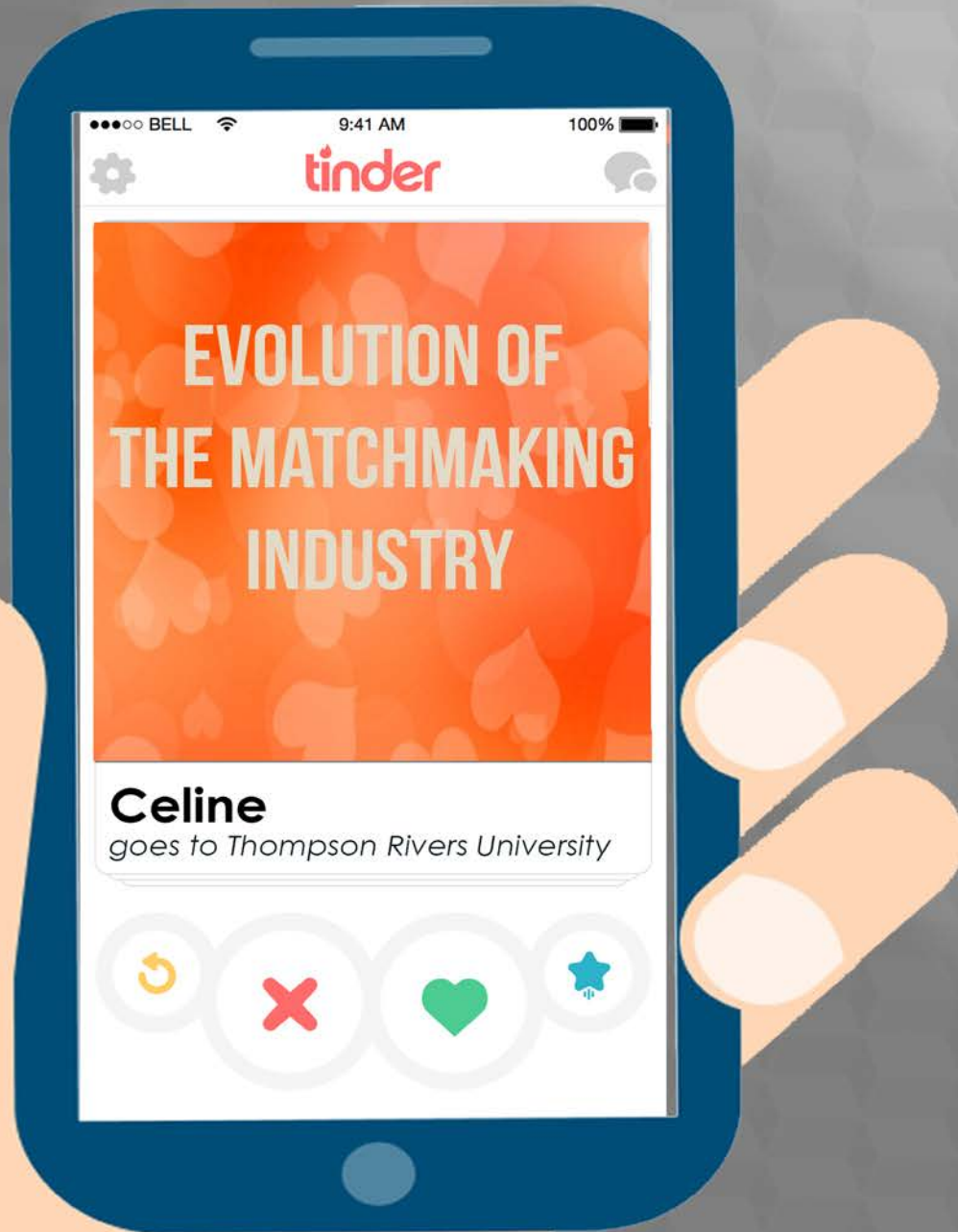


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EVOLUTION OF THE MATCHMAKING INDUSTRY  
BUSN 6060



## Table of Content

1. Introduction	2
2. The matchmaking industry overview	2
2.1 Physical Segment	2
2.2 Digital Segment	3
3. Matchmaking in the past	3
3.1 The usual way	4
3.2 Help from the matchmaking industry	5
4. Internet of Things – The Gig Economy	7
5. Matchmaking transformed	7
5.1 Dating websites	8
5.2 Dating apps	10
6. Future of Matchmaking	13
6.1 Dating Algorithms with Artificial Intelligence (AI)	13
6.2 Virtual Reality (VR) Dating	14
6.3 Biotechnology – DNA Matching	15
7. Conclusion	15
Appendix	

## 1. Introduction

Ever since the day we became liberated from marriages arranged to gain political advantages or personal wealth, choices have been given to us. Though in some parts of the world, arranged marriages still exist – stripping individuals of the freedom to choose, the majority of today’s modern world has this privilege of choice. As history continues to unfold, the economy evolves to accompany its needs and desires. Various businesses of all types arise to cater to different markets, and one of them plays a noteworthy role in any stage of our lives – the business of finding love, or in other words – the matchmaking industry. This report aims to portray the evolution of the matchmaking industry, showing how methods of the past have changed – whether for good or bad, and how technology will advance this business and make the search for our other half a lot more...interesting.

## 2. The Matchmaking Industry Overview

Why do people seek a matchmaker? What constitutes the definition of a matchmaker? Though the definition may change over time and people’s perception of a matchmaker may go from being a human to an application, the reason why people seek a matchmaker remains the same. Matchmakers exist to make our quest of searching for a partner easier by screening “candidates” out of their pool of people we might never have encountered in our lives, to find the one that matches us best<sup>1</sup>.

### 2.1 Physical Segment

Matchmakers come in various forms, and one of the two that will be discussed are dating coaches and dating companies. These are tangible, and often physical (think therapist) people that offer their expertise in dating. The market is easy to penetrate, as no license and very little investment capital is needed, so most dating coaches work solo on a small scale within the city. Some others will cooperate with larger matchmaking companies while dating coaches that make over 1 million matches will usually work on an international scale and travel to satisfy their clients<sup>2</sup>. This market segment of solo dating coaches in the U.S. is estimated to gross \$200,000 per year for each of the estimated and increasing 1,600 independent

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<sup>1</sup> Gosselin, S. H. (2008, April 4). *3 Ways to Seek Out a Matchmaker (And Why You Should)*. Retrieved from Boundless: <https://www.boundless.org/blog/seek-out-the-matchmaker/>

<sup>2</sup> LaRosa, J. (2018, August 15). *American Singles Fuel the \$2.5 Billion Dating Market*. Retrieved from Market Research: <https://blog.marketresearch.com/american-singles-fuel-the-2.5-billion-dating-market>

matchmakers available in 2015. Within the U.S. alone, between 2012 and 2015, the dating services market grew by 24%, valued at \$2.55 billion, however, the in-person sector's contribution is only at approximately 30% of total revenue in 2015, as opposed to 53% in 2012.

## **2.2 Digital Segment**

It is projected that in 2018, the US dating services industry will be worth \$3 billion. Some predict that the growth will slow down through 2022, while others predict that revenue is expected to grow 25% by 2020<sup>3</sup>. Sub-market of using mathematical algorithm for online matchmaking apps (excluding offline services, or apps and portals creating matches using location e.g. Badoo, Tinder) have a revenue of \$2.696 billion USD worldwide, and the number of users is 157.3 million, with the US contributing to the majority of revenue, followed by China<sup>4</sup>. A study has shown that around 15% of US adults have continued to use online dating services (mobile apps and websites) to pursue their search of a partner, and the numbers only show an increase over the years amongst all age groups<sup>3</sup>.

## **3. Matchmaking in The Past**

Besides from arranged marriages and meeting people at social spots like clubs, bars, and pubs, how else did people in the past search for their partners? Before modern technology even came into the picture, there weren't any famous social media platforms like Facebook, Instagram or Twitter, so creating a connection with strangers, or reinforcing current relationships with friends and acquaintances weren't as easy. Matchmaking in the past involved either doing it yourself or asking matchmakers within the industry for help. These "do-it-yourself" methods include meeting partners through social locations, or through referrals, and methods that involve asking for help from matchmakers in the industry include going to a matchmaking company/dating coaches or participating in dating shows and events.

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<sup>3</sup> Lin, M. (n.d.). *Online Dating Industry: The Business of Love*. Retrieved from Toptal Finance: <https://www.toptal.com/finance/business-model-consultants/online-dating-industry>

<sup>4</sup> Statista. (2019). *Matchmaking Worldwide*. Retrieved from Statista: <https://www.statista.com/outlook/371/100/matchmaking/worldwide>

### 3.1 The “Usual” Way

What was considered normal? Depends on which century we’re looking at. Back in the 16<sup>th</sup> century, it was usual for matchmakers to contribute to forming an arranged marriage<sup>5</sup>. However, as arranged marriages are not covered in this report which discusses methods where people have choices, the usual way here means going out or asking friends for help. These traditional methods are still being used today, and it may not be a surprise if statistics show that it is the more commonly used method, albeit the decrease in popularity. In 1995, a survey in the US showed 52% of heterosexual couples meet through friends or coworkers, 19% found each other in bar/restaurants, 19% in schools, 15% through family, 8% through neighbours and 7% at church<sup>6</sup> (See Appendix 1). There are still many debates between whether the traditional methods are superior, or inferior to when technology becomes a part of it.

#### 3.1.1 Pros

The advantage of meeting someone through friends, family, in school, at church is that one would usually know the person a fair amount. They come from the same environment and usually have common connections with peers and family. This allows common peers the ability to help judge the character and provide information and perspective that may yet be unknown. For example: meeting a potential partner through a friend may yield better results because a friend of a friend will likely have common interests, and enough encounters to build sturdy trust and sense of reliability before being introduced as a potential partner. At the same time, it may be an encounter with a stranger that one could sense chemistry with, however, is avoided because a mutual friend has warned about concerning actions of the stranger. Seeing someone in person will provide the individual with an idea of whether the chemistry is there or not almost right away, as there is no filter or masks that can hide a person’s intrinsic values and manners. It’s also harder for people to lie when they’re talking to someone face to face, as their conscious often wins out with the other person’s physical presence<sup>7</sup> (Mayer, 2017).

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<sup>5</sup> Romano, E. (2011, August 17). *The History of Matchmaking*. Retrieved from Dating Sites Reviews: <https://www.datingsitesreviews.com/article.php?story=The-History-Of-Matchmaking>

<sup>6</sup> Kopf, D. (2019, February 12). *Around 40% of American couples now first meet online*. Retrieved from Quartz: <https://qz.com/1546677/around-40-of-us-couples-now-first-meet-online/>

<sup>7</sup> Mayer, B. (2017, December 4). *Online Dating vs. Traditional Dating: 12 Positives & Negatives*. Retrieved from Dating Advice: <https://www.datingadvice.com/online-dating/online-dating-vs-traditional-dating>

### **3.1.2 Cons**

Traditional dating can be dangerous, especially in settings such as bars, clubs, pubs, because meeting a stranger online is also just as dangerous as meeting a stranger at these places. There truly is no way to tell if someone is bad or good at first glance, whether through physical presence first or seeing their profile first. It also takes a lot of time and effort to get to know someone, or even just...finding them! Traditional dating often is limited to those within one's surroundings, and there is a geographical limitation on meeting someone new. An example would be someone living in a city with a small population never meeting anyone outside of the city other than the ones they grew up with. The person may feel out of place, or have a desire to reach far beyond, but would feel they have a lack of option because, within the small population, the population of potential partners is even smaller.

## **3.2 Help from The Matchmaking Industry**

Finding a partner through a paid service is an alternative to traditional dating. One of the main dating services provided is matchmakers, in the form of a professional matchmaking company or an individual acting as a dating coach. There are also other more non-conventional approaches to matchmaking, such as TV shows whose secondary goal is to find people their potential lover (with the primary purpose of providing entertainment and making money).

### **3.2.1 Professional Dating Companies/Coaches**

A professional dating expert has a pool of candidates that have applied to them, their information, what they filled out, and usually have already had a session with the individual in person to understand what they want, their needs/interests, and anything noticeable about their mannerisms or appearance. Working with professional companies often guarantee a person safety and convenience in time. Professional matchmaking companies also eliminates the risk of catfishing, because applicants are screened to make sure they are appropriate to be part of the pool (e.g. no criminal records, psychology tests), and then matches are personally picked by the professional matchmaker before a date is set up. This leads to a high quality and high standard pool of candidates, and people who apply for help will often find no surprising facts that the dating company have not known of<sup>8</sup>.

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<sup>8</sup> Cooper-Traynor, R. (n.d.). *WHY YOU SHOULD HIRE A PROFESSIONAL MATCHMAKER*. Retrieved from Match Me Canada: <https://matchmecanada.ca/why-you-should-hire-a-professional-matchmaker/>

Qualified matchmakers in dating companies often hold degrees in Clinical or Forensic Psychology, and their goal is to match people as quick (and accurate) as possible before the end of their membership, because that shows the effectiveness and results of the company<sup>9</sup>. As for security concerns, all personal data is confidential and only disclosed with the individual's consent. The chances of scammers are extremely low because it takes an investment to be part of the process, and often scammers would not invest anything in a scam other than time. However, all these perks come with a price, because to register for help from a professional dating company will cost more than other methods of matchmaking.

### 3.2.2 Dating Shows

The first ever dating show that was aired on TV was called *The Dating Game*, by ABC Television in December 1965. The show featured the host – Chuck Barris, an unmarried person (the candidate), and three contestants of the opposite gender. A series of questions would be asked by the candidate to the contestants, and responses would be given back through a masked screen so neither parties could see each other. Eventually, the candidate will choose which contestant he/she likes the best through the series of questions and activities, and they will finally meet each other. A lot of dating shows through the years have emerged in the US afterwards, with a few well-known names being *The Bachelor/Bachelorette* and *First Dates*. The *Bachelor* dating show features one bachelor trying to find his love amongst 25 bachelorettes, by finding out about each girl and asking the ones he likes on dates, slowly eliminating them until he finds “the one”. *First Dates* TV show sets up two strangers who've never met on a blind date, and the audience gets to see every movement and word spoken during their date and whether they would go on a date with each other again at the end of the episode.

As participants of these shows are all being broadcasted on television, companies go through a great extent to recruit them and make sure they're appropriate. Being on-screen also means there is a sense of safety involved because there is a lot of supervision and monitoring done on the set. It might also bring one fame and fortune to be part of a show and might satisfy someone's desire to be seen on television. However, this is a double-edged blade, because being seen by the world also means there is no privacy. Anything embarrassing said or done will be broadcasted for people's entertainment, not hidden away, and even sharing an intimate moment will feel intrusive and uncomfortable when there are cameras all around, making sure

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<sup>9</sup> Revolution Dating (2019, January 23). *Professional Matchmaking Services Are Ideal for Those Who Seek to Find Love Outside of Online Dating in 2019*. Retrieved from PR Newsire: <https://www.prnewswire.com/news-releases/professional-matchmaking-services-are-ideal-for-those-who-seek-to-find-love-outside-of-online-dating-in-2019-300782966.html>

participants know that they're being watched and recorded. The process also takes an awfully long time, because everything follows the schedule of the director, and participants may not truly have their own freedom at times and must follow a script, whether directed by others or by the pressure of appearing on screen, affecting their natural behaviours.

#### **4. Internet of Things – The Gig Economy**

The gig economy, also called “sharing economy”, “collaborative economy” and “platform economy”, get its name from the different types of work that that arises per project. A company or job doesn't have to be based around a technological platform for it to be considered part of the gig economy, as long as a process of the company has been changed for efficiency because of technology. The gig economy introduced jobs of the freelance or pay per piece nature (e.g. per Uber ride, commissioned artwork)<sup>10</sup>. Bureau of Labor Statistics has reported that over 55% of the U.S. workforce is part of the gig economy, and this number is projected to grow to 43% by 2020<sup>11</sup>. With the gig economy at full blast, the internet of things also plays a bigger part in our daily lives. There are so many objects that we come into contact with daily: smartphones, laptops, TVs that can be connected to the Internet with just one click, enabling us access to people and information from all across the world<sup>12</sup>.

#### **5. Matchmaking Transformed**

The matchmaking industry reaps from the new gig economy and is transferred to a more digital platform. Matchmakers can now offer their services on the web instead of in-person. Using simple technology to come up with algorithms to find matches, more matchmakers are now able to offer their services as freelance matchmakers or dating advisors. Matchmaking websites become more popular, with some websites like match.com, PlentyOfFish, eHarmony emerging to the top of the online dating industry. Matchmaking becomes more specific,

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<sup>10</sup> Kobie, N. (2018, September 14). *What is the gig economy and why is it so controversial?* Retrieved from Wired: <https://www.wired.co.uk/article/what-is-the-gig-economy-meaning-definition-why-is-it-called-gig-economy>

<sup>11</sup> Quora. (2019, January 8). *What Are The Pros And Cons Of The Gig Economy?* Retrieved from Forbes: <https://www.forbes.com/sites/quora/2019/01/08/what-are-the-pros-and-cons-of-the-gig-economy/#4290e7991388>

<sup>12</sup> Morgan, J. (2014, May 13). *A Simple Explanation Of 'The Internet Of Things'*. Retrieved from Forbes: <https://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/#78b8d01e1d09>



targeting niches such as different religious groups, lifestyle, purpose, ethnicities, etc. Websites dedicated specifically to match people belonging to these different demographics include JapanCupid, BiCupid, FitnessSingles, FarmersOnly, Christian Mingle, SugarDaddie, and lots more. Other than websites, there are also applications that allow people to find their partners from the convenience of their phone. Some of the more popular and famous applications for these are Tinder, Grindr, Bumble, Badoo. Most of these applications use the swipe system that lets users swipe left or right to “pass” or “like” a match, and geolocation – GPS feature using magnetometers and gyroscope sensors built in the smartphones to find the partners based on their proximity to the device<sup>13</sup>.

### **5.1 Dating websites**

The biggest dating website – match.com – belongs to Match Group. Match Group is the largest player, taking up 25% of the market share of the online dating industry, consisting of 45 different brands that operate as dating websites and dating apps as well. Dating websites, unlike most popular dating apps, asks users to fill in surveys and questionnaires about themselves and their interests and uses these to pair people based on their common preferences. Questions in these surveys often relate to the person’s physical appearance (hair colour, eye colour, hair length, height, weight, etc.) and family/finances (relationship status, number of kids, personal annual income, jobs etc.). Sites like match.com, eHarmony and Zoosk offer their service to people who “put the money where the mouth is” through recurring subscription fees, as opposed to other sites where it’s free to join but make their money through advertisements or upgrades<sup>14</sup>.

#### **5.1.1 Pros**

Pew Research Center found that 59% of people think that online dating is a good way to meet people (Smith & Anderson, 2016). More people are thinking this way because there are benefits to seeing someone online. Online dating gives a lot more options, a further reach than those in our daily lives, class or work. There are even choices to seek partners from overseas, catering to some people’s specific preferences. Most online dating websites with survey questionnaires also have many options to filter out those who aren’t looking for a long-term relationship, those with interests that do not match, different religious beliefs, education

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<sup>13</sup> Solutions, R. I. (2018, January 31). *How to Build a Location-Based Social Search Mobile App Like Tinder*. Retrieved from Root Info Solutions: <https://www.rootinfosol.com/how-to-build-a-location-based-social-search-mobile-app-like-tinder>

<sup>14</sup> Lin, *Online*, Toptal, 3

background, and more. Filters like these narrow options for the algorithm to find the best matches for someone, saving time for the user from having to communicate with every stranger to find out if they share any common interests or measure up with compatibility<sup>15</sup>.

Communication is also safer as it provides distance between the users to get to know each other before meeting up<sup>16</sup>. In terms of convenience, there is less stress and more flexible time to think of replies than if the individuals were to meet on a first date. Dating sites like match.com attract an older generation who are more interested in finding a serious relationship, with statistics showing 36% of people aged 25-34 and 58% of older adults aged 45-54 transition from apps with “hook-up” culture, to more serious dating sites<sup>17</sup>.

### 5.1.2 Cons

Despite the hype of the success of online dating websites, a different perspective by CEO of Startup Professionals states that online dating sites usually fail because online dating usually fails. He believes there is too much competition in the market, as there are “more than 2,500 online dating services online in the U.S. alone, with 1,000 new online dating services opening every year. Some estimates say there are 8,000 competitors worldwide”. Entry cost is extremely high because people will only want to use sites that are free, with a lot of traffic. In order to achieve critical mass, companies must invest a huge sum in viral marketing, which usually doesn’t pay off with the revenue. Unless the company is a big player with lots of money to invest in research and development, it is also very hard to come up with new matching algorithms that aren’t already in the market<sup>18</sup>. Research has shown that only 1% of online dating start-up companies will succeed<sup>19</sup>.

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<sup>15</sup> Goodsell, D. (2015, April 5). *Online dating: Avoid the pitfalls, from pricey matchmakers to scammers*. Retrieved from CBC: <https://www.cbc.ca/news/canada/online-dating-avoid-the-pitfalls-from-pricey-matchmakers-to-scammers-1.3012556>

<sup>16</sup> Nicholson, J. (2014, April 30). *Pros and Cons of Online Dating*. Retrieved from Psychology Today: <https://www.psychologytoday.com/ca/blog/the-attraction-doctor/201404/pros-and-cons-online-dating>

<sup>17</sup> Gitlin, J. (n.d.). *Dating apps are common, useful—and widely disliked*. Retrieved from Survey Monkey: <https://www.surveymonkey.com/curiosity/dating-apps-and-sites-are-almost-as-common-as-they-are-disliked/>

<sup>18</sup> Zwillling, M. (2013, March 1). *How Many More Online Dating Sites Do We Need?* Retrieved from Forbes: <https://www.forbes.com/sites/martinzwilling/2013/03/01/how-many-more-online-dating-sites-do-we-need/#44085a1a7882>

<sup>19</sup> Tracy, J. (2007). *Another Look: Starting an Online Dating Service*. Retrieved from Online Dating Magazine: <https://www.onlinedatingmagazine.com/columns/industry/2007/startinganonlinedatingservice.html>

What about the consumers of online dating websites? It's a great thing that most of these websites asks people to do surveys, however as there are no actual ways to verify the information provided...people lie! Research has shown that 53% of Americans have lied on their dating profiles, with women more than men by nearly 10 percentage points<sup>20</sup>. Common lies that men told involves a higher income, having a more prestigious job, and being. Women are also guilty of these lies, however, the most common one is their weight, age, and physique. The lies people tell on dating profiles can insinuate that men are just out for pretty women, whereas women tend to gravitate more towards richer men. In fact, a statistic by eHarmony states that men whose reported income are over \$250,000 has 156% more emails than those who only report \$50,000. Other statistics show that 51% of online daters are already in a relationship of some sorts. Out of 3 online dating profile, there will be one without a profile picture, and this raises a concern when on free dating sites, at least 10% of accounts made are for scamming<sup>21</sup>.

## 5.2 Dating apps

Dating apps are usually installed and used on the phone. The gig economy has led to a lot of people using their smartphones excessively, with statistics saying 77% of Americans own smartphones and 47% of those say they can't live without their devices<sup>22</sup>. This is a large market for dating companies, as they can now develop apps that can be accessed by such a large population so engulfed in using their handheld devices. The most popular dating apps by download are Tinder, Bumble and PlentyOfFish<sup>23</sup> (See Appendix). Research by Badoo, one of the major players in the industry, has shown that millennials spend on average over 10 hours a week on dating apps, with men spend on average 85 minutes a day, and women 79 minutes a day. The usage in the new year of 2018 has also shown a 23% increase, suggesting that more people are turning to dating apps for a relationship (or other purposes)<sup>24</sup>.

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<sup>20</sup> Hodge, G. (2012, October 10). *The Ugly Truth of Online Dating: Top 10 Lies Told by Internet Daters*. Retrieved from HuffPost: [https://www.huffpost.com/entry/online-dating-lies\\_b\\_1930053?guccounter=1&guce\\_referrer](https://www.huffpost.com/entry/online-dating-lies_b_1930053?guccounter=1&guce_referrer)

<sup>21</sup> Phactual.com. (n.d.). *16 Scary Statistics of Online Dating*. Retrieved from Phactual: <https://www.phactual.com/16-scary-statistics-of-online-dating/>

<sup>22</sup> Deyan, G. (2019, March 28). *60+ Smartphone Statistics in 2019*. Retrieved from techjury: <https://techjury.net/stats-about/smartphone-usage/>

<sup>23</sup> Briskman, J. (2019, May 20). *Record Number of Dating Apps Surpassed \$1 Million Revenue in Q1 2019*. Retrieved from Sensor Tower: <https://sensortower.com/blog/dating-apps-1-million-revenue-q1-2019>

<sup>24</sup> Peat, J. (2018, January 23). *MILLENNIALS 'SPEND 10 HOURS A WEEK ON DATING APPS'*. Retrieved from Independent: <https://www.independent.co.uk/life-style/dating-apps-millennials-10-hours-per-week-tinder-bumble-romance-love-a8174006.html>

### 5.2.1 Pros

The homosexual community was the origin of dating apps, where men would connect with each other through Grindr and Scruff as it was easier for them to find out who is available, and who has the same sexuality<sup>25</sup>. Sexuality may be a sensitive topic if it were to be asked in person, as some people may not have already “come out of the closet”, so dating apps provide a platform for these people to be more open and available to others. The user-friendly interface of most dating apps, on swiping left/right to match up with potential dates, makes it easier for people to go through matches quickly and saves a lot of time. The Tinder algorithm also makes it so the more people swiped right on someone, the more that person will be matched with someone else that is of similar desirability<sup>26</sup>.

Other reasons people use dating apps is for the excitement, getting a chance to do something new and more adventurous and riskier like having a one-night-stand. To some, this may help with self-discovery, finding their own preferences and people that share the common interests that would have been harder to achieve without the help of dating apps. It is also a validation of one’s self-worth when there is a match made on a dating app, connoting with the fact that there is someone out there who finds them attractive and likeable. The more matches an individual gets the more self-worth and validated they would feel<sup>27</sup>. A lot of times, though a love connection may not be established, people can still make friends on dating apps, or find willing locals that help show them around the area they’re travelling to. Other times, a true connection may be there, and the two individuals become partners.

### 5.2.2 Cons

A lot of debate has been going on as to whether the introduction of apps like Tinder will transform the dating culture and industry, making it easier for people to find love and happiness. Though apps like Tinder have certainly changed *how* people seek for love, as we can now “shop for each other” like an Amazon for human companions, or repurpose dating into an “effortless, transactional pursuit of on-demand hookups”, like an Uber for sex, but the underlying psychological challenges for consumers haven’t gone away. These challenges, such as “the

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<sup>25</sup> Fetters, A. (2018, December 21). *The 5 Years That Changed Dating*. Retrieved from The Atlantic: <https://www.theatlantic.com/family/archive/2018/12/tinder-changed-dating/578698/>

<sup>26</sup> Tiffany, K. (2019, March 18) *The Tinder algorithm, explained*. Retrieved from Vox: <https://www.vox.com/2019/2/7/18210998/tinder-algorithm-swiping-tips-dating-app-science>

<sup>27</sup> Graff, M. (2016). *The Surprising Truth About Why People Use Tinde*. Retrieved from Psychology Today: <https://www.psychologytoday.com/intl/blog/love-digitally/201610/the-surprising-truth-about-why-people-use-tinder>

loneliness, the boredom, the roller coaster of hope and disappointment—of being “single and looking,” or single and looking for *something*” gives these dating apps a pool of vulnerable consumers to target<sup>28</sup>. Being rejected by one person at the club on a Saturday night will make a person feel defeated, however constantly being rejected by multiple people within a day on a dating app can lead to an increase in depression, insecurity and lowers self-esteem. A study that reinforces this was done by Jessica Strübel, where it is found that Tinder users have lower self-esteem than those who don't use the app<sup>29</sup>. A survey conducted in August 2017 of over 6000 online daters over the age of 16 has shown that a whopping 48% are just “looking for fun”, and only 19% are really there to find a partner<sup>30</sup>. While dating sites attract more people who are looking for serious relationships, dating apps appeal to the younger generation, enabling the “hookup culture”, finding instant gratification, defeating the purpose of finding a true partner.

The second major concern for consumers should be security and privacy issues. Tinder, the most popular dating app, lacks basic HTTPS encryption for photos. A hacker on the same network could monitor every swipe left or swipe right and can even see the photos or insert their own into the user's photostream<sup>31</sup>. This may seem simple but can evolve into schemes of blackmails and threats to the users. One Tinder user requested the company for her personal data, which is mandatory for the company to comply to under the EU data protection law, and she received 800 pages of information containing more than just her conversations with every single person on Tinder. There was information on her interests, sexual preferences, Facebook likes, links to her Instagram photos, and more that she thought would be stored. It was discovered that within the Privacy Policy, Tinder has not even promised the security of people's private information<sup>32</sup>. A lot of people are not willing to invest time and money into safer services (e.g. professional matchmakers) and would rather trade their safety and quality for convenience and savings.

A mutual issue shared between both online dating websites and apps is scammers and catfishes. As accounts are easy to make without a lot of verification needed, scammers could

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<sup>28</sup> Fetters, *The 5 Years*, The Atlantic, 11

<sup>29</sup> CNN. (n.d.). *Online Dating Depression Study*. Retrieved from CNN Health: <https://www.cnn.com/2018/05/29/health/online-dating-depression-study/index.html>

<sup>30</sup> Lin, *Online*, Toptal, 3

<sup>31</sup> Greenberg, A. (2018, January 23). *TINDER'S LACK OF ENCRYPTION LETS STRANGERS SPY ON YOUR SWIPES*. Retrieved from Wired: <https://www.wired.com/story/tinder-lack-of-encryption-lets-strangers-spy-on-swipes/>

<sup>32</sup> Duportail, J. (2017, September 26). *I asked Tinder for my data. It sent me 800 pages of my deepest, darkest secrets*. Retrieved from The Guardian: <https://www.theguardian.com/technology/2017/sep/26/tinder-personal-data-dating-app-messages-hacked-sold>

penetrate the online dater population and target those who are emotionally fragile, often people over the 40s who just got out of a long-term relationship and is suffering from severe loneliness and lacks a sense of belonging<sup>33</sup>. The story told is often the same, but people still fall for it due to their own emotional turbulence. Although it is very easy to identify these scammers as they always end up asking for money, a lot of people don't take the extra step to verify and fall for the scam. There are incidents of catfishing when catfishes pretend to be someone else, usually more attractive, to deceive their target for personal gains, either for monetary purposes or to fulfil their emotional dissatisfaction.

## 6. Future of Matchmaking

In 2005, 29% of people think online dating is a sign of desperation, however, that number has dropped to 23% in a more recent survey by Pew Research Center<sup>34</sup>. As more successful relationships are being started online, and people finding their married partner through online dating, the stigma behind online dating has also decreased as people look at it in a more positive and understanding light. However, the future of online dating doesn't stop at just dating sites and apps with simple matching algorithms, there is a lot more that technology of the future holds for this industry.

### 6.1 Dating Algorithms with Artificial Intelligence (AI)

How do we uncover lies in dating profiles? How do we find someone's preferences without having to ask them? How do we prevent bad people from joining? These are all questions that could be answered with AI. There are many methods, one including social media sousveillance. People may lie about their interests, habits, jobs, to portray a better version of themselves that seem more attractive when they create their profile on a dating site. What people don't usually lie or hide, but on the contrary might even overexpose, is their own social media. When a dating profile is linked to the person's social media, companies can find a person's true interests by monitoring their Facebook likes, Tweets, reposts, shares<sup>35</sup>. A person that likes and shares a lot of food recipes, or dog videos, will imply that they like food, and cute

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<sup>33</sup> Goodsell, *Online*, CBC, 9

<sup>34</sup> Smith, A., & Anderson, M. (2016, February 29). *5 facts about online dating*. Retrieved from Pew Research Center: <https://www.pewresearch.org/fact-tank/2016/02/29/5-facts-about-online-dating/>

<sup>35</sup> Markowitz, D. (2017, October 25). *The Future of Online Dating Is Unsexy and Brutally Effective*. Retrieved from Gizmodo: <https://gizmodo.com/the-future-of-online-dating-is-unsexy-and-brutally-effe-1819781116>

dogs, and thus would match with others who share common interests. On the contrary, a person that usually shares videos of violence nature, or posts about concerning interests (e.g. gun violence, pedophilia, racism, white supremacy etc.), will be prevented from registering. Similarly goes if a person has their status as currently in a relationship or have been in marriages multiple times. Being able to connect and analyze people's social media will also let the algorithm figure out any other dimensions or nonlinear combinations in activities that we may not recognize as humans if we were to scroll through someone's Facebook page.

The same machine learning that applies to Netflix's movie recommendations could also be applied in an online dating scenario. Based on our past swipes, or people whose profiles we've decided to view, the algorithm can generate recommendations on people we might find interest in. An individual who constantly swipes right on pale-skinned 20-year-old Asian females will start getting recommendations of pale-skinned 20-year-old Asian females. Sometimes people don't really know what they want and assume they are open to all options; however, this will show any underlying biases a person may not know they have or unwilling to admit to. As algorithms learn more about us, they will also learn more about who we like.

In fact, an AI prototype called Bernie, written by Justin Long in 2014 has helped countless people swipe through Tinder profiles based on a person's preferences. Bernie eliminated matches that weren't interested or will "go dark" and helped generate customized messages that opened and continued conversations. Unfortunately, Bernie was asked to be shut down by Tinder in 2017<sup>36</sup>. This does not mean that the technology is forever gone because surely the major players will take over and adopt this into their applications.

## **6.2 Virtual Reality (VR) Dating**

Though separated by distance, people may no longer be separated by the screen. Facebook launched a show called "Virtually Dating" where singles are hooked up to googles and sensors and would go on a date with each other in VR setting. As of now, there are still faults and glitches in this technology where the avatars may not be fully accurate, and objects could go through each other, but with science at its current pace, eventually, humans will have VR nailed down. VR immerses an individual in a different world, but at the comfort of their own home. A report predicts that in the next 25 years, VR technology will advance so much that it would allow all five senses to be simulated virtually. This means that people would have options to "see" each other before they really see each other. Not only is it safer for others to meet

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<sup>36</sup> [www.bernie.ai](http://www.bernie.ai)

online, but it also allows an individual to judge a person based on their speech, body language, or even body odour. Romantic actions such as holding hands or any touching motions/body contact will be simulated, allowing for a more realistic and engaging experience that texting through an app may not provide<sup>37</sup>.

### **6.3 Biotechnology – DNA Matching**

Humans are programmed to find people who are a good genetic match for them in order to produce the healthiest offspring. Research has shown that married people share more genetic similarities than people who are chosen at random<sup>38</sup>. DNA analysis used to cost \$80 million in 2003. In 2015, the cost is \$12000, and at this rate, in 2040 it could cost as much as \$1000 for DNA analysis. Companies believe that this could unlock the innate laws of attraction, and scientists could be the ones discovering who someone is most compatible with. Despite that, not all are completely on to this idea, as some skepticisms arise as to whether there really is one “type” of person someone is *made* to be with.

## **7. Conclusion**

The reality of the matchmaking industry is that it will continue to exist and evolve, despite its flaws and concerns, companies are working to conquer it and enhance the experiences. Humans need a connection, and there will always be a need for it whether physically or emotionally. Though traditional matchmaking methods are still in practice because it's what we are more familiar with, and the sense of security a professional provides drives us to invest in professional matchmaking, we have begun shifting and accepting the new digital reality. Savings and convenience are brought to us with matchmaking sites and applications, but it comes at a price because now we are exposed to security and safety concerns. It may seem that currently, online dating may not entirely pay off due to the many cons that are associated with it, but there are people that still believe, and still participating in it. One thing for sure is that what we are experiencing right now, the future that modern technology brings will only be make matchmaking more progressive and accurate. We can expect that artificial intelligence, virtual reality and even biotechnology will only take this industry further into the discovery and magnitude of human companionship.

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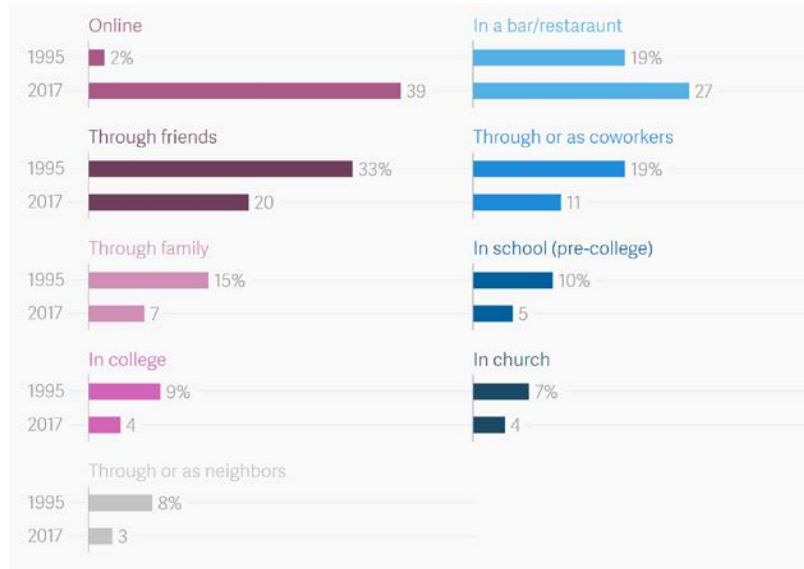
<sup>37</sup> Bailey, D. E. (2017). *Virtual reality dating: What's it like to take someone out online?* Retrieved from ABC News: <https://www.abc.net.au/news/2017-10-12/virtual-reality-dating-what-its-like-to-take-someone-out-online/9035252>

<sup>38</sup> Woods, K. (2018) No to Tinder, yes to DNA matching: The future of romance. Retrieved from The Journal: <https://www.thejournal.ie/future-of-dating-romance-4399824-Dec2018/>



## Appendix

Appendix 1. How heterosexual couples meet in the US (Kopf, 2019)



Appendix 2. Top U.S. Dating Apps by Downloads (Briskman, 2019)

