

**Comparative Study**

## **A Comparative Study of Mental Health Parameters in Dating App Users and Non - Users**

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### **ABSTRACT**

The main aim of the current study was to compare mental health parameters among dating app users and non- users. The mental health parameters that the paper looks into comprises individuals' perception of self and their perception of their bodies. The study was a quantitative study, which involved subjecting 162 participants (81 from each group) within the age group of 18 - 28, to a series of questionnaires to tap into mental health parameters mentioned above. The paper also highlights past research conducted in order to understand and compare to the trends observed among app users and non- users in Mumbai, India.

*Keywords: Dating Apps, Body Image, Self Perception*

Human beings, across the various developmental stages have been observed to have an intrinsic motivation to belong and feel accepted in relationships as well as in social groups. This need often signifies and highlights individuals' inclination towards forming bonds with those around them, those who then help them establish, maintain relationships as well as contribute to the overall development and growth of the individual.

This need to belong, that can be observed across human beings and even animals since their infancy, has been touched upon and discussed in depth by various researchers, belonging to different schools of thought. Sigmund Freud felt that the motivation to work towards forming relationships and being a part of a social structure can be traced back to people's sex drive as well as the relationship they share with their parents. On the other hand, humanists like Abraham Maslow, believed that humans' tendency and inclination towards forming enduring relationships can be understood with the help of the hierarchy of needs created by him. He felt that people reaching out to others, forming friendships, strengthening family ties and other forms of relationships would help them work towards not only creating a sense of connection with the external world but would also help them gain an insight in to their own understanding of self; which would then motivate them to work towards fulfilling their need to self actualize and understand their innate potential.

The need to belong, thus, helps understand the reason behind Dalai Lama XIV's infamous quote

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*“We human beings are social beings. We come into the world as the result of others’ actions. We survive here in dependence on others. Whether we like it or not, there is hardly a moment of our lives when we do not benefit from others’ activities. For this reason, it is hardly surprising that most of our happiness arises in the context of our relationships with others.”*

As shared by Dalai Lama XIV, individuals find themselves feeling the happiest in the context of relationships with others. Thus, the need to belong and the happiness that a relationship brings about in an individual's life can be seen as the primary drive that encourages individuals to reach out. Means of reaching out to others, to form this bond and relationship has seen a gradual shift from people trying to form relationships among people from their school, college, society, workplace or family gatherings to now, people sitting at home, using their thumbs to swipe left/ right and deciding whom they should befriend. This shift has taken place due to the advent of technology and increased accessibility of the same.

With each passing day, new forms of relationship come into being and at present, the trend that people across the globe are attracted towards is dating. Dating, an old word in the dictionary with a renewed meaning can be defined as the trial period between individuals, who try and explore whether they would like to commit to one another. ("The History of Dating and Communication", 2011)

Earlier, before the advent of smartphones, in the West, people were seen using their computers to look for partners online. Online dating websites were prevalent in the 1990s, Kiss.com being launched in 1994 followed by Match.com in 1995, which is still functional today. These dating websites helped people chat with strangers online through webcasts, online chat rooms etc. helping them broaden their horizons to meet like-minded people. These websites also opened up the chances of homosexual, divorced, widow(er) to look for someone without stepping outside their homes.

In 2012, with the launch of Tinder on smartphones, life was made easier for those looking for partners on online websites. Now, individuals were able to find multiple partners at any given point in time, without being held back due to inaccessibility to computers and laptops. Individuals were able to look for partners based on their location, likes and dislikes. People, today, are no longer confined to the four walls of their homes while looking for people to socialize or date. The increase in accessibility and use, has made the understanding of the consequences of the use of dating applications extremely important. This paper, thus aims at understanding and comparing mental health parameters (self-perception and body image) of users and non- users of dating apps. The following sections shall touch upon the evolution of dating in India and shall break down the mental health parameters - self-perception and body image.

### ***Evolution of Dating in India***

India, a country that is engulfed in traditions and culture, finds its youth turning over a new leaf and moving away from the customs that their parents, grandparents have followed. This change in outlook and traditional way of looking at relationships are nothing but products of the increased accessibility of information from the west as well the widespread use of dating applications across the country.

Earlier, people at a young age were married off by their parents to individuals chosen by them. The bride and the groom would most often meet for the first time on the day of their

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wedding. These marriages focused more on the union of two families rather than the couple getting married and were based on the individual's caste, religion, nature of job as well as the ability of the brides' family to pay dowry in some form or the other.

After the passage of time, a shift in trend was observed in the arranged marriage system. The prospective brides and grooms were now given the choice of meeting one another before and decide for themselves if they wished to marry each other or not. The individuals were exposed to only those prospective partners that were shortlisted by their parents. This trend led to the rise in middle men, who used to help people find families that fit their need as well saw a hike in the use of matrimonial advertisements in newspapers, with people trying to reach out to a larger audience.

With changing times, better exposure to the world and increase in the level of literacy, especially among women, brought about another shift in trend in the arranged marriage system. People started giving a lot of importance to concepts like compatibility, personality traits as well as the basics of knowing the other individual before committing to marry each other. Even though, during this phase as well, the parents were the ones responsible for finding a partner for their children based on their social status as well wants and needs, the children were given the option of engaging in long periods of courtship, thereby giving them a chance to get to know the other person better ("Perception of dating in Indian society and its gradual evolution", 2018). Parallely, it was also observed that with increase in the number of women attending schools, colleges as well as taking part in work outside home led to people getting into relationships with each other, often without their parents knowledge. These relationships, time and again, began with the intention of marrying each other, post getting to know one another but albeit the involvement of parents. Thus, giving rise to the concept of love marriages.

As the amount of information about the western way of living started increasing in India through mediums like books, TV shows and movies, the more people started working towards adapting into their lives. This adaptation of western culture among the youth in the country as well as the introduction of cellular phones and computers, again led to a shift in the nature of relationships that people were looking for and indulging. Marriage, the traditional way of establishing relationships, where the individual was working on enhancing his/ her sense of belongingness within the social construct laid down by the elders was being replaced by the western culture of dating. People started using text messages and forums like Orkut to connect with each other, in order to not look for prospective partners for marriage but just to look for companions within their extended circle of friends ("A short history of dating in India", 2018).

According to Taru Kapoor, head of business for Tinder and Match Group in India, *"Indian society has seen a rapid cultural evolution over the last decade, accelerated by the widespread access to technology, especially smartphones ... As education and financial independence levels among the youth, especially women, continue to rise, along with increasing digital penetration, we expect online dating to become more widespread as people seek to forge new relationships based on shared interests and compatibility,"* (Jha, 2019)

Thus, it can be seen that from the early 2000s, the entry of mobile phones and computers brought about a change in the relationship structures in the country as well as the means of reaching out to people. This change has deepened in the current times with the introduction

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and increased accessibility of smartphones. People in India, like the West, are investing time on dating applications to find like-minded people whom they wish to date, rather than sit and look for prospective marriage partners. With each passing day, the number of users and the number of dating applications in India are going up. In 2019, it was found that an app called TrulyMadly had 5 million users in India with people cumulatively sharing over 3,00,000 messages a day (Jha, 2019). Tinder, one of the most popularly used apps across the globe, recorded 7.5 million daily swipes and reported that India has the highest average number of messages exchanged between users on the app (Iqbal, 2020).

The number of dating app users has increased to such an extent that various matrimonial sites in India have added a clause on their website stating that people should only create profiles on the website if they wish to get married and not to just meet people. This clause was mandated by the IT and Telecom industry Minister, Ravi Shankar Prasad in 2016 ("‘No Dating, Only Marriage!’ Govt Tells Matrimonial Websites", 2016).

Thus, one can notice the degree of change that has come about in the present structure of forming relationships in India, where focus on marriage for the overall development of individuals and their family has moved to the temporary gratification of the need to belong.

### ***What motivates people to join Dating Apps?***

As early as 2017, people started conducting research in order to understand the various aspects that motivate people to download dating apps. A study was conducted by Leah LeFebvre, who surveyed 18- 34-year-old Tinder users, 55.1% believed that the app was for finding partners with whom they could hook-up. Out of the 395 participants, 33.5 % of them believed the app to be a platform for dating, whereas the rest 15% stated they felt that the app helped meet people. This study shed light on a few of the primary motivation of people to download tinder - peer pressure, desire for a relationship, media popularity of the app, hook up etc (LeFebvre, 2017).

The other motivations for joining Tinder and other such dating applications were also tapped by Sindy Sumter and her colleagues in 2018. A sample of 163 Dutch Tinder users were asked to rate the extent to which various factors motivate them to use Tinder. The results of the study showed that most users were on the app as they found it to be exciting and trendy. On a scale of 5, 2.2 was the average rating given to positive feedback on tinder, as a motivating factor (Sumter et al., 2018).

A study conducted by Dane Anthony Davis (Davis, 2018) in 2018 shed light on 7 motivational factors that have led to the increase in use of dating applications. The study was exploratory research which was based on focus groups from college students. It was observed that many of the users of dating apps were bored of their mundane life and were on the app not to find or engage in a relationship but found themselves feeling entertained while swiping through myriad profiles of other app users, a way of whiling time.

Another aspect that was also observed by LeFebvre, the motivation to join dating apps is the rise in the importance and fame of the hook-up culture and casual sex. Many participants in this study shared that they tend to Tinder as a means to look for casual sex. This trend and motivational factor were predominantly seen among men than women. Davis’s study also highlighted the findings of Sumter et al., 2018. He found that even in his focus group, many participants shared that they do feel that there is a possibility of them finding love on the apps. They shared that the join the apps as a means of killing time and engage in casual sex

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but if they relationship with the individual they “matched” with transpired, they would not mind getting into a relationship with them.

Dane Davis’s research also accentuated the use of dating apps in order to seek self validation. Participants in his study, especially female participants, shared that they felt better and experienced a boost in their self-esteem whenever they matched with somebody on a dating app. The male participants on the other hand, found no change in their level of confidence but reported being eager to meet those whom they might have matched on the apps. Lastly, the study also showed that one of the primary motivations for people to join dating apps was to enhance and at times, build their social life by having simple conversations with unknown people on online forums. It was stated that the dating apps came in handy especially when travelling to new places as it helped them gain a point of contact on alien land.

These studies thus highlight the various motivations - both psychological and physical needs that Tinder and other such dating websites like Bumble, Flickr are catering to. People find using mobile applications a more convenient means of meeting others who help boosting as well as damaging their self-worth along with a means of fulfilling their physical needs.

### ***Theoretical Framework in Understanding the use of Dating Applications***

#### **Attachment Theory**

Attachment theory, by John Bowlby states that attachment styles of individuals in the later stages of their life are influenced and highly based on the relationship as well as connection they shared with their caregivers during infancy. (McLeod, 2017)

Researchers state that it is important to focus on one’s nature of attachment at an early stage as it helps gain insight into the form attachment style they will be inclined towards in later stages of life as well as the construct of their understanding of self also finds its roots in the care and warmth that they might have received as an infant. (Cherry, 2019)

This theory, thus, would help understand the motivation as well the way in which users of dating app perceive their experiences on dating applications. It is possible that an individual who might have an avoidant attachment might be on dating apps for the purpose of hook ups and might not find themselves getting affected by the hits and misses while being matched. (Manson, n.d.)

#### **Consumer Culture Theory**

According to Kyla (Flug,2016) online dating as a phenomenon can also be traced and understood with the help of consumer culture theory. The theory looks into the unique relationship that exists between the consumer, the market as well as the culture in which the product is being consumed. It is important to keep in mind the cultural aspects as it influences individuals' sense of identity and concept (Arnold & Thompson, 2005). Thus, keeping this theory in mind one can further understand the increased use of dating apps by viewing the apps as the consumer good and the users as the consumers. The companies have been adding features in order to attract and fulfil the needs of their consumers. In India, OkCupid, in order to encourage women to join dating apps have created an app such that whenever one creates their profile, they are asked a series of questions which would help gain insight into what the woman on the app is looking for as well as help categorize possible matches based on the data shared. The series of questions asked often are based on the cultural atmosphere which helps the woman find matches based on her taste. (Jha, 2018)

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Thereby, one can use various theories and conceptual framework to understand what ultimately motivates people to join dating apps as well it helps understand the consequences it might have on the mental wellbeing of the individual. If, for example, an individual who was neglected during their early stage of life is unable to get any matches or requests on dating apps then the consequences they might have to face could be distressing and at times overwhelming as well.

### **Self Perception and Global Self Worth**

*"The individual's belief about himself or herself, including the person's attributes and who and what the self is". -Baumeister, 1999*

Self perception is a general term that refers to the way by which one thinks about, evaluates or perceives themselves. When one is aware of their own thoughts, shortcomings and positive attributes, one is said to have a concept of oneself. (McLeod, 2008)

This perception of self has been given a lot of importance from both social and humanistic perspective. Lewis, in 1990, suggested that the development of concept of self can be attributed to two aspects: -The Existential Self and The Categorical Self.

According to Bee (1992), existential self is the most basic part of one's perception of them being as it is the sense of being distinct and different from the population as well as possessing the awareness of the constancy of the self. On the other hand, categorical self is the self perception that comes to exist when an individual is able to put himself or herself in different categories based on factors like age, gender, sex etc.

On the other hand, humanists like Carl Rogers emphasised on the division of perception of self into three components - Self Image, Self Esteem/ Worth and the Ideal Self.

Self Esteem, can be defined or understood as the way in which one sees themselves. This perception of self could lack a touch of reality as it often influenced by external factors such as parental influence, peers, social media and in the case of this study dating apps. Self-esteem can be defined as the extent to which one is able to accept one's own self as well as value their own worth. It could be both positive and negative in nature, as it depends on the individuals view themselves. One's self esteem is also influenced by aspects like peers, parents, dating apps and the media.

Lastly, ideal self is what one aims to be. The perception of a self that one would like to achieve is what leads to the construction of ideal self, which when one is unable it can affect the value one puts on oneself. Thus, forming a close relation between the three concepts of self-perception as stated by Humanists.

### ***Theoretical Framework***

#### **Cognitive Model of Self Esteem**

This perspective of understanding self esteem focuses on the way in which an individual perceives themselves based on how they feel others perceive them. An individual who feels that they possess qualities that are like and appreciated by those around them, then they will view themselves with greater regard and will have high self esteem as compared to those who find their behaviour or even appearance to be unimpressive from the eyes of those around them. This is an important perspective while understanding self esteem and body image with relation to dating applications. Dating applications require people to upload

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pictures of themselves and write a small write up about them. These are the factors which then influence users' opinions of sending each other a request/match or not. In cases when an individual sends across a request but ends up getting rejected, this theory helps understand the way in which the one being rejected feels. It can happen the other way around as well, being subjected to many requests on the app can help boost ones' confidence in self and their appearance, leading to a boost in self esteem. (Davis D, 2018)

One of the simplest models of cognitive model of self esteem consists of the cumulative way by which people look and judge their own set of attributes and qualities. These attributes range from one's intelligence, level of attractiveness, athleticism etc. Thereby, again, leaving space for the individual to decide for themselves which attribute matters to them and to how much degree does that influence their own sense of self.

### **Sociological Models of Self-Esteem**

This model of self-esteem is close and similar to the cognitive model of self-esteem. Unlike the cognitive model, this perspective gives importance to the way in which societal factors like education, income, social status, occupational prestige affects an individual's self-esteem.

In the context of dating app users as well, it has been observed that the societal factors mentioned above often act as criteria's which influences an individual's decision to engage in conversation (Kang & Kang, 2015) which then seem to have an effect on one's understanding of self.

In a country like India, where people have always been observed to have given immense importance to education as well as social status, these factors can be seen as factors that attribute towards the matching of people on dating apps as well rejecting them.

### **Body Image**

The term, body image, was coined by an Austrian neurologist and psychoanalyst Paul Schilder in his book "The Image and Appearance of the Human Body" in 1935. Body image can be defined as the perception of one's sexual or aesthetic attractiveness based on their own body. This perception involves the way in which the person sees themselves as compared to the benchmarks set by the people around them and the society in general.

Even though body image as a concept has been used across a number of disciplines including psychology, philosophy, cultural, feminist studies etc, there seems to lack a consensus on the definition of the concept. Body image, thus, may be expressed as how an individual views himself or herself in their minds as well the mirror. This accommodates various aspects like memories, experiences, assumptions and comparison of one's own impression of self with that of others on factors like skin tone, height, weight etc. An individual's perception of their own body, often can be attributed as being a product of the societies and cultures ideals ("The Image and Appearance of the Human Body", 1995).

## **LITERATURE REVIEW**

The area of interest for this study is new and not much research has been done to understand the effects on individuals body image and perception of self due to the use of dating apps. This section of the paper aims at highlighting previous research done to understand the relationship between the variables that the paper intends on comparing. Most dating apps use pictures as the means of creating first impression in the mind of another person. This feature

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of the apps, thereby puts a lot of focus on one's physical appearance (body image). In a study conducted in 2016, it was observed that when on a dating app (in this case Tinder), number of pictures uploaded on ones dating profile has an impact on the number of matches. It was seen that when female profiles increased the number of pictures from 1 to 3 pictures, a 37% increase was seen in the matches. When male profiles also went through such additions in a span of 4 hrs it was observed that the number of matches increased from 14 to 65, whereas in the case of women profile the hike was from 44 to 238. The dramatic increase in the number of matches based on the number of pictures one was able to access sheds light on the trend and dependence on visual cues while making a choice, which as a consequence might have an effect on one's body image. (Tyson et al., 2016)

Another researcher studied the relationship between impression management (impression motivation and construction) by users of Tinder. Janelle Ward, observed that users tend to select profile pictures in an attempt to present their authentic self which acts as an illustration of one's desirability along with other indicators like educational level. Tinder users also swipe in search of the common likes between people along with how one presents themselves in order to attract others (Ward, 2016). These observations highlight the importance placed on one's level of attractiveness and number of pictures on one's profile on dating apps like tinder.

Tran et al conducted a study to evaluate the association between dating apps and unhealthy (Tran et al, 2019) weight control behaviours among a sample of US adults. The study comprised of 1769 adults who were expected to complete an online survey that helped assessing their use of dating apps along with their unhealthy weight control behaviours. The survey assessed the participants self-reported frequency with its main focus on the use of dating app in the last 30 days as well as their engagement in 6 unhealthy weight control behaviours - vomiting, laxative use, fasting, diet pill use, muscle building supplement use and use of anabolic steroids over 12 months. The results of the study suggested that dating app users have substantially higher odds of engaging in unhealthy weight control behaviours as compared to non-users, which continue to add to the speculations that dating app users might be at risk of both physical and mental health outcomes.

Studies conducted to observe the trends amongst homosexual men on dating apps are similar to the ones mentioned above. The study was conducted among the users of an application called Jack's. The main aim was to study how men represent themselves on the app based on their own and others age, race, body type, masculinity/femininity or fitness levels. The results of the study highlighted men's tendency to opt for masculinity and visually represent themselves semi-clothed, and to share their fitness or bodies in the text of their profile. The analysis of the data collected also highlighted there were significant differences based upon the race and weight of profile users. Thereby, shedding light on the influence that one's perception of self and body might have on the users. (Miller B, 2015)

“Looks and Lies: The Role of Physical Attractiveness in Online Dating Self Presentation and Deception” a study conducted to examine the roles of online daters level of physical attractiveness in their profile self presentation and the use of deception. 69 online daters were identified to be using deception in their online dating profiles as well the pictures that were taken in a lab. The independent judges of the study rated various online daters physical attractiveness. It was observed that those with lower online attractiveness tried harder to enhance their physical features as well as profile pictures. These results helped understand the existence of an association between the attractiveness and deception. Further, it also

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suggested that the level of deception was also influenced by the individual's income and occupation. (Toma, et al. ,2010)

Research was conducted in the Netherlands to understand the effects of Location Based Real Time Dating Apps. It was observed that the design of the apps gave more importance (Ramzini et al, 2016) to pictures and less to describe oneself. People on such dating platforms often portrayed themselves as their real, ideal or deceptive self. The empirical data collected from the study showed that the 156 young users of the app i.e., the recruited volunteers tend to use their real and ideal self to represent themselves on these dating apps. Only few of them were seen to be using false pictures to represent themselves on their profiles. Ideal self presentation i.e., hiding of aspects that the users found to be unfavourable was very common with about one third of the volunteers indulging in it.

Empirical data collected in the Netherlands, used to assess how Tinder users present themselves, exploring at the same time the impact of their personality and their motives of use. The findings also indicate that in certain situations the users might choose to present themselves more favourably and less authentically - if they have been unable to find matches; on the other hand, there were few who after accumulating matches and going on dates decided to bring down the level of ideal self to the real one. This study also tried to explore self presentation by applying SEM to assess the influence of motivation, psychological and demographic predictors. It was seen that women tend to portray themselves more in an idealized manner than men and people with high self-esteem do the opposite, they reveal more of who they are rather than showcasing a less false or ideal self.

Thus, the results and observations of various studies indicate the effect dating applications has been having on the ways in which people perceive themselves as well represent themselves on the app. They need to look attractive and have a perfect body in order to upload more pictures which consequently might lead to increased number of swipes along with UWC (unhealthy weight control behaviour) is an area that needs to be studied further in depth especially in a patriarchal country like India.

India, where there are many standards of being attractive exist, it is important for such a study to be conducted to understand if the dependence on others' approval and acceptance (on a dating app) can lead to change in one's own self-perception and perception of body image (Stangor C, 2014).

### ***Rationale***

Tinder was launched in India in 2013, 6 years back and till today not much research has been conducted amongst the Indian population to understand the consequences, motivation or the changes that Tinder along with other dating applications might have brought about in the lives of people. In a country, where Tinder has reported to have recorded 7.5 million swipes in a day and highest messaging average globally; one might find blog posts and articles on (Jha L, 2019) how to create a perfect dating profile but the repercussions of the same haven't been explored. With the help of this dissertation, I intend on exploring this virgin area.

According to various studies conducted abroad, it has been observed that dating apps even though help an individual find like-minded people whom they might not come across in their day to day life, more often lead to negative self and body perception. One such study was conducted by Jessica Strubel and Trent A Petrie in 2017, they studied tinder users and

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non-users (men and women) and found that tinder users were more susceptible to having lower satisfaction with their appearance than non-users, irrespective of their sex. I hope to study if (Strubel, Jessica & Petrie, Trent, 2017) similar trends can be observed in the Indian population as well. The categorization of my sample into users and non - users will help me compare the perceptions of the two groups and understand if the users of dating apps are more likely to have a negative self and body image, as observed in the above-mentioned study. Further, it will also help me understand the prevalence of dating app users in Mumbai along with the motivation behind.

### **METHODOLOGY**

**Aim:** To compare self-perception and perception of body image in Dating App Users and Non -Users

**Hypothesis 1:** Dating App users are more likely to have lower self-esteem than non-users.

#### **Variables**

- Independent Variable: Users and Non-Users
- Dependent Variable: Self Perception

#### **Operational Definitions**

**Independent Variable:** Users of Dating Applications are those individuals who are currently active on dating applications and access their accounts at least twice in one week. Non-Users of Dating Applications are those individuals who may have used dating applications in the past but are currently inactive.

#### **Dependent Variable:**

Self Perception Theory was introduced in 1972 by Bem suggested that an individual's internal awareness of their own attitudes and emotions, when weak, are often viewed in a similar manner like an outsider observer, thereby depending on external cues for understanding and forming attitudes about self. Further, Bem also mentioned that individuals also come to know of their own attitudes, beliefs and other internal states by inferring them from their own behaviour and circumstances in which they occur.

Thus, self-perception can be defined as the way in which one perceives themselves i.e., form attitudes, thoughts and ideas about oneself (with the help of external cues as well as observing one's own self).

#### **Tools**

1. Self Perception Profile for Adults (Messer and Harter, 2012)
2. General Questionnaire to categorize the group into users and non- users.

**Hypothesis 2:** Dating App users are more likely to have a negative body image than non-users.

#### **Variables**

- Independent Variable: Users and Non-Users
- Dependent Variable: Perception of Body Image

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### *Operational Definitions*

**Independent Variable:** Users of Dating Applications are those individuals who are currently active on dating applications and access their accounts at least twice in one week. Non-Users of Dating Applications are those individuals who may have used dating applications in the past but are currently inactive.

**Dependent Variable:** Perception of Body Image, which can be defined as the way in which an individual sees themselves (sexual and aesthetic appearance) as compared to the society set standards. It is often referred to as Body Image, which is both a psychological and scientific construct that researchers are increasingly looking into. An Individual's body image comprises their perception, attitude, behaviours and cognitions about their own physical appearance.

### *Tools*

1. Dresden Body Image Questionnaire (Scheffers, M., van Duijn, M. A. J., Bosscher, R. J., Wiersma, D., Schoevers, R. A., & van Busschbach, J. T. (2017))
2. General Questionnaire to categorize the group into users and non- users.

### *Sample*

The sample comprised of adults between the age range of 18 - 28yrs belonging to both sexes with minimum of Class XII education (Higher Secondary). The total number of participants were 162 with 81 participants belonging to each group - dating app users and non-users.

### *Statistical Analysis*

**Design:** This is quantitative research with 1 Independent Variable with two levels and 2 Dependent Variables. The hypotheses mentioned in the previous sections are directional in nature.

**Statistical tool used:** On collection of data, t test was conducted to look at the differences between the two groups (Users and Non - Users) on their perception of self and body. Further, the data was analysed with the help of SPSS, a software used for statistical analysis.

### *Tools*

#### *General Questionnaire*

This questionnaire comprises of 8 Multiple Choice Questions and shall act as a means of categorizing the sample into two groups: Users and Non- Users of Dating Apps (IV). The questionnaire was originally used by the students of Saint Peter's University to understand if dating apps have had a negative influence among 18 - 25 year olds.

#### **Self Perception Profile for Adults**

(The actual questionnaire is entitled What I Am Like. It is included in the Appendix) Self Perception Profile for Adults was developed in order to tap into different components of an adult's perception of their own competence and adequacy. It has a multidimensional approach that reflects on the beliefs that an individual has across eleven domains (sociability, physical appearance, job competence etc) which then sums up to their global self-worth. Each of the eleven subscales comprise of 4 items and the global self-worth comprises of 6 items. This scale comprises 50 questions, which have 4 options per question. The items on the scale is counterbalanced i.e., half of the first part of statements are worded such that they reflect high competence whereas the other half highlight the aspect of low competence.

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The questionnaire has an internal consistency reliability for all the 12 domains, that ranges from 0.65 - 0.98. This was calculated using Cronbach's Alpha on two set of samples - sample A (N = 141) and sample B (n= 215).

### **Dresden Body Image Questionnaire**

The Dresden Body Image Questionnaire (DBIQ) is a 35-item scale with reverse coded items i.e., items that are both positively and negatively worded. The questionnaire consists of five subscales: body acceptance, vitality, physical contact, sexual fulfilment and self-aggrandizement. The level of agreement is scored on a 5-point Likert scale ranging from 1 = not at all to 5 = fully. Higher scores indicate a more positive body image. 19 The psychometric properties of the questionnaire were examined in a non-clinical sample of 988 that consisted of 18 - 65 year olds. The test - retest reliability of the subscales ranged from 0.64 - 0.88. Pearson r was calculated between this questionnaire and Body Cathexis Scale ( $r = 0.60$ ). The subscale validity was correlated with the Checklist Individual Strength ( $r = 0.70$ ).

### **Procedures**

The conduction of the survey involved the distribution of all the questionnaires among the students followed by the researcher introducing herself. The participants were given instructions for each questionnaire and were assured that they could leave any question that they felt uncomfortable answering. The participants were also reassured that their consent and comfort were of utmost importance.

The participants were informed of the aim of the study after the questionnaires were collected. They were told that the aim of the study was withheld in order to prevent them from having any biases in their minds which could have had an effect on the study at large.

### **Ethical Considerations**

The codes of ethics that were maintained during the conduction of the dissertation are:

1. The participants consent were obtained before the conduction of research and he/she were reassured that they could leave the test whenever they wish to, without being questioned about their exit.
2. The participants were not subjected to physical or emotional harm in any way.
3. The participants identity remain anonymous and any information shared during rapport building remains confidential, thus maintaining the privacy of the participant.
4. The participants were informed about the aim and objective of the study during debriefing and any questions raised were answered without any form of exaggeration.
5. In a group setting, the participants were given the researchers contact details, in case they wish to ask questions or enquire about their scores on the psychological tests.
6. Acknowledgment and credits have been given to the people whose works have been used to formulate aspects of this dissertation.

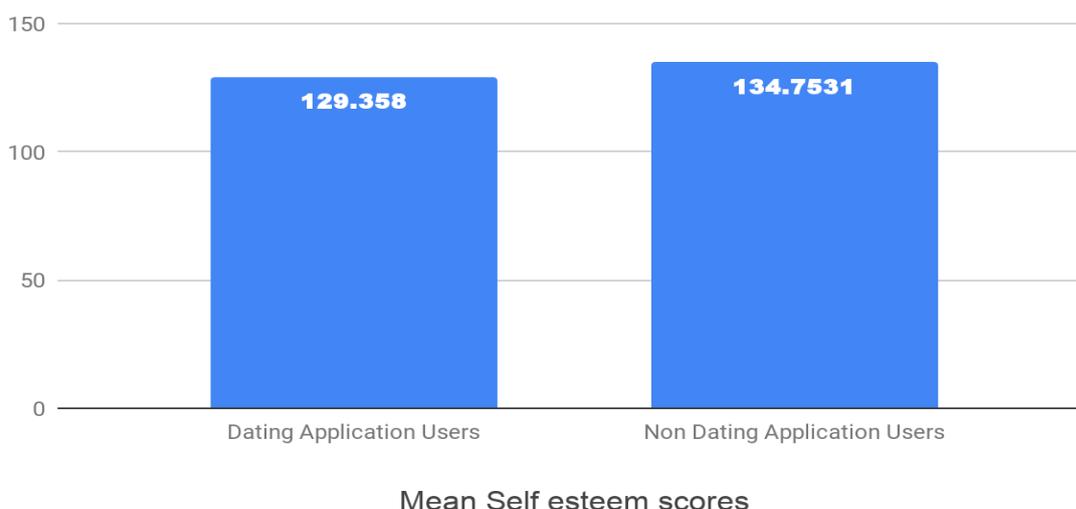
## **RESULTS AND DISCUSSION**

The hypothesis states that dating application users are more likely to have lower self-esteem than non-users.

**Table 4.1: Mean Scores of Participants on the Self Esteem Scale**

Scores on Self Esteem Scale		
	Dating Application Users	Non-Dating Application Users
Mean	129.3580	134.7531
Standard Deviation	11.4955	14.38274
Observed t Value	2.538	
Degrees of Freedom (df)	162	
Critical t Value	2.326	
Significance of difference	0.01	

Mean Self Esteem Scores for each group



**Figure 4.1: Mean Scores of Participants on the Self Esteem Scale**

As displayed in Table 4.1 and Fig 4.1, the mean scores of participants on the self esteem scale across both the groups are given. The mean scores for dating app users is 129.3580 and for non-users is 134.7531. The standard deviation for dating app users is 11.4955 and for non-users is 14.3837. A t-Test is used to determine whether the observed difference was statistically significant as the design of the experiment is random, there is one IV which has 2 levels. The T score obtained for the scores of participants on the self esteem scale;  $t(162) = 2.538, p < 0.01$ . The research hypothesis was supported. Thus, the results were statistically significant as the probability of the results obtained are due to chance is 1 in 100. The null hypothesis is rejected, as the t score obtained is in the extreme tails of the null distribution and would thus be part of another distribution.

The trend observed is similar to the trend observed in studies that have been conducted abroad. Many papers that have tapped upon these constructs have seen that dating app users tend to have lower self-esteem than non-dating app users which have been traced to various factors.

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The results shed light on the functioning of cognitive models of self-esteem. This model states that people’s view of themselves is a conscious decision they make based on their understanding of their worth as an individual. When people feel that they possess desirable qualities, that are accepted and appreciated by people around them then, it can be said that the individual would have a high self-esteem. The cognitive model emphasizes on the overall level of importance, one places across various domains. Dating apps involve the uploading of pictures of self as well as a short paragraph about oneself which act as the indicator to help gain matches. According to an article by CNN, that highlighted the research done by Jessica Strubel et al, people who face rejections on the app often are found to be deeply affected by it, which then affects their sense of self.

A study conducted by the National Academy of Sciences in 2011 also shared that being turned down by people stimulates the same part of the brain that processes physical pain. Adding on to this finding Marateck shared that “Instead of one rejection at a bar on a Saturday night, the popularity of online dating gives users many more opportunities to feel rejected faster. “(Marateck, 2020) which then ends up affecting one’s overall understanding of self.

Non-Users on the other hand have higher self-esteem than dating app users as they are not subjected to the degree of rejections/ un matches that a person using the app does. A male tinder user study was conducted which recorded that male significantly scored lower than female as well as male non users on self-esteem scale. This suggests that dating apps like Tinder, end up acting as means of influencing an individual's perception of self and often leads to negative perception of not just one’s physical features but their personality as well, as one ends up comparing their own self to those around them.

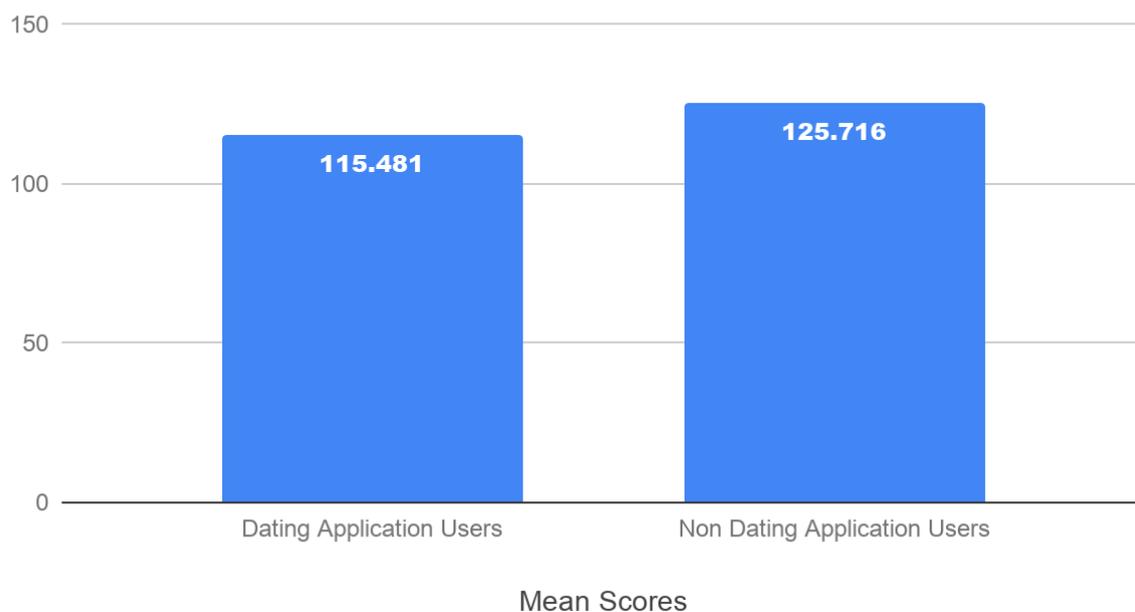
The hypothesis states that dating application users are more likely to have negative body image than non- users.

**Table 4.2: Mean Scores of Participants on the Body Image Questionnaire**

Scores on Body Image Questionnaire			
	Dating Users	Application	Non-Dating Users
Mean	115.481		125.7160
Standard Deviation	13.04714		15.40960
Observed t Value	4.711		
Degrees of Freedom (df)	162		
Critical t Value	3.291		
Significance of difference	0.0005		

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Mean of Body Image Scores for each group



**Figure 4.2: Mean Scores of Participants on the Body Image Questionnaire**

As displayed in Table 4.2 and Figure 4.2, the mean scores of participants on the self-esteem scale across both the groups are given. The mean score for dating app users is 115.481 and for non-users is 125.7160. The standard deviation for dating app users is 13.04714 and for non-users is 15.40960. A t-Test is used to determine whether the observed difference was statistically significant as the design of the experiment is random, there is one IV which has 2 levels. The T score obtained for the scores of participants on the self-esteem scale;  $t(162)=4.711$ ,  $p<0.0005$ . The research hypothesis was supported.

According to research conducted by a student of St. Catherine University (Flug, 2016) found people, especially young adults within the age range of 18 - 24, too highly motivated to join and be a part of dating applications. She observed that 1 out of 10 Americans are dating app users and many of them find themselves feeling discriminated against on the basis of their appearance. This trend observed by Flug can be seen in the current study as well.

The results can also be understood with the help of the research carried out at Harvard which recorded that people using dating apps 2.7 to 16.2 times more likely to engage in activities related to eating disorders than the non-users. This trend could be attributed to people feeling unhappy with their own looks and appearance leading to them trying to find ways to cope with the expectations that could be formed due to the dating apps.

The results can also be understood with the help of the research conducted by Jessica Strubel and Trent A Petruie in 2017, who found that users of tinder were more likely to have lower satisfaction with their appearance.

The cognitive model of self-esteem helps understand these results as well. The way in which other people perceive an individual on the dating app seems to have an effect on an

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individual's own understanding of self and perception of their bodies. Social constructs of the ideal body type, according to various app users, have contributed to them having doubts about their own physical appearances. Many women and men have shared their experiences with the kind of negative comments they often come across if they don't fit the ideal body type which have led to them feeling a lack of confidence in their own skin. (BBC Stories, 2019)

### **CONCLUSION**

Dating Applications, bringing about a new cultural change in India at the current moment with individuals as young as 18 to elderly above the age of 50 being the main audience and participants. A forum, created to help people staying close by as well as far off to connect with each other has brought with it a bag full of positive and negative consequences.

This study mainly looked into the negative aspects that it has brought along with it. Residents of Mumbai, falling within the age group of 18 - 28 were the sample that was selected for the research. The study aimed to observe if Indian population's mental health had been affected the way in which those staying abroad have been hit due to the increased use of dating apps.

The mental health parameters that were taken into consideration were self-esteem and perception of one's own appearance and body. It was observed that the individuals who took part in this study and were exposed to a series of questionnaires have also been affected the way in which dating app users abroad have. Participants, who use dating apps, were seen to have lower self-esteem and poorer perception of their body image as compared to the non-users. This could be attributed to the importance one places on the opinions of others as well as can be linked to the attachment style that they might be inclined towards.

### ***Limitations And Recommendations***

One of the main and important limitations of the study was the apprehension that people seemed to face while taking part in the study. College students, who were in a classroom seemed to be at unease while answering questions related to their engagement in dating apps. Many of them marked both yes and no on the question related to them using dating apps. On asking few of the students, they shared that they wished to be completely honest while filling the form but due to their friends being around, ticking yes would bring about judgement and jokes from their end.

Another limitation of the study was the small sample size, if the sample size were larger, it would help understand how widespread is the way in which the dating apps are having an effect on one's mental health. Further, it could also help in categorizing groups based on their sex, thereby, helping understand the different ways in which dating apps affect men and women.

The study being a quantitative study left no room to explore the reason behind the individual's sense of self and appearance. If the study were to be both quantitative and qualitative in nature, then it would have helped make the research more insightful. Talking to the participants would help not only understand the reason behind their use of an app but also small aspects as to how they feel when someone matches with them. Aspects like a set of apprehensions they might have before going on dates or even sending a message to a stranger would act as an important medium to understand the thoughts, feelings of people in

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the present. A mixed approach would help understand the scores and the individualistic reason behind the same.

The study had another limitation with regard to the selected age range of participants. If the age range could be extended to 50, then the data collected would also shed light on the differences between the different age groups and if the consequences of dating apps are similar across all users or not.

Lastly, the lack of research conducted in this area, made it difficult to understand the trend observed in depth, especially in the Indian context.

### *Applications*

- The research findings could be used to create frameworks for studying other mental health parameters that are affected due to the use of dating apps.
- The findings could also help dating app users understand the consequences that they are facing due to the use of dating apps. This awareness could help individuals be mindful about the ways in which they perceive their activities on the app as well as otherwise.
- The results could also be used by developers of dating apps to modify their application based on not only the demands of the society but also taking into consideration the mental health factors that are affected. The emphasis on physical appearance on dating application (through pictures) could be modified to accommodate other personality traits of an individual.
- This study could also help mental health practitioners, who might have clients going through overwhelming feelings of distress because of the functioning of dating apps. It could help them create interventions based on their understanding of what has been affecting the client while being on a dating application.
- The research also shed light on the change in trend that is currently taking place in India, which then helped understand the new relationship dynamics that are being formed.

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### **Conflict of Interest**

The author(s) declared no conflict of interest.

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