender.

2.2.3 Intersectional theory

In order to arrive at a more sophisticated understanding of gender, the intersectional perspective needs to be employed. Hackworth (2018) offers an intersectional framework for future studies focusing on the digital. Driven by the visible literature in the gap, she suggests intersectionality as a framework that can dismantle the hierarchy that is present in feminism itself, thereby solving the hegemony that excludes certain groups from its philosophy. By focusing on the intersections between different identities such as class, ethnicity, and race, intersectional feminism offers a view on the experiences that arise as a result of these intersections (Hackworth, 2018). Intersectional feminism finds its roots in black feminism, which started as a critique of liberal

feminism, which focused on the experiences of white middle-class women, as opposed to women of color, lower-class women, etc. By showing that when black women experience harassment due to the intersection of their identities, rather than just one or the other, black feminism argued that the experiences of black women are unique and merit the same consideration as those of white women. This led to intersectional feminism, which further considers other ignored identities such as class, ethnicity, and queerness (Lutz, Herrera Vivar, & Supik, 2011).

Furthermore, in the introduction to a monograph on *Digital Dilemmas*, Parry, Cousineau, Johnson, and Fullagar (2019) explain the very necessary need for intersectional perspectives in feminist technology research. Specifically, they argue that the intersection of multiple identities manifests online just as much as it does offline, and thus their digital impacts on understanding gender, injustice, and empowerment are central to any discussion concerned with gender. The monograph takes a critical approach to various feminist philosophies, such as liberal feminism and the colonialist notions that influenced it, while it presents black feminist views that bring the intersection of gender and race forward as solutions for various harmful online discourses. Furthermore, it deals with rising concerns about the impact of surveillance and big data technologies on women's lives.

As part of this monograph, Love (2019) discusses the rise of digital black feminism, a perspective that seeks to solve the harmful misrepresentations of black women online. To the discussion of technology as masculine, she brings race and positions it as not only masculine but also white. As such, digital black feminism is seen as a way to educate and connect oneself with an online community that aims to destroy assumptions that black women are one-dimensional and that they can be treated as a general group, rather than separate individuals.

2.2.4 Feminist digital spaces

All of these perspectives play into what McLean and Maalsen (2019) note. They argue that one way of changing sexist and misogynistic spaces, both offline and online, are found in creating feminist digital spaces. Specifically, feminist activism taking place digitally both emerges from the specific experiences of women facing misogyny and help bring to the forefront the entrenched sexism in our societies. They define this digital feminism as part of the Fourth Wave of feminism (McLean & Maalsen, 2019). Some other researchers inspired to make a change in these spaces have taken on a radical feminist perspective where they argue that modes of sexuality can function as tools of gender oppression. These critiques are concerned with the (self-)objectification of women and the ways in which the romance economy is entrenched with sexist ideas of romance that perpetuate gender oppression rather than solve (Heldman & Wade, 2010; Sharp & Keyton, 2016; Siegel & Calogero, 2019).

In general, what can be concluded here is that there exist many different feminist critiques and views. Most central to this discussion is the intersectional perspective, which offers a framework that contributes to a sophisticated understanding of gender and its interplay with various identities that form intersectional experiences for women online. At the same time, this exploration requires that all feminist perspectives are considered so as to understand which feminism becomes encoded in dating apps and in feminist technologies. This ultimately helps us understand which feminism matters when we speak of feminist technologies.

2.3 Feminist Technologies

At this point, it is important to make note that this push for feminism is not only present in the academic world, but also in society. Apps such as Circle of 6 and Hollaback were created for the purpose of alerting of abuse and harassment and with the aim to stop them (Circle of 6 app, 2019; Hollaback, 2019). Apps like Gender Fair rate companies by how feminist they are (Gender Fair, 2019), while casual apps like Tampon Run fight stigma surrounding periods by way of gamification (Tampon Run, 2019). Another app that claims to be a feminist dating app is Bumble (Bumble, n.d.; Yashari, 2015), which will be the central case study of this research.

2.3.1 Bumble

Bumble is a location-based online dating application that offers users the chance to meet and mingle with three aims: make romantic, friendly, or business connections. The app was launched in 2014 after its founder and CEO, Whitney Wolfe Herd, experienced workplace harassment while working for now rival app Tinder. The app declares itself as feminist and discusses issues of online harassment, sexual harassment, and a striving for a response to the #MeToo movement on their website (Bumble, n.d.; Yashari, 2015). A defining aspect of Bumble is mandating women to make the first move in heterosexual matches, which, according to their philosophy, offers a safe space for women (Bumble, n.d.). This app is particularly suitable for this analysis as it poses culturally interesting questions about whose feminism counts and which conceptions of gender roles are taken in the design of a self-proclaimed feminist app. The analysis will show to what extent the specific case of Bumble proves to be a disruptor of the power dynamics or a producer of the existing limitations of liberal feminism.

2.4 Dating Apps

Since Bumble is situated at the centre of this discussion, it is crucial to review the existing literature on both rival dating applications and Bumble itself. Their incredible growth and proliferation have made them a key intermediary in the daily lives of people worldwide, and thus their role in the romance economy is central.

2.4.1 Motivations for use

To begin with, one study from 2016 focused on the motivations for using Tinder. The study found that there are differences between the motivations men and women have for using Tinder, as well the different levels of pleasure they derive from the use of the app, respectively. Namely, men were found to have a higher interest in casual sexual encounters, a higher internet use to find potential partners than women, in addition to finding Tinder particularly easy for communicating (Sumter, Vandenbosch & Ligtenberg, 2016). At the same time, both women and men sought Tinder as a way to gain physical and mental gratification in the form of intimacy and commitment. The study did not reveal whether users, in fact, received the gratification they sought but concluded that there are notable differences in the motivations for the use of dating apps between men and women. Adding onto that, they mentioned the increased risk of sexual harassment that women face as a result of using dating apps (Sumter, Vandenbosch & Ligtenberg, 2016). This seems to suggest that men and women have varying experiences online, which seem to correspond to what general research suggests about women's participation online.

2.4.2 Encoding Authenticity

Stefanie Duguay's study on how Tinder and its users build authenticity points out the implications of marketing around a certain performance of heterosexuality (2016) which can explain certain experiences women might have online. As she describes, Tinder creates ads which show heterosexual men and women which embody normative ideals of beauty, class, and lifestyle. The locations shown in the ads are often nightclubs and urban streets pointing to a particular part of society. While catering to a specific audience, Tinder builds its authenticity by designing the app in a way that prioritises photos over text, limits matching to a certain location and age-group which the user selects (Duguay, 2016). The affordances play into the marketing strategy and push users to self-present in a manner that acts as authentic within the app, as well. Duguay argues that, for example, Tinder's requirement to create a profile linked to a social network can result in the exclusion of those who are absent from Tinder's marketing: older, queer, and low-economic status people. These people might have a harder time creating profiles which are seen as authentic or may potentially face exclusion and harassment, on top of having less incentive to use the app in the first place. It is important to note that Tinder is not easily substituted by the use of other more inclusive apps to the extent that the popularity of the app impacts the access to potential matches. When apps' affordances create unwelcoming spaces for specific groups of people this can significantly impact their ability to participate in the romance economy (Duguay, 2016). This suggests that the encoding of values can be done beyond the app but still translate into its users' experiences. As the way that

values are translated through an app's interface can be very central to the dating experience of its users, Duguay builds on this research further.

2.4.3 Queer dating

Duguay's 2019 study explains that queer women very often are faced with a screen that announces that 'There is no one new around you'. This seemingly small detail of Tinder's interface which reflects the inability of the algorithm to locate potential matches in your location and age range, in fact, contributes to a "deep-seated feeling of scarcity" of queer women to choose from and meet (Duguay, 2019). Many of the respondents in Duguay's study reflected on how unwelcome and uncertain this message made them feel in addition to feeling sceptical and desperate about their ability to meet potential partners (2019). Tinder's interface fails to consider the experiences of queer women such as that they may be reluctant to swipe in more public locations outside of their own home which significantly limits their exposure to queer women in other locations where they might otherwise spend time publicly (Duguay, 2019). Similarly, all queer women in this study had encounters with fake or deceptive accounts often made by couples and heterosexual women looking to experiment, as well as men pretending to be women so as to engage in deceptive sexting. This makes queer women feel like they have no control over their dating experience, specifically with relation to whom their profile is visible to and the possible discrimination and deception they may face from other users (Duguay, 2019). Duguay's study is particularly important as it is one of few which examine the experience of queer women as opposed to a pool of research on queer men's experience of online dating. Furthermore, this shows a necessity for more research into the risk, harm and discrimination that queer women face in online dating applications. The experiences of harm are well documented for white heterosexual women (Duggan, 2017; Joiner, Stewart, & Beaney, 2015), and thus here we see a need to intersectional perspectives that can inform how applications can improve their interface to accommodate the issues queer women, women of colour and those that find themselves at the intersection of these multiple identities, face. Duguay rightly concludes that dating apps need to recognise the importance of embedding values in the design of their apps (2019), which further underlines the importance of academic research which can be applied in business practice.

Connected to this, one study was conducted to test the implications of built-in binary gender systems in apps. Specifically, Bumble and Tinder, at the time of the research, provided users with a gender binary option between male and female (MacLeod & McArthur, 2018). The authors argue that Bumble's regulatory regimes force users to sort themselves into a binary system despite the fact that they might not identify with either gender (MacLeod & McArthur, 2018). Since this binary setting also translates into the section of the app where your sexual orientation is expressed through

interest in either women, men or everyone, many users give cues with regards to their gender and sexuality in their profiles, either through photos or text. While users might make use of this "loophole" they risk losing matches, being reported, or being harassed from other users (MacLeod & McArthur, 2018). One specific improvement that the authors point out is Tinder's gender selection screen where despite the initial screen with a binary choice, there is an option to enter your own gender. However, at the end, the user still gets sorted into either male or female, which the authors ultimately criticise as an unsophisticated understanding of gender. What they note, which is central to our discussion here, is how often gender is understood as sex (MacLeod & McArthur, 2018). This is common to both academia and to business, and thus with online dating apps as well. The authors rightly assign this to the "hegemonic cycle of heteronormative design practices" (MacLeod & McArthur, 2018) whereby the understandings of gender in society translate into online spaces without much concern on what kind of power dynamics might be at play. Furthermore, this problematises the online dating spaces for queer persons as they face similar constraints and potential harm offline and online. Apps, especially when declaring their philosophies as inclusive, should pay attention to the less visible ways in which values get encoded into the design, and thus their impact on the experiences of queer users.

2.4.4 Desirability and matching

Finally, one study looks at the way in which users manage their profiles and the way they decide whether to "swipe" right or left depending on whether they want to potentially match or not with a user (Ward, 2016). She found that the process of matching is mainly driven by physical attraction and perceived similarity. This reveals that there is a tendency for homophily, or for people to seek out people who are like them. At the same time, the study revealed that Tinder's interface provides fewer options for filtering than other websites and apps but tends to demand careful profile curation which tells users enough to be able to choose from such a diverse pool of potential partners (Ward, 2016). This is particularly interesting because it suggests that Tinder does not want to limit the options beyond age and location, but at the same time provides a comprehensive interface for users to be able to apply their own biases and beliefs to make a decision, as well as to choose how to present themselves to others. Considering how the respondents reflected on the choices they made when creating their profile one can argue that Tinder's interface while not explicitly embedding any values, demands that users think about being on the other side of their own profile to figure out what constitutes as "desirable". Ward's research shows that apps like Tinder provoke users to reflect on their own ideas and values about the "rules" of dating so as to create their profiles, despite the fact that users might not do this consciously (2016). In addition, such interfaces allow users to position their own beliefs within the system which may allow users to

challenge the expected performance of gender. However, this freedom also pushes users to situate themselves within the wider context of the society in which they date and thus may apply values and ideas of gender performance that they might not otherwise consider as truly themselves. This links well to Heldman and Wade's study (2010) which shows that self-objectification among women in dating is very common. Therefore, even problematic ideas of gender and romance may easily translate into the interface of a dating application. It, thus, remains for the app to decide what space it wants to facilitate.

2.4.5 Infrastructure

Bivens and Hoque (2018) have conducted a study on Bumble through a semiotic lens. Their findings indicate an infrastructural failure within the app. They argue that Bumble's design centres gender as the point of oppression and does not consider other identities or intersection of identities. This results in a situation where the app becomes geared towards straight cisgender women who control the interaction, while at the same time constituting masculinity as inherently aggressive (Bivens & Hoque 2018). Their research indicates an infrastructural failure in its intent to provide a safe space by only considering the experiences of heterosexual women. Therefore, they suggest that Bumble should reconsider their binary notions of gender, remove the option giving straight women the control over the conversation and considering queer users and their participation in the app (Bivens & Hoque 2018). This shows that sometimes the values that are seemingly embedded do not in fact translate in expected practices and can carry dominant, but harmful understandings.

At this point we see that values can become embedded within the interface and user experience by three ways: marketing surrounding the app, design of the app's interface, and the translation of values by users into profiles and swiping habits. As these imply the recreation of certain societal power dynamics and ideologies, which potentially pose harm to women who participate in the romance economy, we will now turn to studies focusing on the transformation of romance.

2.5 The transformation of romance

Strongly linked to our discussion about women's presence online is the transformation of the romance and the romance economy. While online dating is somewhat novel, romance has been present since the dawn of time. However, romance while ubiquitous is not uniform. Both in academia and pop culture romance is often accompanied by qualifiers such as traditional or progressive, and sometimes transgressive, depending on the point of view. Different cultures have different "rules" to romance, so it is only fair that this exploration looks at several countries around the world and how a transformation of romance has occurred in each one in the digital age.

To begin with, one researcher conducted an ethnographic study in Turkey where she focuses on the impact of the internet on people's understanding of the boundaries of public and private spaces, and online and offline spaces (Costa, 2016). One significant portion of the research focuses on the specific impact of the private, intimate moments where people utilised social media to form romantic relationships away from the public eye. Centrally, she discusses the transformation of romance pre-internet and post-internet thereby noting that while traditional behaviours and beliefs have not been entirely abandoned, more and more users utilise platforms like Facebook, which are seemingly non-romantic, to engage in romantic and sexual communication beyond what is considered acceptable. She specifically discusses how in traditional societies where a gender gap exists and where women engaging in romance and sex are seen as sinful, these media are one of the few spaces where women make choices on how to interact, flirt and engage in romantic behaviours (Costa, 2016, p.4). At the same time, Costa rightly notes that often these instances of empowerment are interpreted as a movement towards modern and democratic society, whereas the internet also provides the power to reinstate traditional gender understandings and therefore strengthen them (2016, p.3). Pointing to the double-edged sword that comes with this digitalisation of romance, she notes that despite the behaviour women engage in privately, social media are often considered immoral, shameful, and sinful (2016, p.27). This prevents certain women from participating in social media, while at the same time it forces other women to be very careful with the messages and images they share online with others, especially men. However, without a doubt, she notes that the internet has shifted the boundaries of romance and even facilitated forms of forbidden romance (Costa, 2016, p.5).

Another study that challenges the view that online dating challenges traditional behaviour is Yang's exploration of Chinese dating behaviours between three generations (2017). As part of a larger monograph on the link between TV and dating in China, she shows that a transformation in romance is occurring with a visible shift from collectivist understandings to individualist understandings of romance. Specifically, this means that generations born between the 1950s and 1960s were raised in a more collectivist spirit and with strong traditional values, thus engaging in romance that was often in the form of arranged marriage. The following generations born in the 1970s and 1980s had a free choice when it came to marriage, but still rarely engaged in more than one relationship before marriage. These generations, according to the author, were raised with Confucian philosophy and strong traditional values but more choices than the previous generations (Yang, 2017). Comparing these two generations with those born from the 1990s to today, China sees another shift to more individual values, with people engaging in more relationships between marriage and having free choice in marriage. However, the author acknowledges one interesting

development which counters this move from a collectivist to individualist understanding. While individuals engage in more relationships before marriage, the choice for partners has become more limited than that of previous generations. Moreover, a gendered gap exists in that women are often raised with much more traditional understandings of romance influenced by the Confucian philosophy, while men's casual attitude to their own sexual behaviour is more widely accepted in society (Yang, 2017). Similar to Costa's exploration, this points to the transformation of romance as simultaneously empowering and limiting for women. Online dating, paradoxically, seems to be challenging and strengthening the traditional gender boundaries that exist within society.

One common aspect of the findings of these studies is the aspect of "forbidden love". Arora (2019) in her chapter on 'Forbidden Love' presents just how common this is for many cultures around the world. For example, for men in Ludhiana and Isnapur, India, communication with women is a rarity due to the patriarchal culture, so online chatting is one of the few ways in which they can establish some communication with women (Arora, 2019, p.184). Similarly, many young Saudis seek the anonymity of the internet to explore the world of digital romance without the judgement and consequences of society witnessing this communication (Arora, 2019, p.186). While liberating, these online endeavours for leisure and romance do not guarantee a safe space. The cultural and societal values of many of the world's patriarchal societies still translate to the access and use of digital technologies. Arora explains that women using these platforms are still very careful with how they present themselves, from which photos they use to how they communicate, as for many of them one small mistake can mean bringing dishonour to their family, public shaming or worse consequences (2019, p187, p194-198). Despite the proliferation of digital media and their liberating potential, it would be naïve to disregard how the values of societies translate into digital technologies to reinstate those same limits to public spaces and acceptable behaviours for women. Therefore, this warrants a further cross-cultural exploration of the discursive powers of online dating as cultural ideas can translate into technology by way of its users even when technology is seen as liberating. Essentially, this allows for an exploration which challenges the views postulated in digital divide research that argue that the gap can be closed by focusing on access and usage only.

Turing to one Western perspective, Flug (2016) gives a comprehensive overview of the impact of online dating on both the transformation of romance and the perpetuation of existing romantic behaviours in the United States. Locating the modern notion of dating between the 1930s and 1940s, she explains that dating was often seen as measure of popularity and social status, with the aim of securing a spouse which if not done early enough was often stigmatised. She positions the digital transformation of romance with the launch of the first online dating site, "match.com", in 1995 (Flug, 2016). With thousands of dating websites and apps today, she posits that romance is

transformed to the extent that young adults choose their partners not based on conversational similarities, but rather visual aspects and data. This, she argues, encourages the judgement of others based on your own biases, and thus often results in "homophily" or the selection of partners who are similar to you by race, ethnicity or class (Flug, 2016). She problematises this transformation by showing that two thirds of users feel discriminated against online on these dating sites and apps. Racial differences in the perception of discrimination were found, with white respondents perceiving discrimination based on their general appearance and weight, while respondents of colour found their race to be a common point of the discrimination they faced. An additional problematic aspect of online dating is that more than half of the users, predominantly women, felt that other users are dishonest in their self-presentation on their profiles (Flug, 2016; Duguay, 2019; Mosley, Lancaster, Parker, & Campbell, 2020). This raises the question of whether a transformation of romance has really occurred to the extent that the dating scene becomes more open, diverse and free of discrimination, or whether these apps and the users engaging with them have translated their existing "offline" habits and beliefs to an online space. This suggests that perhaps this move online has resulted in the same problematic institutions that exist offline.

In contrast to Flug's dissertation (2016), one study was conducted with the aim of uncovering whether online dating facilitates the creation of more diverse couples suggests that perhaps a transformation has really taken place. Thomas (2020) argues that while the extent to which online dating reduces cultural homophily may not be as big as expected, it still has an impact on the understandings of romance instituted today. He finds that when comparing online and offline dating, online dating results in more diverse couples than offline dating, but only for several of the characteristics that are considered. Namely, he finds that couples who meet online are more diverse in terms of race, ethnicity, religion and degree status, while they tend to remain similar in age (Thomas, 2016). Connectedly, he argues that this can be because of the way online dating removes certain hurdles. One such hurdle is the meddling of family and friends in relationships as an "intermediary" that participates in the matchmaking as well as decision-making process of choosing partners. Similarly, online dating enables users to go beyond their social circle which may be very similar to them and access groups that are different racially, socially, etc (Thomas, 2016). At the same time, these affordances, such as location-based matching, can be limiting to the extent that neighbourhoods and cities within which a user is "swiping" can be lacking diversity based on race, ethnicity, religion, class and other such characteristics. However, even when controlling for the diversity of the locations, the author findings that online couples tend to result in more diverse relationships are statistically significant. Finally, the author does acknowledge that despite the diverse pool of choices an app may offer, users do take their biases and beliefs online which can

result in homophily (Thomas, 2016). Most centrally, however, from the demographics of the respondent group it becomes clear that once again non-heteronormative and intersectional perspectives are lacking. Thus, how online dating plays a role among queer users, and specifically queer women, and whether homophily persists in those cases remains a question.

2.5.1 Hook-up culture

Another one of the many studies that looked at hook-up culture in the United States, discusses how casual sex has become almost hegemonic, and specifically argues about how this shift in romantic behaviour can be discriminatory and harmful (Heldman & Wade, 2010). By informing their approach with a radical feminist perspective which "focuses on modes of sexuality as both reflections and tools of gender oppression", the authors define hook-up culture in terms of casual sex encounters which do not have the aim to result in a committed romantic relationship between two people. They conduct their study among college students and examine a number of motivations for the participation in hook up culture, as well as a number of risks that come with it. They conclude that men benefit more than women from hook-up culture to the extent that men report more pleasure and social status benefits, whereas women often expressed feeling vulnerable, regretful and were much more likely to experience forms of sexual harassment and assault (Heldman & Wade, 2010). The researchers point that even when women consent to sex, they often do not feel empowered to communicate their needs, often consenting to sexual activities which they do not desire. This is linked, the researchers suggest, to the deprioritization of female pleasure in sex as well as the stigma that exists against women who engage in frequent sexual activity where labels such as "slut" are often attached (Heldman & Wade, 2010). Moreover, this presents a double standard for men and women. As Farvid, Braun and Rowney explain "a sexual double standard positions men who have many sexual partners (positively) as a 'stud' or 'player' and women (negatively) as a 'slut', 'skank' or 'whore'." (2017). Furthermore, this contributes to women's confusing, contradicting and uncomfortable participation in hook-up cultures whereby women try to navigate the space by both rejecting and taking on the roles prescribed to them by these gendered sexual scripts (Farvid, Braun & Rowney, 2017; Popova, 2019, p.79).

When turning to the motivations of why women engage in hook-up culture despite the visible risks, the researchers suggest that the hegemonic status of hook-up culture means that women who do not want to engage in hook-ups are far less likely to gain sexual and emotional intimacy, and eventually engage in romantic relationships. In addition, women are often partaking in self-objectification and self-blame when looking for hook-ups or reflecting on past experiences (Heldman & Wade, 2010; Sharp & Keyton, 2016; Siegel & Calogero, 2019). Sharp and Keyton explain that behaviours like self-objectification and sexualisation are strengthened by heteronormative

romantic ideologies (2016) which Siegel and Calogero find to be rooted in the repetitive objectification women face (2019). This, according to them, is how women come to consider their "appearance as central to their self-concept and habitually monitor how they appear to others" (Siegel & Calogero, 2019). At the same time, it is important to note that despite from the posed risks, lack of pleasure, and self-objectification habits, some women are not concerned with forming strong romantic relationships and families, but rather focus on their professional career and thus hook-up culture allows for them to participate in more casual sexual encounters (Heldman & Wade, 2010). Ultimately, the authors make a note that research of this kind strongly focuses on heterosexual relationships between, most often, white men and women, thereby calling for a more intersectional and cross-cultural perspective that is truly informative of the hook-up culture seen in young adults (Heldman & Wade, 2010).

2.5.2 Consent

Threading onto Heldman and Wade's argument, hook-ups and casual sex can make consent messy and hard to understand. This is a common issue within consent theory which many have explored. Historically, consent theories can be divided into four types (Popova, 2019, p.). The first theory is rooted in radical feminism which, as discussed previously, is concerned with the power dynamics in society (Heldman & Wade, 2010). Specifically, the theory suggests that there are situations in which denying consent can be difficult or impossible due to the power differentials that exist between two people. However, this approach is often criticized for its top-down view (Popova, 2019, p.15). The second theory is termed "no means no" consent and originates from the campaigns against date rape in the 19980s and 1990s. This theory defines consent by the word 'no'. However, academics note that it is flawed in that defining 'no' is not enough and potentially misleading. Within this theory, it is unclear whether the lack of a 'no' implies a 'yes' and fails to consider situations, like those raised by radical feminists, where consent cannot be denied due to a difference in the power between two people (Heldman & Wade, 2010; Popova, 2019, p.16). This is also troubled by the fact that the burden of consent falls on the women (Popova, 2019, p.17) and often times reinstates the ideas that men are initiators and women are the gatekeepers to sex (Courtice & Shaughnessy, 2018). At this point, the "yes means yes" consent theory attempts to resolve the issues of the previous two. This theory is driven by a sex-positive feminist ideology which employs discourse that is sex-enthusiastic. The theory defines 'yes' and the burden of consent is shifted to the partner which must obtain an enthusiastic 'yes'. This eliminates situations in which no consent has been expressed explicitly or consent is troubled by power dynamics. However, this theory situates responsibility solely with the individuals and does not consider the cultural influences of society onto the normative ideas of sex and consent (Popova, 2019, p.17). For this reason, the fourth theory known

as the sex critical consent theory takes a multi-dimensional approach taking into consideration both society and the individual. Sex critical consent deals with the negotiation of consent and asks in which situations consent is freely obtained and in which it is influenced by power dynamics (Popova, 2019, p.20). At the end, consent remains a messy topic that is hard to define and is dependent on many factors. Therefore, as Heldman and Wade explain, women might consent even when they do not want to (2010).

As we can see from this overview, it becomes harder to attach qualifiers like traditional and progressive to the dating practices around the world. Romance often seems to be shaped by somewhat vague rules which people come to know by participating in the romance economy. What is more, the rise of online dating seems to have complicated the existing expectations and "rules" of dating around the world. Centrally, the positioning of women within the romance economy seems to be common to all of these cases. Often women participate in a paradoxical romantic space which offers them empowerment, on the one hand, and vulnerability, on the other hand. The reluctancy, lack of pleasure, and (self-)judgement all point to a complex mesh of values which often contradict each other and make the dating experience more ambiguous. This warrants a further discussion into how these values impact the users in more specific ways, and most importantly, how they are reproduced or rejected in the design of online dating apps.

3. Methodology

3.1 Research Design

This study employed qualitative research methods. As has been established, a gap exists in the existing research with regards to employing a cross-cultural intersectional feminist approach when discussing technology, and more specifically dating apps. The research question asks how feminism is being encoded into dating apps and how is it shaping the contemporary romance economy, while the three sub-questions deal with what kind of feminist ideas are encoded and why, how the design features influence interactions and to what degree they enabling feminist practices, and what are the perceptions of these representations. As seen from the research question and its sub-questions, this paper is interested to explore three angles in order to better understand self-reported "feminist" technologies (Yashari, 2015). These angles are representations, interactions, and perceptions.

The study is cross-sectional and studies a group that is not necessarily representative of the overall population, and therefore not generalizable (Boeije, 2010). Rather, the specific focus is on the depth of analysis instead of a wider scope of research that might not indicate the intricacies of the representations, interactions and perceptions that exist within online dating apps and its users. As such, it makes use of the dating app Bumble as its case study whereby Bumble is analysed through digital app ethnography and its users participate through semi-structured interviews. This is therefore a case-oriented analysis that is grounded in existing theory and in new-found data.

Semi-structured interviews were chosen because they allow the analysis to look for themes, patterns and discrepancies that exist in how representations are encoded in the technology and formed by its users, which interactions take place during the use of this app, what perceptions and beliefs exist, and whether they pertain to a certain type of feminism. Semi-structured interviews also allow for the necessary flexibility and freedom to gather a saturated data set that shows a wide range of these practices (Boeije, 2010).

Additionally, Bumble's interface and affordances are approached via digital app ethnography with the Walkthrough Method (Light, Burgess, & Duguay, 2018). This particular method allows for an analysis pointing to the discursive power of the design and values embedded within the app itself. While this part mainly pertains to the second sub-question it ensures the truthfulness and reliability of the study by triangulation of the data and theory (Boeije, 2010). The specific steps of the Walkthrough Method will be discussed more in detail later.

The data analysis of the app ethnography and the interviews employs a combination of grounded theory and critical discourse analysis, the reason for this being the nature of the research and sub-questions which request answers concerning the discursive power of the app and pattern

recognition in the app's and users' representations and perceptions. Alongside triangulation, grounded theory incorporates constant comparison whereby incidents are compared to each other, which are subsequently integrated into emerging categories based on their properties and allow for general themes and patterns to be demarcated. Moreover, critical discourse analysis uncovers the patterns and themes found in the data as the research ultimately is interested in ideological beliefs and views of feminism and its different types as encoded practices in the dating apps (Boeije, 2010; Machin & Mayr, 2012).

Ultimately, the goals of the interviews and the app ethnography is to consider meaning making in feminist technologies that uncover the discourse dynamics of such apps.

3.2 Sampling

3.2.1 Interviews

Both snowballing and purposive sampling were used as criteria. Specifically, snowballing was used to reach a wider audience, while purposive sampling acted as a second step where the most suitable participants were chosen for the interview. The criteria used here were nationality, gender, and sexual orientation, with the aim of arriving at a diverse sample that can then be representative of many different views. This is particularly important to the study due to the nature of the question and analysis dealing with intersectional feminism whereby gender, sexual orientation and nationality are central.

In total, 10 online interviews were conducted with young adults aged between 18 and 26 who have used Bumble for dating purposes. The interviews are all between 60 minutes and 110 minutes in length and were conducted and recorded using the online communication software Zoom. Looking at gender, from the 10 participants, two identified as cis men, while 8 identified as cis women. In terms of sexual orientation, one identified as pansexual and one as gay, while eight identified as straight. The most diversity is present in terms of nationalities, two of the participants are Dutch, two are South African, while the others are Indonesian, Macedonian, Irish, Italian, Lithuanian, and Norwegian. The least diversity is present in completed education level where 8 participants have completed at least a bachelor's degree, with 2 having completed high school (see Table 1 in Appendix A). The mean age of the participants is 23.9, with the mode being 25.

The interviews were semi-structured and covered questions in six parts pertaining to three of the aspects of the study: experiences, representations, and perceptions (see Appendix C). In order to avoid any leading questions, the interview first approached the various experiences and aspects of the app, and only focused on themes such as feminism near the end of the interview. Furthermore, by posing questions in the devil's advocate form (e.g. "some people think that…what do you think about this?) the researcher avoids revealing their views on the matter.

The original research planned for face-to-face interviews and a subsequent focus group which due to the developments with the global pandemic had to be adjusted. In order to make up for the impossibility to organise a focus group, the interviews were made longer than the planned 45-60 minutes. Additionally, more emphasis was put on the app ethnography as well. Despite the limitations that this might cause, the adjustment should allow for an analysis that can render an answer just as reliable. Due to the pandemic circumstances, not all respondents had access to printers so consent for eight interviews was obtained orally, while for two signed consent was obtained.

3.2.2 Digital app ethnography

The explanation for the choice of Bumble as the case study for this part lies behind the fact that Bumble declares themselves as the feminist dating app. As discussed previously, on their website they discuss how they "challenge outdated heterosexual norms" by flipping the script of dating and requiring women to be the first to message. This makes Bumble a particularly fitting case study which allows the research to look very closely at the importance of such claims alongside the actual discursive power that apps hold in our daily lives. More specifically, with the Walkthrough method the study samples content such as app descriptions found on the app stores, website pages, guidelines, terms of service and privacy policy, alongside the built-in affordances such as buttons, menus and texts.

3.3 Methods of analysis

The main methods of analysis will be the walkthrough method for app ethnography, grounded theory and critical discourse analysis for the interviews and focus groups.

3.3.1 Walkthrough Method

This method of analysis has three main aspects. The first is the 'environment of expected use' which asks what the vision, purpose, target user base and scenarios of use this app has, its business model, its governance and whether they are formally or informally enacted (Light, Burgess, & Duguay, 2018). It considers the practices that are implicated in the app's design and will be useful to the first sub-question on encoding feminism. The second step is the technical walkthrough, which is concerned with the app's affordances, starting with how one registers and enters the app, the user interface arrangement and how it forces certain user interaction with the placement of buttons and menus. It asks how functions and features speak about the aspects that mandate or enable activity, such as the inclusion of compulsory fields (Light, Burgess, & Duguay, 2018). Next, the textual content and tone are analysed such as the order of drop-down menus and the discursive implications found there. Furthermore, the ethnographer reflects on symbolic representations or the look and feel of the app, followed by the everyday use where regular activities are distinguished

from irregular activities. Ultimately, app suspension, closure and exiting answer what happens when you quit the app (Light, Burgess, & Duguay, 2018). The technical walkthrough is particularly important in establishing the extent of the influence of the app and its discursive power in shaping interactions with its users. Connectedly, the last step challenges this by looking for unexpected practices and how its users appropriated technology. Centrally, whether their activity differs from the intended purpose of the app's interface is examined (Light, Burgess, & Duguay, 2018).

3.3.2 Grounded Theory

The importance of grounded theory to this research lies in its systematic nature. Specifically, grounded theory deals with the "attempt to derive theories for an analysis of the patterns, themes, and common categories discovered in observational data" (Babbie, 2014, p. 315). It employs strategies such as constant comparison to obtain multiple viewpoints and maintain an attitude of scepticism (Babbie, 2014, p. 316) which furthermore strengthens the triangulation of this research, and as such its reliability. A grounded analysis takes place in three coding stages going from open coding where the codes arise from the data, then axial coding which returns to the open codes and tries to identify general concepts, which are then reanalysed in the selective coding stage where the central concepts are defined and described using both data and theory-driven categories and codes (Boeije, 2010).

3.3.3 Critical Discourse Analysis

The main aim of this method of analysis is to uncover the social constructions (not) found in language that reveal deeper ideological meanings (Machin & Mayr, 2012). The assumption here is that the design features of the apps point to, recreate or reject certain power dynamics and why they do so (Machin & Mayr, 2012). As such, by integrating grounded theory the analysis process go through the three stages of coding, but will keep in mind the concepts of denotation and connotation which distinguish the literal meaning from the symbolic meaning of words and phrases. As critical discourse analysis deals with uncovering hidden meanings, paying attention to the connotations will be particularly crucial (Machin & Mayr, 2012). To make this analysis all the more organised, Atlast.Ti will be used as software for coding and organising the coding process.

3.4 Operationalisation

The operationalisation of the research takes place in three stages: firstly, through the sub-questions and the relevant concepts that divide the research into three stages; secondly, through the interview guide and thirdly, through the walkthrough method expanding the three stages further. The operationalisation of the research question which asks how feminism is encoded into dating apps and how it is shaping the contemporary romance economy ultimately requires the definition of three key concepts: feminism, dating apps and the romance economy. Since these

terms are rather wide and encompass many aspects, the sub-questions help this operationalisation process by dissecting them into smaller parts. The first sub-question discusses what kind of ideas of representations are encoded and why. Identities such as gender, sexual orientation and nationality are used as additional concepts to make distinctions between feminist views on the topic and form an analysis which covers many varying aspects in one concept. The romance economy is described by the representations as confirming or disrupting the traditional views. This question is operationalized through the theoretical framework as well as the interviews and focus groups.

The second sub-question focuses on interactions and asks how the design features of dating apps influence interactions and to what degree this enables feminist practices. Here feminism is considered in terms of its practices while dating apps are considered in terms of their design features such as affordances and interface. The romance economy is reflected in the practices and interactions that arise. Here, the walkthrough method establishes a clear understanding of its influence.

Last but not least, the third question focuses on the perceptions and beliefs that exist of the representations questioned in the first sub-question and therefore asks what the perceptions of these representations are. Here, perceptions and representations are operationalized via the participants' interview answers that will reflect both on understanding gender roles and sexual orientation in feminist practices, dating apps and the interactions they engage in. This informs the shaping of the romance economy by noting the differing perceptions and beliefs that exist.

The interview guide takes on this three-part structure further by dividing the questions into representations, practices, and perceptions. As such, the questions focusing on representations function in an indirect way by asking how users choose to present themselves on the app (e.g. how do you decide which photos to include of yourself). These questions often touch upon the user's practices as well, so the analysis seeks to extract both as representations are often more indirectly expressed than practices are. The second category focusing on the practices is concerned with how users use the app to extract the most benefits, as well as how these practices may or may not translate into the real world. An example question is how users decide who to swipe on. Once again, here, an overlap exists to the extent that certain perceptions can come through these questions. While that is extracted in the analysis, the last category of question focuses strictly on perceptions and asks what users think of certain aspects, other users and their general experiences. For example, one question asks whether in their view Bumble is a feminist app.

The operationalisation of these three concepts is further done through the various steps of the walkthrough method aiding the app ethnography. The 'environment of expected use' is where the expected practices of the app itself are extracted. The 'technical walkthrough' further describes

certain representations, but also informs us of which values get encoded. The last part, the 'unexpected uses' is informative to both the user's practices and to their perceptions of what the app is like.

The results from the operationalisation process and analysis are summarised within a coding tree (see Appendix B).

3.5. Limitations

Due to the nature of qualitative research, one limitation arises from the positioning of the researcher, specifically the personal biases that might influence the interpretation of data and thus the subsequent coding process. The cultural understandings that the researcher holds can influence what is interpreted and in what way. In order to prevent this bias, the triangulation of the methods and theory should show whether what is interpreted is in line with what theory suggests, and what the participants themselves suggest.

Another limitation comes from the diversity of the sample. While the study aims to show a wide representation of experiences, representations, and perceptions among various identities, intersectional and non-intersectional, the size and sampling method are not ideal in reaching a perfect representation of all views.

4. Findings

This chapter will present the findings of the app ethnography through the walkthrough method and the interview findings through a critical discourse analysis. The chapter begins with the app ethnography findings and will open up questions related to embedding values within the app and the discourse that surrounds it. After that, the interview findings will turn to the perceptions and practices of its users. The findings will show that both aspects of analysis carry common points of discussion revolving around gender, sexuality, safety, trust and empowerment. These findings will be consolidated and discussed together in the discussion chapter.

4.1 App ethnography: Walkthrough method

The findings of this app ethnography will follow the order of the method of analysis whereby the first part will introduce the marketing strategy, design of the app and its financialization. Here the findings will discuss Bumble's encoding of values on the surface level. The next section will tackle the registration of a profile within the app and the methods of governance which mandate and limit users' activity. This will uncover a more specific idea of which values translate into the interface of the app design itself. After that, the analysis focuses in on the guidelines, such as the Terms of Service, and what their impact is on the values this app transfers to its users. This will lead into the specific discussion of the verification feature which is central to Bumble's implementation of its vision. This will then continue the technical walkthrough by looking at consent, as one of the central aspects of empowerment and safety, and its translation into the interface. Penultimately, the findings will discuss the branding of the app and how it contributes to the visibility and translation of values into technology, finishing with a note on the unexpected practices that users conduct within the app.

4.1.1 Design of the app

The walkthrough method begins with identifying the vision, purpose and target user base of the app. Looking at both the Google Play Store and the Apple App Store, Bumble is sorted as a dating app under the lifestyle category. From the apps store description, Apple users learn that Bumble aims to give women the ability to message first. This is followed by sentences which emphasise that Bumble's core feature arises from a wish to empower women and offer a safe space for dating. The description predominantly focuses on this feature and the dating aspect despite hosting Bumble BFF and Bizz as well, which are features for finding friends and business networking, respectively. These are barely mentioned in the description and are only very shortly introduced maintaining that the main focus of this app is dating after all. With this, Bumble is forming a context-driven space which is defined by the dating focus and drives human usage to the very centre of this digital space (Arora, 2012). This suggests that Bumble is more than a purely utilitarian or aesthetic space; rather it is a

public space much like a park which allows for "universal, public, free for all, democratic, and non-utilitarian" (Arora, 2012) usage.

By analysing the text, it becomes visible that Bumble uses terms such as empowerment, respectful behaviour, meaningful matches/relationships, dating rules, archaic rules, and others to emphasise their feminist undertone. What is interesting, however, is that Bumble maintains the assumption that all women are only interested in meaningful relationships rather than casual hook-ups or one-night stands. While Bumble presents itself as an industry-first and an industry-leader, reading between the lines uncovers that some "archaic" ideas within its app exist. This is in contrast to the values they encode within the description. Subsequently, the focus on same-sex matches is also very small being mentioned only in terms of the 24-hour women-first texting rule which does not apply in the case of same-sex matches. The app also categorises matches in a binary way. In several spots, the description defines Bumble as a "matchmaking technology". This categorisation of Bumble as more than just an app indicates that Bumble is built on reliable and authentic technology and thus guarantees its reliability, effectiveness and usability.

Turning to the Google Play Store description we find some significant contrast to that on the App Store. Namely, the Play Store description focuses on Bumble's functionality over its values, clearly listing all of the app's affordances with the values only coming in at the last part of the app description. While at first sight, we are only learning about what you can do with the app, the values and ideology of this app are weaved into the description of these affordances as such qualifying the technology as purposeful, unforgettable, easy to access and do from home, unique, new, healthy, new-fashioned, and dynamic. These qualities are all attached to the 24-hour women-first messaging aspect, and payment aspects such as Spotlight and Boost. The financialization of this platform will be explained more thoroughly in the next section on registration and governance.

Following that, the Bumble community is introduced as a truly inclusive and diverse community thereby attaching those values upon the app as well. Just as on the app store, BFF and Bizz are mostly secondary and mentioned within the context of the other affordances. The description also reads differently than the App Store one which focused on presenting Bumble's brand values of empowerment and meaningful matching. Interestingly, the Play Store description was also updated much more recently as it mentioned the new affordances that came with the global pandemic such as the "travel" affordance where one can change their location to elsewhere in the world and match with people who they might otherwise not match. For example, someone physically located in Germany can change their location to Indonesia temporarily and match with users in that area while being many miles away. Here the built-in capabilities to video call and send photos are emphasised as ground-breaking ways to date online. This is more akin to a social

networking platform such as Facebook or Instagram where location does not play a role in reaching someone, whereas it is quite unusual for dating apps to function without location limitations due to their nature. Most dating apps build on being the "mediator" between you and a match who can then develop a relationship off the app, in spaces where you both roam. Therefore, Bumble's decision to allow users to locate themselves anywhere in the world is quite unconventional, but nevertheless an interesting proposition to online dating in the time of social distancing.

At first glance, this indicates that Bumble has identified a difference between the audiences with Android and iOS phones, and as such caters values to its iOS users, and functionality to its Android users. To an extent, this can be explained by the fact that these operating systems (OS) are brands that espouse their own brand values that then translate to the app. Namely, Android is hailed as the open-source bottom-up system that anyone can tinker with to gain functionality, and as such less emphasis is put on the aesthetics and imposed top-down values. On the other hand, iOS and Apple phones have always garnered an approach focusing on aesthetic experience, and control over functionality. This is one interesting indication of how Bumble has come to be influenced and perhaps even encoded with these values on each OS respectively through the process of platformization. Android and Apple's values do "not just facilitate socio-economic, cultural, and political interaction, but very much organize and steer this interaction" (Nieborg & Poell, 2018) and that is visible in how Bumble presents itself on either of the app stores.

4.1.2 Registration and governance

The walkthrough now takes on the registration, first entry in the app and governance. Bumble has a freemium business strategy whereby the app and most of its functionalities are free, but it includes options for subscriptions as well as in-app purchases. These paid-for functionalities, which can either be bought one-time through the app's currency or acquired through a subscription of at least 3 months or at most a lifetime version, allow users to be put in the so called Spotlight meaning that they are showed more often to people, they can SuperSwipe whereby swiping right on someone immediately shows that person that you have already swiped on them, extending the 24 hours message period and access to the Beeline which shows a list of everyone who has liked you. To an extent, these features all suggest that the effectiveness of your use is improved by them and thus your experience. At the same time, this suggests that Bumble positively discriminates those that can and are willing to splurge on a dating app. Moreover, the sole existence of options such as the Spotlight raises the question on how the algorithm shows your profile to others and whether free users are not shown to everyone in their area. This lack of knowledge on the users' side regarding what happens behind the scenes in the app functions as a "knowledge problem" (Pasquale, 2015, p.2). Specifically, this problem occurs when we have no understanding or

knowledge about something and thus we cannot investigate it. The power of this situation is to be found in its functionality as a social construct whereby corporations and companies are protected by secrecy, but users are like an "open book" (Pasquale, 2015, p.3). Thus, a power inequality lies in between Bumble and its users. Connectedly, the Beeline at first may suggest that you can now pick and choose more effectively from people you know you will have an immediate match with, but it also suggests that perhaps the quantity of matches matters more than the quality of the matches, as you are baited into paying for this feature by being told you have 50+ people "waiting" in the Beeline. The choice to name this features the Beeline is a play on words suggesting that, just like the bee, you can take the shortest direct path to your perfect match. Metaphors like this have been particularly useful in describing new media spaces, and just like the information highway metaphor shapes our understanding of the proliferation of the internet as progressive (Stefik, 1996; Arora, 2012), the Beeline metaphor suggests that paying users benefit from a quicker, better and straight-forward matching experience.

Perhaps most important are the steps for registering your account. It is here that Bumble's core aims and ideas, and encoded values come through. Upon registration, you are asked to either link your Facebook, which is the emphasised option and was formerly a way of verifying your profile, or by linking your phone number. From here on, choosing Facebook already fills in your photos, gender, age, name and any other information that the app would ask. This makes the process of registration more streamlined, however, it can also be limiting if you would like to use other photos or a nickname. Registering by phone leads you to the next page where you are asked to add one photo of you with no one else in it that feeds into Bumble's aim to build "real connections between real people". Then you are presented with the option to upload 5 more photos with the explanation that your match chances are boosted by 43% if you complete your profile. At this point, you are asked to "introduce yourself" by filling in your gender which states "I identify as a…" with the options woman and man, and in smaller text below those "More options…". Clicking on this opens up another page where you can select one term to describe your gender identity from an extensive list of gender identifications (and even one sexual orientation – asexual). The list also includes the option "I use another term" and "Suggest another option" which leads to a pop-up menu where you can enter a suggestion for the Bumble team to review and possibly include later on. Going back in the previous menu, you are then asked whether you would like to be shown to either people looking for men or women, effectively negating the action of adding your gender identity just in the previous line, as you are still sorted into the binary of women and men. And lastly, under privacy, users can choose whether to publicly display their gender identity on their profile or to keep it private. No such option exists if you select the "default" woman or man gender identifications. This section

raises many questions. Firstly, why is the default assumption that all users fit within women and men? Secondly, why is the long list of genders, not the first step instead of choosing between women and men? Thirdly, why do sexual orientations feature in the list of genders (e.g. asexuality)? Lastly, why can gender only be displayed when it differs from the imposed norm of woman or man?

Ortner and Whitehead theorised that when talking about gender and sex there is a default assumption of these categories being natural objects and not culturally constructed ones (1981, p.1). Furthermore, they criticised approaches which default to using these categories as strictly defined and fail to take into consideration the cultural influences that can define these "sex roles" (Ortner & Whitehead, 1981, p.1). Bumble seems to be guilty of this practice since it boxes gender-nonconforming concepts into male or female, and man or woman. This equating of male as man and female as woman is further perpetuating the conflation of sex and gender as one and the same while failing to take into consideration the performative aspects of gender which Judith Butler discusses (1990). Furthermore, identity and expression are confused as exemplified by the inclusion of sexual orientations, such as asexual, in the gender identity category. This confusing understanding of gender and sexuality and their delineation is not unique to Bumble, however. Rahilly's study with parents of gender-nonconforming children shows that gender performativity outside of the prescribed norms is often considered as an indication of either gay or trans identifications (2018). What he theorises is that gender and sexuality are different, but that they interact with each other and are "more permeable and open to re-interpretation" than often considered (Rahilly, 2018). This, therefore, warrants more work on Bumble's side to understand these categories and separate self-identification from sexual attraction.

Bumble introduces you to a few quick pages where you are informed about the concept of the app. You learn about their Hive which is the community they foster to create "meaningful connections" through easy and safe ways, as already suggested in the app store descriptions. Once again, this notion confirms the underlying assumption Bumble makes: that women want meaningful sex more than casual sex. This plays into traditional sex scripts such as the "to have and to hold" script which derives from Christian marriage values and suggest that women are more interested in stable relationships culminating in marriage than men (Popova, 2019). Bumble tries to sell this aspect as a safe and easy way of dating, as such relating to values of empowerment, however, this empowerment is entrenched in traditional values and gendered contradictions which do not liberate women from any sex or gender scripts. Calogero and Siegel see this type of empowerment as a thin veil which does not solve the double standards and shaming that women face with regards to their sexuality, but rather just conceal them (2018). They explain that such conceptions of what women's sexuality is about only "construct and fragment women's experiences and expressions of sexual

desire" further into more oppressive norms (Calogero & Siegel, 2018). Building onto this, Bumble can learn from similar examples where brand's assumptions of women's sexuality have been used to participate in an oppressive dialogue where double standards against women are upheld. For example, the Colombian nail-polish company Masglo used terms such as 'slutty', 'prostitute' and 'provocative' to name their new polishes thereby weaponizing harmful ideas about women's sexuality and objectification (Barrios, Cancino-Borbón, Arroyave & Miller, 2020). Bumble should remain vigilant of situations in which boxing the female audience can actively offend, exclude or reinstate outdated ideas. As such, boxing the Bumble experience as for the purpose of "meaningful relationship" actively excludes and oppresses women who do not seek such relationships and choose to express their sexuality in different ways.

The next step in the app is choosing your mode (Date, BFF, or Bizz), after which you are asked to choose who you are interested in where you are presented with the choice between men, women and "everyone". Here Bumble is effectively asking what your sexual orientation is. What might not seem obvious at first is that Bumble's understanding of sexual orientation is not as sophisticated, just as with its gender options. Choosing between men, women and everyone can be confusing as every sexual orientation is sorted into one of these terms and they take on the role of umbrella terms. As such, "everyone" can simultaneously mean bisexual, pansexual and fluid sexuality, while "men" and "women" can indicate heterosexuality, homosexuality or other. This effectively flattens and blurs this category which contributes to a discourse of "othering" the LGBTQ community. This further complicates Bumble's definitions of sexuality and gender and does not allow users to specify their attraction. As such, users can run into profiles of people they are not attracted to, romantically or sexually. Furthermore, Bumble's choice to include a list of genders but not of sexualities further questions to what extent the app is inclusive and holds a sophisticated and comprehensive understanding of the intersection of these identities.

4.1.3 Guidelines

Once you have chosen who you want to see, Bumble introduces the core functionality of their app announced by the title stating that "In our hive, ladies make the first move." Here, the user is informed that this feature solves the dead-end matches and the unwanted messages by introducing a 24-hour time period in which a woman has to message before the match expires. This big text is accompanied by a small text at the bottom stating, "but this doesn't work for me". When clicking on this text, a pop-up menu announces, "Bumble is for everyone!" explaining that with same-sex matches the 24-hour rule remains but either match can message first. What essentially happens here is that even after choosing your sexual orientation, you are still assumed to be straight. Once again, same-sex matching is presented as a secondary option in small-text as a pop-up

menu. This contradiction in what Bumble says versus what Bumble does creates a disconnect between the values they refer to explicitly (e.g. empowerment, inclusivity, acceptance) and the values they espouse (e.g. binary understandings of gender and sexuality). For Bumble to remove these contradictions it should start with changing the announcement of this rule as something depending on the sexual orientation you choose.

Going forward with your registration, you are faced with another screen of text captioned "It's Cool to be Kind" which sets out Bumble's core values and links their guidelines. Firstly, they emphasize that they stand for equality in relationships, holding people accountable, kind and respectable behaviour and contributing to the great experience of the Hive. This screen asks that you agree to their guidelines which are linked. By agreeing, you have completed the last step of the registration and you enter the app. The guidelines that are linked here, while summarised in the little blurb of text, include much more information that can be useful to users. The guidelines in addition to mandating respectful behaviour, uploading only your own photos and being authentic, also suggest that you send original messages to users that start a conversation. The guidelines state that Bumble "takes a strong stance against hate speech, rude or abusive behaviour, bullying, and misogyny" which can be reported by users. It is not clear whether thus duty falls entirely on users enacting the guidelines of respect or if Bumble also participates in this by screening profiles or messages to flag and remove hate speech.

What is most central to the guidelines are the rules that define which photos are allowed and which are not on. As such, pictures of children on their own, photos in swimwear or underwear indoors, shirtless or underwear mirror selfies, porn, guns, graphic hunting photos, watermarked or text overlaid photos are all violations of Bumble's guidelines and result in the removal of the photo, if not the suspension of the entire profile. What is interesting here, is that the guidelines do not focus as much on the process of dating and finding a match through the app as they do on the protection of groups that can't consent (children), certain display of nudity, and violence-inciting content (guns and graphic hunting photos). They are very focused on guiding the creation of your own profile and your participation in the general Bumble community. Thus coming back to the text emphasising that Bumble is all about equality in relationships, being kind and respecting, and holding people accountable, Bumble does not offer any further advice or idea what their guidelines are on these topics and how one can adhere to them.

4.1.4 Verification

Another feature that is quite central to the core values of Bumble is the verification feature. This is a process by which your profile gets verified, stating that you are a real person which contributes to the overall safety of the app. In order to get verified, the user has to take a photo of

themselves imitating a pose, oftentimes by holding up a peace sign or holding their palm over their heart, while smiling. Once you take the photo in that pose, an automated process cross-matches your photo with what you were asked to imitate and within minutes you are verified. This questions Bumble's translation of authenticity to the user experience and potentially poses some trust issues with regards to fake profiles. The algorithm does not seem to compare this photo to the photos in your profile, and so the reliability of this feature is questionable to the extent the person imitating the pose for verification can differ from the person they present as on the profile. Furthermore, the storage of this photo as data is quite untransparent. While Bumble states that this photo will not be posted on your profile or shown to anyone else, it is not clear who they mean by anyone else. Moreover, it is unclear for how long this image gets stored and whether any third-party companies have access to this feature. Now, to answer these questions one has to dive into the Privacy Policy and the Terms of Service which explain that all information (so presumably this image as well) are stored by Bumble for various reasons. For example, all photos you upload to the app come to be owned by Bumble and Bumble reserves all rights to use this photo as well as other data and metadata for up to a year after account deletion. Furthermore, your demographic and other profile information is used to target audiences and for marketing purposes, payment information is processed for fraud, and third-party companies gain access to this data at times such as your phone number which gets verified through an outsources service linked to Bumble. In general, the Privacy Policy and Terms of Service do not clarify too much on how your data gets stored, where it gets stored and what might happen to it beyond these vague legal-speak descriptions. This raises questions about the privacy of the users, the safety of data with even Bumble going as far as to suggest that users who choose to add their religion or political views to their profile (a category included in the interface of the profile) have to be careful of any possible harm involved relating to that data being available to Bumble and other users who see the profile.

This ties well into Duguay's study suggesting that users who link their social media profiles might be at a disadvantage or possible harm if their identities were revealed (Duguay, 2019). This is especially important for users who are not open about their gender or sexual identification, as well as religious or political leanings, and as such might be prone to discrimination and harassment. Rodriguez, Lytle and Vaughan posit that the consideration intersectional identities here is central as one individual can simultaneously experience both privileges and oppression due to their identities (2013). For example, bisexual people may experience privilege when dating someone of the opposite sex, but oppression when dating someone from the same sex (Rodriguez, Lytle & Vaughan, 2013). Concurrently, Ching, Lee, Chen, So & Williams (2018) bring forward the intersection between sexuality and gender with race emphasising that Asian Americans face oppression due to the

intersection of those identities. Therefore, the digital harms that users with intersectional identities can face by revealing such information on Bumble are concerns of privacy and data protection that users have to consistently face, but for which Bumble fails to offer a solution or safe space. To this extent, Bumble's claim that the app is safe "for everyone" is questionable.

4.1.5 Consent

The value of consent is one thing that Bumble seems to have encoded well in its interface and functions as a mandated behaviour. This is visible from the fact that you are asked to consent to their guidelines and in the messaging interface. Once you message someone, you are notified that the match has 24 hours to respond and clicking on the question mark following this text, a pop-up explains consent through the metaphor of tango stating that "it takes two to tango". It explains that once you have made the first move, the others need to reciprocate, or the match will disappear. This is furthermore supported by the feature that once you match with someone on Bumble, unmatching or not replying within 24 hours removes the possibility of matching again and as such these encounters are dependent on the interest and consent to converse from both sides. Consent is also playfully encoded as equality in the "Question Game" which is an alternative to starting a conversation. Here, instead of coming up with an opening line, you are presented with a question formed by Bumble that you have to answer. However, you cannot see the answers until both users have responded to the question. In this way, Bumble helps out users who have a hard time breaking the ice, presents them with meaningful ways of opening a conversation, requires both users to be active in answering the questions and treats them as equal by revealing the answers only when both users have responded. This is a rather new Bumble feature, but one that truly encodes their values in a way that corresponds to the playful nature of the app and interface.

4.1.6 Branding

One part of the walkthrough method focuses on the branding of the app and the discursive power derived from it. Namely, Bumble, Beeline, Buzz are all plays on the concept of a beehive where the queen bee is the leader thus indicating how women are the focus of the app. These branding choices build on the metaphor of a bee's life as means to create a vivid culture (Arora, 2012) within the app that puts the focus on women, by treating each one of them as a "queen", thereby playing on the archetype (Stefik, 1996) of a busy, but important bee, while at the same time being part of a community that works together. That is further supported by the yellow colour, the beehive pattern at the entrance of the app, and hexagonal buttons indicating beehive holes. The app is streamlined, with simple and easy to read fonts which signal user-friendliness. The logo is a beehive hexagon with three horizontal stripes, one long in the middle and two shorter on top and bottom which imitate a honeycomb. This is combined with the name "bumble" in all small letters.

What is interesting to note is which parts of the beehive this app includes in their aim and values. In nature, male bees have the sole purpose of reproduction in beehives whereas female bees, together with the queen bee are those that carry the production and organisation of their Hive. Whether this is also part of Bumble's vision with women being at the centre, is unclear. Simultaneously, the general branding also plays on the binary of bee genders and seems to suggest heteronormative ideas, and so any movement beyond that vision might be a deviation from the intended concept of the branding. However, whether the branding concept is to be interpreted within these hierarchies remains questionable as Bumble's aim seems to be on creating a "shared experience of cultural archetypes" that are "part of what makes us what we are" (Stefik, 1996).

4.1.7 Unexpected practices

Lastly, the walkthrough method deals with how users appropriate the app in unexpected ways. Often, users use the about me section to mention aspects that are non-negotiable for them or important to highlight if they cannot mention it in their profile otherwise or are limited in doing so. These are often stating their gender or sexual orientation when it differs from Bumble's options, specifying what type of relationship they are looking for such as stating that they are looking to experiment sexually, couples looking for threesomes, or one-night stands. A lot of users include their Instagram handles in their bio so as to use the app to find people, but take the messaging and dating outside to other social media like Instagram where messages are not moderated, restricted to women first or the 24 hour period.

4.1.8 Summary of main findings

The walkthrough method uncovered six main findings which can be divided in values Bumble claims they embed and values that are translated in the interface. From the first category, the findings show that Bumble encodes values of empowerment, safety and openness through its app store description and marketing strategy. This is further strengthened by its use of a bumble bee metaphor to further embed ideas of a community where women are the focus of the app. In contrast to this openness, however, is Bumble subtle assumption that all women seek meaningful relationships. This is contradictory to the claim that the app is for everyone.

Turning to the embedding of values within the interface, the study finds a strong contrast to the claimed values. Firstly, the technical walkthrough contrasted Bumble's notion of openness by encoding binary understandings of gender and sexual orientation. Secondly, the creation of a private and safe space for all within the app fails infrastructurally. The app does not offer a safe space for those with intersectional identities, with the app itself acknowledging that expressing political and religious views can be harmful to its users. However, a more positive finding is Bumble's successful encoding of consent in a playful and meaningful way through its questions messaging feature

supporting its empowerment aspect as well as its safety to an extent. Bumble's verification feature contributes to the discourse on safety as well but poses new issues in terms of its trustworthiness and the authenticity of the app itself.

In summary, Bumble's visibility of values is well done, but its translation to the app and user experience fails at times. This suggests that Bumble should consider revising aspects of its apps so as to match the values the claim to hold.

4.2 Interviews: Critical Discourse Analysis

The findings of the critical discourse analysis from the interviews will be presented through five main themes. The first theme of trust will present an interesting paradox which occurs due to the complicated relationships respondents have with trusting the app and reciprocating to it. Next the findings will summarise some of the representations of gender and sexuality, and perceptions of those representations that respondents hold. These representations will further be expanded with the theme of "ladies first" which comments on how respondents experience, use and perceive Bumble's unique "women-first" messaging feature. Here the topic of expectations will be opened, but the next theme specifically focusing on gendered dating expectations will expand on these findings and present the practices that users bring with them and which the app facilitates. From here on, the discussion of the findings will turn to the concept of homophily and diversity where the apps translation of mandated behaviours and values into real life is discussed. The section will end with the thoughts of all respondents on whether Bumble is a feminist application.

4.2.1 The Paradox of Trust

Many users do not have full trust in the app and the way that it handles the pool of potential matches nor the authenticity of the profiles of the users. Therefore, respondents often expressed the fact that they liked seeing filled out profiles or profiles which provide enough information to gain a feeling that the they are real. However, what is interesting is that many of the respondents did not reciprocate on their end. Oftentimes, their profiles would only contain limited information or only a couple of photos because they did not feel comfortable sharing such private information on an app where their information gets stored in ways that aren't transparent, as well as that their information being visible to everyone else on this app. As such, a paradox occurs whereby users demand transparency and full information from their matches but do not feel ready to participate in the same way due to the lack of trust in the app. This relationship between truth and reciprocity is well established in game theory literature which notes that, from an economics point of view, individuals tend to act in their own self-interest as they weigh in their gains versus their costs (Berg, Dickhaut, & McCabe, 1995; Ostrom & Walker, 2003). What is notable of the respondent's behaviour is that their trust equals vulnerability on the side of their privacy and data, and thus Bumble has to provide good

enough expectations for a positive outcome of this process for the respondents to reciprocate (Ostrom & Walker, 2003).

Notably, one specific aspect where the authenticity of the profiles and of the app itself is miscommunicated is the "verification" tool. As seen from the walkthrough, the verification tool is a process whereby one can confirm the authenticity of their profile by imitating a pose of a sample photo which is then cross-examined by an algorithm and confirms whether a real person sits behind the account. Both men in the study expressed positive connotations with regards to this option, and especially Peer, a 21-year-old straight man, noted how central this feature is to his use of Bumble. Speaking about the prevalence of fake profiles, he noted that he uses the verification as a filter to avoid being catfished. Catfishing, a form of online deception where users purposefully misrepresent themselves so as to form online relationships and extract other benefits from them such as monetary ones, is a common experience for many users of online dating apps. Because of its prevalence, Peer decides that even when a profile looks real but is not verified, he assumes it is fake so as to protect himself. On the other hand, most of the women in the study expressed that they have not made use of the verified feature. There were several reasons noted for this. Most women concluded that they did not feel it was necessary to verify themselves because they felt that they presented in a real and authentic way on their profile. Some women also noted that they found it a breach of their privacy to upload a specific photo of themselves doing a pose to an app where the photo gets stored without much transparency on what happens with that photo eventually. Ava, 25, explains that she is "quite private and I feel like that all for me to do it would be breaching like privacy and data and all of these things because I know there's, with these conditions where you send a picture and then they have the right to keep it."

Looking at this, several factors impact the decision on whether to trust Bumble and to reciprocate through verification. For the men, this verification feature was a guarantee that their time and efforts will not be futile and that they will not face potential scamming by catfish, thus the benefits outweighed the costs. For women, on the other hand, the value of their own privacy was too high a cost to pay to ensure that you only match with verified men and that men consider your profile authentic. Instead, they chose to build their own authenticity through their profile. In general, in both cases, we see the issue of trust reflect in two ways: having higher trust in one's own judgement and lacking trust in the privacy of the app and its ways of data storage. What this results in is a crucial miscommunication between the audiences that utilize Bumble. Namely women and men have different approaches to the verification system and ultimately this makes for a more ineffective app not only on the level of software but also on the level of values and ideas that Bumble strives for. Verification is by Bumble a way to ensure the safety of the users on its app, and

especially with women in mind, who historically have had and continue to face more negative consequences from using dating apps (Joiner, Stewart, & Beaney, 2015; Duguay, 2016; Sumter, Vandenbosch & Ligtenberg, 2016, Duggan, 2017;). For example, a study on online dating deception found that while both women and men face catfishing, women tend to be more affected by these situations due to factors such as privacy risks (Mosley, Lancaster, Parker, & Campbell, 2020).

However, Bumble's solution after all seems to translate into men's safety against catfishing instead of the intended creation of a safe space for all. While this "unintended" use of the feature is not necessarily negative, but rather uncovers another common issue dating apps have, it shows a significant value translation problem. Most women interviewed did not see this feature as contributing to a safer experience for them and thus what Bumble offers is not the solution to the intended problem. Women also mentioned that they trust their own mechanisms of sorting out through the unwanted and "creepy" profiles rather than falling back on the interface that Bumble offers. Regina, 24, simply explains that "you don't match with someone who looks creepy to you in the first place." This ties into the literature that suggests that women develop these coping mechanisms which they use to deal with unwanted messages, harassment, and other safety issues they face (Gillett, 2018). For example, reading profiles more closely, meeting in public spaces, letting your friends know where you are at and who you are with were all ways that women used to create a safer space for themselves. Therefore, this feature of the app emerges as a possible solution of another problem through the unexpected practices of the users, but it ultimately goes to show that Bumble's design has either not understood what women demand in terms of app safety or has chosen a solution that does not help address the problem.

Catfishing specifically showed up as an experience and answer more with the two men interviewed. Stefan, a 23-year-old gay man, noted that he has been in situations where catfishing accounts tried to extort money by presenting as someone else and playing a victim of violence. He explains this experience as something he was able to quickly realise was a scam, however, that he sees a lot of men fall for this. Similarly, Peer describes his frustration with fake accounts working with money extortion, presenting as other people, but instead of focusing on violence, the emphasis with straight men seems to be on sexual content such as nudes. This seems to be a point of vulnerability for men whereby they can be exploited in harmful ways. For example, in the Indian city of Pune, romance scamming is a common occurrence for men, but never for women (Tanksale, 2018). Similarly, in this research none of the women had any encountered catfishing or fake accounts where the intentions were to extort money. However, many of the women could name stories and examples of friends or acquaintances where they were threatened to be exposed with their nudes or similarly sexual content if they did not do what the catfish asked for. More than that,

some women noted their own specific experiences where they had met with a match multiple times and later on faced situations where they were cornered or sent unsolicited nudes without their consent. This raises an interesting conclusion that while catfishing seems to be prevalent with any gender, it varies depending on several factors. With men statistically being more financially stable, the main aim of catfishing there seems to be money extortion. With women, especially with still predominant sexist ideas of what women can and cannot do with their bodies, they get threatened in ways related to their sexuality such as through leaking their nudes or through sexual harassment and abuse. What comes to light here is how gender functions in the space of online dating apps. Namely, catfishing aimed at men does not sexualise their body but rather takes advantage of their sexuality as a way to catfish. With women, catfishing is aimed at exploiting their sexuality as a way to shame. This plays into the ideas of genders as regulatory regimes whereby gender is weaponized and the values that are seen in the traditional ways of the gender binary ultimately describes how men are allowed and even expected to be sexual, while women's sexuality is to be exploited, but not had (Corneliussen, 2012; Farvid, Braun & Rowney, 2017; Watson, Snapp, & Wang, 2017; ; Calogero & Siegel, 2018; MacLeod & McArthur, 2018; Popova, 2019, p.79) . Dating apps thus to an extent allow for these regulatory regimes to claim a certain power through the relative anonymity that is afforded in the app's design and come to fruition in the similarly semi-anonymous chat spaces built within the apps.

Peer also brought about an interesting view that verification systems such as those the Bumble features only confirm that apps are aware of the abundance of fake profiles on their app. This statement links well to the idea that features which are installed to subvert certain ideas such as that dating apps create unsafe spaces, in fact, in the end, continue to reinstate those values and solely confirm their existence. This paradox of acknowledging and offering a solution to a problem, which only makes the problem more visible but not necessarily solved is really what seems to be the case with the verification feature in Bumble. Not only in how Peer sees it, but also in how Bumble constructs its authenticity and the authenticity of women's profiles who choose not to verify. In general, this seemingly core feature seems to miss the mark. It fails to address the real concerns of safety that women garner, and instead opens up a discussion for the overall safety of the space to any users in the app. It brings about the loopholes which are abused by catfish and fake profiles and further require us to think about how these problems can be addressed.

4.2.2 Femininity and Masculinity: A difficult question to answer

One aim of this study was to uncover the representations of gendered ideas that form in the app and that its users hold. When faced with defining what these terms mean for them, all respondents had a hard time giving an answer they thought was reflective of their ideas. The

conclusions that we can draw from their answers are the following: users often have a hard time expressing consciously which characteristics they link to femininity and masculinity. In addition, none of the respondents' definitions matched each other. What this seems to suggest is firstly that gender and its performative aspects are often more unconscious than they are conscious. For example, when answering these questions users often mentioned characteristics that they found attractive in other people. This shows that here sexuality is linked to how gender is perceived. Regarding the second conclusion, we can suggest that gendering one thing or another as feminine or masculine is impossible as the ideas seem to carry a certain fluidity and openness which does not limit them as strictly as these ideas are often discussed. Essentially, the respondents' lack of agreement surrounding the definitions of these terms shows that both Bumble and academia need to reconsider their understandings of gender. As scholars suggest (Ortner & Whitehead, 1981, p.1; Corneliussen, 2012), these "those conceptual realms become less fixed or firm, and more permeable and open to re-interpretation" (Rahilly, 2018).

This confusion with understanding gender and separating it from sex and sexuality is even more prominent for some respondents. For example, Fran, a 25-year-old pansexual woman, explains that she sometimes turns off the option to see men in her app because she is not able to get to profiles of people who identify as women or non-binary as men's profiles are shown to her the most. Similarly, Peer, mentions that he sometimes encounters transgender women and non-binary people on Bumble, who he is not interested in seeing. This goes to show that without being able to specify your gender and your sexual orientation precisely, people who "deviate" from the norm that Bumble has set will find this app to be ineffective. These reflections are in line with Bivens and Hoque's finding that Bumble fails infrastructurally in its attempt to acknowledge the oppression that occurs on axes other than gender (2018). Bumble's confusing attempt of understanding gender and sexual orientation seems to be heavily stuck in outdated ideas of how gender and sexuality play into the dating experience.

4.2.3 Ladies first: Breaking the ice

Looking at Bumble's core selling point, all respondents bar one listed this as their reason for downloading and trying out the app. Ava, 25, felt that it gave her control and the ability to "test the waters and set the tone" to filter through people who might not be fitting for her. Similarly, Fran found that it empowered women to make the first move and break out of the passive expectations that women are conditioned into. Interestingly, even though Nora, 25, Lyra, 24, and Regina, 24, found it nerve wracking to have to break the ice and would have preferred to not be the first to text, they still found the app's feature to be something attractive enough for them to try out. In their case, the promise that the feature would provide safety and control over the conversation was

something that they thought differentiated Bumble from other apps such as Tinder. However, in practice, Lyra reflected that being the first to start the conversation did not change much for her, while Regina concluded that she could still receive unwanted messages or pictures after the 24-hour period is broken with the first message. For Dewi, 25, S, 22, and Peer, 21, this feature signalled that Bumble was at first glance flipping the script to break the existing gender norms. Looking back, Peer mentioned that "it's true to a certain degree that it does shake up gender norms because as I explained, I still have the feeling that I have to initiate contact or to initiated a date" while S and Stefan found that in the end this feature "staples a new norm, um, that women should always text first and men shouldn't." What is interesting to note is that the inclusion of this feature did not necessarily change people's habits with texting first. For Nora, Regina and S, texting first is something they will continue to leave to men and Bumble has not necessarily motivated them to break the ice more often. Similarly, for Peer, he found it nice to receive messages, but he did not feel that this would necessarily change the expectations from him as a man on other apps. Regina put this excellently: "it's much more about mutualism and respect that and about who starts a conversation first. And I don't think they've done anything or anything that I know of that pushed it towards the feminism side any more than the fact that you have to message first." Her sentiment was reflected by others as well who concluded that while the feature was unique, the presentation of it as "breaking gender norms" and as "feminist" was over the top and exaggerated. Dewi specifically found that Bumble was "a bit over the top. I think it's a, it's more inclusive in a way compared to other apps but I don't know if, uh, that's the correct statement to describe Bumble, it's exaggerating." Stefan found merit for himself in this women-first feature despite being a gay man who cannot use this feature. He reflected that "It makes me feel like it's safer and it actually cares about its users, specifically females. Um, because it's, yeah, both friendly and safe, um, and prevents you from like getting, I don't know, into needless arguments and conversations…It's kind of like a failsafe."

So, what can be seen from these interviews is that the message feature has both positive and negative connotations according to its users. Women-first messaging holds feminist values, such as safety, consent and empowerment which all were able to identify and saw as good reasons to try out the app. Therefore, Bumble has managed to achieve the visibility of its values through its marketing and the app. When it comes to the translation of these values onto the experience of the users, this is not as straightforward for two reasons. Firstly, the users in this sample seem to hold these values already before entering the app, so whether the values of the app impacted their ways of behaving in the online dating world is hard to discern. Secondly, the translation of safety, consent, and empowerment in practice seems to be more complicated. Namely, as Regina noted, after

sending the first message and breaking the 24-hour cycle, the act of conversing has been consented to but not necessarily also for the contents of the conversation. As such, even after this has been established users can still receive unwanted messages. For example, Dewi and Peer both reflected that they did not enjoy receiving messages which were "too eager" and suggested sexual activities very early on into the conversation. As such, the practice of these values becomes more difficult and falls much more on the users themselves than on the app. Finally, the perceptions of these features, and therefore Bumble's values, in hindsight were slightly different than the perceptions before trying the app. For some users, this feature did not have an impact on their dating experience, for some it felt more like a burden more than anything else, and for others, it remained a value to appreciate in theory rather than practice. As such, Bumble's core selling feature is certainly not one that should be dismissed entirely but rather reworked or expanded so that it manages to effectively transfer its values onto the dating experience of its users.

4.2.4 Gendered Dating Expectations: To have and to hold?

Expectations from dating apps are an interesting recurring topic in this research. Namely, some of the respondents reported that in order to create their profile they first look at the profiles of others, take in how others go about making their profiles and then come back to fill in theirs. What this shows is that users in these dating apps seek to understand what the common uses are in order are to avoid using the app "in the wrong way". Here, what we mostly see, is that users learn the rules of this online dating world. These rules often seem to be ambiguous and swiping on a few profiles to see how others do it is one way of informing yourself on that. However, what also seems to arise here are certain dating expectations. Here specifically we found that some women focused on subverting the idea of what a woman is to avoid the expectations that they felt also came with it. For example, Lyra, focused on emphasising that she makes specific effort to not play into the "male fantasy" of what makes a woman feminine. This was similarly emphasised by S who felt that presenting as feminine in the way that she thought was traditionally seen as feminine, was not reflective of who she is and how she looks upon attraction and sexuality. Women generally noted that they did not enjoy it too much when users would suggest or even expect sex very early on in the communication, and thus Lyra and S found that their ways offer them a way to perhaps avoid that and find what they expect instead. Fran explained: "I don't like the idea of someone expecting of me to have sex with them. So for me, the chat initially really need to just be light and getting to know someone and deciding to meet each other and then I can make that decision. Um, so I think that expectation maybe is one of the downsides for me. Like I wouldn't go and meet someone if I felt like they were expecting me to have sex with him."

At the same time, these expectations exist for men too. As mentioned before Peer discusses that he has received many messages asking for sex immediately and that he does not find it nice for women to hold such expectations of him just because he is a man. He explains that even if he is on the apps for casual hook-ups, such forward messages can break a match for him. At the same time, Peer mentions that certain gendered expectations that function as dating rules are not necessarily something he minds. For example, while he finds the idea of women being the first to text very funny and interesting, and that he enjoys not being the first to have to message, he does not mind society expecting him to be the first to text. He gives the same example with how men are expected to pick up the check on a date and he explains this as something that he does not necessarily like or agree with, but something that he is happy to play along with since it makes things clearer and easier in the communication. What we see here is the duality of dating expectations: they are both restrictive and can script gender to function as regulatory regimes, but at the same time they can be good indicators of how the dating world works and people still seek out to learn these rules. As such, gendered dating expectations function as the guidelines of the dating world that one can choose to follow or not but ultimately contribute to reinstating gendered ideas withing dating practices. What we see here is representative of what we see a radical feminist perspective employ, which is that gender can function as both a tool of oppression and liberation (Heldman & Wade, 2010).

4.2.5 Homophily and filtering: Less is more

What seems to be a unique feature of Bumble is the fact that it caters to a more specific audience than Tinder and therefore its users are not as many. In June, 2020 Bumble counts more than 10 million downloads, whereas Tinder countr more than 100 million downloads from the Google Play Store (Google Play Store, 2020). While this may seem like a drawback just from a business standpoint, most interviewees mentioned this as one of their favourite aspects of Bumble. For all of them, Tinder was their first experience with dating apps, but Bumble took them by the fact that they could find the people they were looking for. While Tinder offered them a much larger pool of options, the viable options got more lost in that pool. Bumble, on the other hand, with its smaller user-base and many categorization and filtering options allowed its users to get nit-picky about who they want to meet. Lyra, for example, expressed that one of the reasons she switched from Tinder to Bumble is that she "wanted something a bit more wholesome where let's say the target audience would be, have a bit of a different demographic than Tinder." What she was looking for is someone who is college-educated and who would share her feminist values and on Tinder, she was just not able to find those matches as quickly as on Bumble. Ava had similar wishes expressing that Bumble simply "had a population which suited me better personally. It also had more of an international like

expats sorts of thing…it had more, more people with a background like mine." Being able to filter by level of education was, in fact, an important motivation for Dewi and Regina as well.

Another aspect that contributed to the uniqueness of this smaller pool of options was the categorisation system where you can include options ranging from whether you are a smoker to what your political beliefs are and if you want to have kids. This was something all users actively used one way or another. For Peer and Ava, their matches needed to be non-smokers, while for Nora and Regina height was an important factor. Lyra found it quite crucial to mention that she is not interested in having children, while S filled in that she does want children one day even though she felt that for her age that category was not very relevant. In general, what Bumble here mandates as a practice is sorting yourself and others through several categories that give the other person an idea whether something is going to be an immediate deal-breaker. This was the part of the app that most users found very well done and included enough categories for them to be able to list their preferences and to be able to see through the preferences of others. Homophily, the process of choosing partners on the basis of how similar they are to you, is here seen in practice. The literature suggested that while online dating does produce more diverse couples, homophily still occurs due to the biases that users carry towards people similar to them (Thomas, 2016). What is contrast to the literature on homophily, is that Bumble does not allow people to filter by race, nationality, or similar cultural characteristics, which some other apps such as Hinge include. This does not mean that nationality and culture cannot be embedded within the profile's options such as including the city you were raised in. While users cannot select to only see profiles from only one nationality, user's preferences for certain nationalities and ethnicities over others can still come through personal filtering by looking at profiles. However, at the forefront of choosing your match are characteristics, Bumble maintains those that either relate to your fundamental beliefs (children, politics, religion), habits and personality (smoking, drinking, exercise, star sign), physical traits (height) or education. As such, the characteristics of Bumble relating to a demographic are location, city of origin, education and religion. In contrast to other apps, Bumble seems to put the focus on the individuality of the person as defined by their personality more so than by their cultural identities (e.g. race).

Turning to cultural identities, one common experience to the respondents was how much they enjoyed discussing their cultural backgrounds and meeting people from other ones. Perhaps the most positive aspect of Bumble for all users was that they could meet a very diverse group of people on the app which they often sought when living in new places. Nora explained that "I guess I'm attracted to people with nationalities other than Dutch. Um, and I think the fact that I have that chat and everything also makes me more interesting." For Fran talking about culture was an interesting experience as well. She states: "I like having these conversations. I love culture and I love

identity and the fact that I am multicultural has always been like a strange thing for me." For Ava, on the other hand, these conversations sometimes can be awkward as she is a third-culture kid. She recalls conversations in which her matches would get disappointed that she cannot fully identify with one nationality or the other and felt that her experience was sometimes negatively impacted by that. However, she also recalls that other people find her identities to be cool. What is interesting is that both Dewi and Andy found that their nationalities were sometimes considered as attractive by their matches. Neither enjoyed the sexual expectations that came from others based on their nationalities, but that did not change the fact that they still enjoy discussing cultural backgrounds with their matches. On the other hand, Stefan found that cultural background played a big role in his dating experience in Macedonia where the population consists of multiple ethnicities. He reflects that he feels that certain people swipe left on him because of his nationality and as such he tells that "I've only dated, gone out with Macedonians and I haven't gone out with, um, any other nationality or even ethnicity. Um, cause they're both like lower in numbers or they refuse to go out with people from a different nationality or ethnicity." This was in complete opposition to his experience with dating on Bumble in the United States where nationality and ethnicity did not matter for him or his matches. Lyra also pinpointed her nationality as something scripted in the dating world: "I think that Scandinavian women are a bit mythologized in the dating world and the sense that, you know, it's kind of a stereotype that we're all like tall and reasonably fit and blonde... Uh, so yeah, I would say that my nationality plays a bigger role than their nationality."

So, in contrast to the tendency to look for people with similar traits as oneself, the discussion surrounding nationality shows that people are more interested in meeting people from different cultures than their own. This is in line with the suggestion that dating apps offer more diverse reach and therefore contribute to less homophily in dating. It is good to acknowledge at this point, that the sample mostly consists of users who have had the chance to live in more than one country and thus this might not be representative of the general user base of Bumble. What is more, Stefan's example shows that certain countries may have differing views on mixing nationalities and ethnicities and thus this calls for more research in specific cultures. In general, however, from these interviews, it is visible that while cultural stereotypes can form dating expectations, they still are considered important parts of getting to know someone. Furthermore, this ties into the view that online spaces are strongly linked to real spaces and cultural ideas can easily translate into virtual spaces to reproduce cultural ideas (Arora, 2012). Specifically, users translate their cultural understandings onto the platform and apply them to their experience, thereby shaping the value-driven cultural dimension of the app.

4.2.6 Bumble as a Feminist App

This section will introduce the views of the respondents on how feminist Bumble is in their eyes. This that shows that many different views can exist on this topic. For Ava, Bumble cannot be considered feminist just because "you're making it acceptable for women to talk first". She explains that what impacts the level of feminism in the app for her are also the users and how they go about dating in the app. For Andy, the reasons are similar. However, she finds it problematic not only that they claim to be feminist, but that society has to label things as feminist at all. For her, an app that is gender-neutral is the best way to go. For Nora, however, Bumble can be considered as feminist because of the empowering experience of being in control as a woman. This, she finds, is central to the app's design. Lyra, on the other hand, thinks that perhaps the bar has been set low for what makes something feminist, but she does think that when an app is marketed as feminist that its users are going to be more feminist as well. This for her was enough of a reason to consider looking in a place where she could find others who are "more aligned" to her values as well. Fran, who considers herself an intersectional feminist, explains that Bumble claiming to be a feminist app "is something that's important to me to see" but does not like when those claims remain unsubstantiated. Regina, on the other hand, introduces a different view expressing that she feels that this is Bumble's way of marketing their app to an audience that shares these values. At the same time, she explains that in her view, you are either feminist or sexist and that there is no app out there that would openly claim they are sexist. Thus, for her, this statement does not carry much value. Peer sees that perhaps Bumble can be seen as feminist for its attempt to change gender norms, but just like Regina, he sees this perhaps as a marketing stunt more than anything else. Dewi finds that Bumble can be considered feminist because it is more inclusive than its competitors. Specifically, she references the ability to select your gender and express yourself as her reasons for agreeing with the statement. S found it difficult to take a side on the issue emphasising that on one hand, it is feminist because it is inclusive, but that on the other hand this inclusivity and the women-first messaging features are not enough to make something a feminist app. Finally, for Stefan, it is important that an app is openly addressing women's issues with other dating apps, but he questions whether Bumble has managed to address those with intersectional identities such as trans women or disabled women. Namely, he asks whether Bumble is really feminist if it has not created a safe space for these communities as well.

What is visible from all these statements is that firstly, users have varying ideas of what makes an app feminist and second, how it is addressing the issues raised by feminists. In general, what the respondents present as challenges here can be summarised as having to do with the (1) safety of women, (2) the empowerment of women, (3) the need for feminist dating apps, (4) the

inclusion of marginalised groups and people with intersectional identities, and (5) the trend to proclaim things as feminist for marketing purposes. This shows that the discussion of what makes one app feminist concerns many aspects of both the life of women (empowerment, safety, intersectional identities) and of the platformization of gender politics (marketing purposes and proliferation of feminist apps).

5. Discussion

To consolidate the findings, the discussion follows the structure of the three sub questions. The first question is concerned with the encoded representations, the second question is concerned with the influence of the app's design on user interaction and practices, and the third question is concerned with the perceptions of the encoded representations.

5.1 Representations

To begin with, let's remind ourselves of the first sub-question: What kind of feminist ideas are encoded and why? From the findings, two levels of encoding were discovered. The first part of the encoding occurs at the surface level of the app through play store descriptions, marketing, and similar in-app guidelines and suggestions. The second part occurs at the level of the app's design and interface. Here the disparity between the values at the first and the second level causes a disconnect between what Bumble claims and what it does. The interviews further supported this finding from the app ethnography as seen by the low level of trust users have in the app. The theory of platformization discussed the inherent disbalance of power dynamics between the user and the platform (Duffy, Poell, & Nieborg, 2019). The findings seem to confirm this to the extent that the representations that the app encodes are very strongly emphasised as part of the interface, such as with the women-first messaging feature, and users cannot deviate much from this behaviour.

Furthermore, Bumble encodes representations of gender and sexual orientation as binary. While these representations are part of certain feminist views, such as liberal feminism or eco-feminism (Corneliussen, 2012), these tend to be feminist views more representative of the previous waves of feminism. As such intersectional and queer representations of gender and sexuality, which constitute much of the currently dominant Fourth wave of feminism, are not considered with enough understanding. Here the findings concord with the majority of the literature on regulatory regimes (Butler, 1990; Watson, Snapp, & Wang, 2017; MacLeod & McArthur, 2018) as Bumble effectively uses its representations of gender and sexuality as both a point of liberation and oppression. Bumble's decision to include an extensive list of genders reflects performative liberation of these understandings and presents Bumble as inclusive, however the act of ultimately sorting all genders and sexualities under either man or woman is the point of oppression that these regulatory regimes solidify. With this, Bumble's understanding of gender and sexuality does not only come across as confusing, but also as discriminatory.

Besides this, Bumble encodes values of privacy, consent and safety for all playing once more on the most popular discourses in feminism. It acknowledges issues of cyber harassment which much literature has discussed and the lack of infrastructure in other apps for creating a safe space for online dating. Here Bumble's understanding of consent is an example of a successful translation

of values to practice and is very close to the "yes means yes" theory of consent (Popova, 2019, p.79). While the game does not eliminate all possibilities where non-consensual information is shared, it embeds values of enthusiasm, voluntary participation, and interest.

Lastly, assumptions about women's motivations to use Bumble are another aspect of the representations that come to be embedded within the app. Here, Bumble links empowerment and safety to the creation of meaningful relationships and a community that works together. Through the app's descriptions and branding, women are positioned as inherently looking for something other than a meaningless hook-up. This understanding actively contradicts any feminist understanding of women's sexuality. These notions contribute to a long and harmful discourse that perpetuates a double standard for women that are and actively express their sexuality. Bumble's implication that empowerment and safety can only be achieved through meaningful relationship objectifies women and participates in slut-shaming (Heldman & Wade, 2010; Sharp & Keyton, 2016; Farvid, Braun & Rowney, 2017; Popova, 2019; Siegel & Calogero, 2019).

From this discussion we can conclude that Bumble's self-presentation ultimately does not match its real implementation of the representations. At the surface Bumble presents within the realms of more intersectional, queer and contemporary feminist understandings nodding to empowerment, safety and inclusivity, but its implementation falls back on older, sometimes outdated ideas of binary identities and objectification.

5.2 Practices

The second sub-question asks how the design features influence interactions and to what degree they enable feminist practices. Here the interactions and practices of the app take root in the disconnect in claimed and encoded representations. From the interviews it became clear that Bumble's unique features do not prove as big disruptors of the gendered expectation that men should break the ice. In the interviews, female users reflected that the messaging feature did not motivate them to change their understandings and practices. Therefore Bumble's overpowering position results in a failure to translate the values to reality within these structures. This indicates that perhaps this disbalance of power does not allow enough room for users to participate in the translation of the values of empowerment and the gender script disruptions, so as to do what it is intended to – to shake up "outdated gender norms" (Bumble, n.d.).

Furthermore, the interaction within the spaces that Bumble creates do not always reflect the safety it attempts to encode. The complicated relationship between the level of trust and the user's willingness to reciprocate is central to the failure of features like the verification. Moreover, it contributes to problematic ideas of the authenticity of profiles and safety from catfishing which ultimately contradict Bumble's feminist representations of safe space. The interviews reflected that

none of the participants' experiences necessarily improved because of the existence of these features.

On the other hand, one aspect where Bumble motivates feminist interaction is the point of diversity. Most respondents reflected that the app allows them to reach users from other cultures which ultimately signals that Bumble creates a platform that attracts users from various backgrounds. This is in line with intersectional feminist understandings which underline that homophily can result in the segregation, exclusion and discrimination of others (Flug, 2016; Thomas, 2016). This indicates that the inclusive representations are facilitated within the app and translate into users interactions successfully.

In summary, just like with encoding representations, Bumble's influence over interactions is both successful and unsuccessful at times. In order to reach a point at which these interactions turn into feminist practices, Bumble needs to improve its understanding of safety and cater solutions which in fact create safe spaces for all.

5.3 Perceptions

Lastly, the third sub-question is concerned with the perceptions of the representations Bumble claims and encodes. On this front, respondents noted issues of trust in the app, not only with regards to their safety as previously discussed, but also with regards to whether Bumble uses feminism solely to market itself. The mismatch between claimed and encoded representations was pointed out by respondents as an obvious point of contention. Furthermore, the perceptions of its unique features were not enough to set Bumble apart from other rival (non-feminist) apps such as Tinder. This indicates that for Bumble to be considered as feminist, its entire app has to correspond to it.

Another aspect where users deviated from representations was their perception of gender identities as more fluid. Coupled with the app's interface which forces on binary understandings, a clear mismatch occurs between how users think about these aspects and how Bumble presents them. This is an important point for Bumble and other feminist technology to consider as boxing gender into simple categories such as masculinity and femininity does not reflect reality. Not only does it exclude gender-nonconforming identities, but it seeks to simply and determine categories which change with time. Here Ortner and Whitehead (1981), and Rahilly's (2018) views of gender and sexuality present a more contemporary framework for implementing gender representations that match with gender perceptions.

Therefore, the answer to the third sub-question is that the perceptions of users do not match the representations that Bumble holds. Safe spaces can quickly translate to unsafe spaces, gender seems to be boxed and limited, and trust and authenticity in the app lacks.

6. Conclusion

In general, the conclusion here is that Bumble manages to attach feminist values to itself through its marketing, its app, guidelines, and unique affordances, but at its core, it lacks vital understanding of its audience's needs and identities. As such, a form of feminism comes to be attached on the surface level of the app, but to have an impact those values need to be encoded in a way that translates them into concrete feminist practices and perceptions. What is more, the feminism that comes to be encoded in Bumble cannot be labelled as intersectional and is more alike the liberal feminist views which fall to a lot of criticism for the same issue – a lack of comprehensive and sophisticated understanding of gender, sexuality and intersectional identities of all women. Thus for Bumble to improve its app and live up to the claim of being a feminist app, this study culminates in a list of recommendations.

Firstly, Bumble should address its gender and sexuality categories. For this, it is not enough that more genders are added to the list, but that the presentation of your gender becomes embedded within the functionality of the app. Similarly, a more concrete delineation of sexual orientations should be conducted to remove the many "heterosexual-first, others-second" implications it makes with its core features. This might include a more complex process of choosing who to see or a more transparent inclusion of sexual orientations on profiles.

Secondly, Bumble should consider moving away from notions of meaningful relationships and instead focus on facilitating all kinds of consensual relationships. Since the app implements consent very well, reworking that into its discourse in the place of assumptions about women's sexuality can result in the empowerment and safety Bumble seeks to embody.

Thirdly, Bumble should find ways of translating safety and privacy into its application by tweaking the verification system, enforcing stronger privacy regulations and addressing safety issues by looking at their gendered nature. Bumble should consider points of harassment not only for straight men and women, but also for intersectional and queer cases. As such, instead of producing solutions for women's safety which only contribute to men's safety, such as the verification feature, Bumble can solve safety issues in dating for all of its users.

Ultimately, the process of encoding feminism into dating apps and shaping the contemporary romance economy is best done when technologies take into close consideration the perspectives which their users hold, the consideration of intersectional and diverse literature and a conscious reflection on designing the technology.

6.1 Limitations

This research could benefit from a larger and more diverse group of interviewees. Due to the COVID-19 pandemic, the research suffered difficulty in recruitment of diverse demographics. This is

particularly central as trans and gender nonconforming users face continuous invisibility in research. Thus, the research is not generalizable and instead takes on a user-centred perspective.

A further point of limitation comes from the positioning of the researcher, specifically the personal biases that might influence the interpretation of data and thus the subsequent coding process. The cultural understandings that the researcher holds can influence what is interpreted and in what way. The triangulation of the methods and theory should show whether what is interpreted is in line with what theory suggests, and what the participants themselves suggest, so that this limitation is mitigated.

6.2 Future research

`   The scope of this research did not include the intersection of race and gender, and race and sexuality as strongly. Since these perspectives remain underrepresented in research, future research should consider looking into how feminist apps and technology encode representations and affect the practices of these groups. Another aspect which future research should consider is situating representations and practices more strongly in context of one culture or country especially with respect to the lack of non-Western perspectives on feminist apps and online dating. A study can also go as far as to compare several cultural perspectives for a better cross-cultural understanding of how one app translates into multiple cultural contexts.

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Appendix

A – Demographic information

Table 1

Sociodemographic Characteristics of Interview Participants

Pseudonym	Age	Gender	Sexual orientation	Nationality	Completed Education Level
Stefan	23	Man	Gay	Macedonia	High school
Nora	25	Woman	Heterosexual	Netherlands	Bachelor's Degree
Andy	25	Woman	Heterosexual	South Africa	Bachelor's Degree
Fran	25	Woman	Pansexual	South Africa	Master's Degree
S	22	Woman	Heterosexual	Italy	Bachelor's Degree
Dewi	25	Woman	Heterosexual	Indonesia	Bachelor's Degree
Ava	25	Woman	Heterosexual	Ireland	Bachelor's Degree
Lyra	24	Woman	Heterosexual	Norway	Master's Degree
Regina	24	Woman	Heterosexual	Lithuania	Bachelor's Degree
Peer	21	Man	Heterosexual	Netherlands	High school

B – Coding tree

[Level legend: <u>Level 1 ></u> *Level 2* > Level 3]

<u>Gender Representations</u>

 Attraction

 Binary gender

  Femininity

  Masculinity

  Fluidity

 Gender performance

 Heteronormativity

 Intersectional identity

 Non-heteronormativity

 Progressive

 Regulatory regimes

 Scripting gender

 Sex as gender

 Traditional

Transgressive

Un-gendered

Dating Expectations

Double standard

From men

From women

Gendered

Sexual

Stigma

Unwanted

Wanted

Women first

Homophily

Abundance

Audience

Cultural background

Demographics

Filtering

Personality characteristics

Physical characteristics

Pool of options

Scarcity

Social status

Trust

Authenticity

Consent

Control

Harm

Cyber Harassment

Privacy

Data storage

Private space

Public space

Risk

Safety

> Safe space

> Unsafe space

Shame

Verification

C – Interview Guide

Part 1: Introduction and general experiences with dating apps

Tell me about how you first came to use online dating apps.

Which dating app did you use first?

> What attracted you to use this app?

If you recall, could you describe how you felt the first time you started using dating apps?

> Was there anything that stood out to you or that you noticed?

What were/are your reasons for using dating apps?

What would you like to get out of online dating apps?

When did you start using Bumble?

For how long have you/did you use Bumble?

What motivated you to get Bumble?

Could you tell me about your first experience with using Bumble?

Could you give me a specific example of a positive experience you've had with Bumble?

Have you had negative experiences with Bumble?

In general, do you consider your experience with Bumble as positive or negative?

> Why?

Part 2: Profile creation process

Turning to creating your profile on Bumble, could you please walk me through how you made your profile?

> How did you decide which photos to include?

> How did you decide what to write in your profile?

> Was there anything you avoided including?

> Was there anything you felt was necessary to add to your profile?

> If you have used other dating apps, was there anything different about how you made your profile?

> Why? Why not?

Turning to your match preferences, could you tell me what are your match preferences in terms of who you want to see (men/women/everyone)?

> Do you feel that the option between women, men and 'everyone' is wide enough for you?

What are your location preferences?

> Is this something that matters for you? Why, why not?

Bumble has a feature that allows users to verify their profiles by sending in a photo of themselves in a certain position.

> Have you made use of this feature?

> What do you think of this feature?

> Do you consider this feature important?

> What are your reasons for (not) using this feature?

> Do you feel like the presence of this feature has an impact on your experience?

Have you used any of the optional preferences (e.g. religion, education, smoker, etc)?

Part 3: Swiping on other profiles

Turning to the profiles of others, could you please walk me through how you look at a profile?

> How do you choose who to swipe on?

> Is there anything you pay attention to most?

> Is there anything that makes or breaks a potential match?

> Is there anything you find annoying on profiles?

> Is there something that is common to the profiles you see?

> In your view, how would you describe the average man/woman/person you see on Bumble?

Have you ever encountered the screen announcing that there are no new matches in your area?

> If yes, how did that make you feel?

> What did you think the issue was?

> Did you change any of your preferences to expand the circle of potential matches?

Part 4: Messaging

Turning to the messaging aspect of Bumble, I would like to note that Bumble distinguishes itself from other apps by limiting the ability to message others to women in heterosexual matches. It gives women 24 hours after matching to decide whether to message their match. What do you think about this feature?

> Were you aware of this feature before downloading the app? If not, what was your reaction when you find out?

> [IF STRAIGHT WOMAN] How does this feature compare to having no limitation on who can message first?

[IF STRAIGHT MAN] How does this feature compare to anyone being able to message first?

[IF NON-HETEROSEXUAL PERSON] Would you like to see a similar feature for non-heterosexual matches? Why (not)?

In your view, do you think this feature impacts the overall dating experience? How so?

How do you decide who to message?

Have you ever received any messages you thought were disrespectful?

How did this make you feel?

Do you feel that this is something others experience?

Considering all of the aspects of Bumble, if you could change anything aspect, what would you change (add, edit or remove)?

Is there any feature from another app that you would like to see in Bumble?

If you have stopped using Bumble, what were the reasons?

Part 5: Perceptions about dating, gender, sexual orientation, etc.

I will now turn to more general questions about your opinions on the experiences you and others have on dating apps and Bumble.

In your own words, how would you define femininity?

In your own words, how would you define masculinity?

In your view, does your gender identification affect your dating experience?

In what way?

Why do you feel it does (not) affect your experience?

In your view, does gender affect the dating experience of others? In what way? Why?

Has your gender ever come up as a conversation topic between you and a match?

In your view, does your sexual orientation affect your dating experience?

In what way?

Why do you feel it does (not) affect your experience?

In your view, does sexual orientation affect the dating experiences of others? In what way? Why?

Has your sexual orientation ever come up as a conversation topic between you and a match?

In your view, does nationality affect your experience with dating apps?

In what way?

Why do you feel it does (not) affect your experience?

In your view, does sexual orientation affect the dating experiences of others? In what way? Why?

Has your nationality ever come up as a conversation topic between you and a match?

Some people say that dating apps put women in unsafe positions. What do you think about this statement?

>Have you ever felt that you were in an unsafe position using Bumble or another dating app?

>If you would like to share, could you please explain what the situation was like.

>How did it make you feel?

Some people say that Bumble is only made for people who are heterosexual. What do you think about this statement?

On their website, Bumble describes that "We've made it not only necessary but acceptable for women to make the first move, shaking up outdated gender norms.". What do you think about this statement?

On their website, Bumble describes that "We prioritise kindness and respect, providing a safe online community for users to build new relationships." What do you think about this statement?

Other media and Bumble themselves has proclaimed the Bumble app is a "feminist dating app".

>What do you think about when you heard the word "feminism"?

>What do you think about this statement?

>Is there anything about Bumble that you see as feminist?

>Is there any dating app that you would see as feminist?

>Do you consider yourself feminist?

>Is it important to you that you are surrounded by people who are feminist?

>Is it important to you that the apps you use are feminist?

Part 6: Conclusion

At this point I have no more questions for you. Is there anything you would like to add?

Is there anything you would like to ask me?