Reasons You Can't Get a Date: An Observational Study on Tinder Messaging Content

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### *Introduction*

The observational study that I will discuss in this paper, was one in which I conducted on Tinder and the initial messages that two women, one black and one white, received on the dating app. I evaluated these messages from the men (who I will call "writers") to the women (who I will refer to as "recipients") by utilizing a numerical coding criterion (listed on the page 17) so that I could analyze the data more accurately. The writers' names and approximate locations will be reported in this study. The questions that I am interested in potentially answering are as follows: Does there exist any difference in greetings from the men who initiate contact with these profiles? If so, what are they? What differentiates these men from each other? Does there exist a correlation between the type of message sent and age/race of the writer? Is that different when categorized by recipient? My expectations regarding language usage, going in to this study, are such that I anticipate race and age to make a difference on the type of initial message sent by the writer. However, the null hypothesis that I will posit entails that race and age do not impact the message criterion used by the writers.

### *Background/ Inspirations behind this research*

In September, I came across the findings from OkCupid, an online dating site, in which they broke down how race and gender impacted attraction on the site in 2009. The OkCupid blog forum recounts, "men: --non-black men were less likely to start conversations with black women…black men showed little racial preference either way" (OkCupid 2014). These findings sparked my interest in formulating this particular observational study. Because of the data, wherein black women were "less likely to be communicated with by non-black

men"(OkCupid 2014), I found myself wanting to know if these findings held up, on a small scale, to Tinder in 2018, and also I wanted to see if there existed some way to categorize the messages that black women received as opposed to white women, who in that same OkCupid study were most likely to be communicated with. I decided to investigate this message criterion on the Tinder app, because of its prevalence in today's society, especially amongst college students.

As such, my study will refer to data from this OkCupid study, along with data from *Who's Right and Who Writes: People, Profiles, Contacts, and Replies in Online Dating (2010)* by Fiore et. al., which discussed mating selection patterns and attraction. I observed this article in order to aid in my discussion of homophily in my findings. The next study that I will refer to is very similar to the study that I conducted. The study was called *A First Look at User Activity on Tinder (July 2016)*, by Tyson et al., wherein they wanted to see the impact of gender and messaging rates. They observed matches for both men and women, after making 14 profiles. To my knowledge via their acknowledgement, they were the first to study user activity on Tinder. Their data coincided with Fiore et al., in that they found that regarding selectivity, male users were definitely less selective in the act of "liking" profiles. However, they decided to avoid issues of racial homophily. In this paper, I have actually chosen to undergo the consequences of including it, as in the real world, it cannot be something that is overlooked.

*Background on Tinder*

Tinder popped up on in the realm of dating in 2012 and has ran amuck ever since. It has been realized that "fifteen percent of Americans have used a website or app to find love or a romantic partner (Wadhwa & Salkever 2018)," and the increased popularity of Tinder has only

helped people succeed in their searches even more quickly. I have decided to focus on Tinder as there are limited studies circumventing this particular dating app. Tinder differentiates itself by necessitating a level of attraction in part of the participants on the app. Also, it is one of the first sites to focus on online - dating in the terms of locality, as in a participant on the site will be exposed to participants nearby, within the confines of participant-set parameters. I have also decided to focus on Tinder after considering homophily, "sometimes called 'positive assortative mating'…evident with regard to physical attractiveness, socioeconomic status, ethnicity, attachment style, personality traits, and more" (Fiore et al. 2010). Homophily refers to a psychological phenomenon wherein people are attracted to people that look like them. This is poignant to me especially considering that "evidence is emerging that online dating has led to a marked increase in interracial dating and has enabled people to connect with others whom they would otherwise not have met" (Wadhwa & Salkever 2018). In that, I wanted to see how homophily held up in my experiment, if it did at all, in discussion with how technology and computer mediated communication has affected communication patterns on dating apps like Tinder.

Lastly, "evolutionary psychology suggests that women will be pickier than men about finding a mate…because women must make a much greater parental investment than men (Fiore et al. 2010). This was a large factor into why I conducted my experiment with women in heterosexual interactions on Tinder, as I wanted to ensure that I could examine a potentially larger sample of messaging criterion.

*Methods*

In order to gain insight as to if and how message content is impacted by age and race of writers on the dating app, Tinder, I decided to create and analyze an observational study. I created two Tinder profiles, one profile being of a white woman and the other profile being that of a black woman. As mentioned previously, I decided to only make up profiles of black and white women because of the OkCupid data that was presented in 2009 and updated in 2014 wherein black women were the least likely to receive a message reply or match. I compared the data between a black woman and a white woman because of the OkCupid data previously mentioned. I formulated the profiles after doing extensive research enlisting the help of users on blogsites like reddit in order to figure out the best way to set up the biographies, or bios, of each recipient. Due to this research, I ended up making two bios that reflected a love for both hiking and art. I also decided to insist that both recipients were age 23 because as presented in *A First Look at User Activity on Tinder*, they "set the profile age to 24 as this was the most frequently observed age in…early data" (Tyson et al. 2016)**.** Also, I made an adobe stock photo account in order to gain access to stock photos for the two recipients. I was able to use four pictures for each recipient. I loosely attempted to control for attractiveness by analyzing what is considered attractive, keeping the focus of the pictures on the faces of the recipients, and also asking a small group of friends to tell me if they found these women attractive without any context as to why the question was being asked. With the profiles made, I set the parameters in which men would have access to seeing their profiles to be set to the maximum on all regards. The distance parameter was maxed out at 100 plus miles. The age parameter was maxed out in both directions at age 18 to age 50+. To carry out the experiment, I used two telephones, forcing me to use my phone number, which later caused problems which I will discuss later in the complications section, and

a friend's sister's phone number. My associate, Mariah Norman, swiped for the white recipient

and I swiped for the black recipient. The swiping ritual consisted of consistently swiping right,

an act to express that attraction is felt for another individual on Tinder, until Tinder stopped the

ability to swipe right after 100 swipes. Tinder then insisted that the account waited 12 hours until

the next swiping session. One observation that I feel I should mention here, is that primarily I

wanted to carry out this study for much longer, however, due to the overwhelming amount of

messages that the white recipient was receiving in such a short amount of time, I had to cap the

message allotment for both recipients at 123 each, thereby giving me 246 messages, categorized,

as shown in Table 1  and separated by 12 coding criterion. This experiment ended up being

carried out in a total of 4 days. I will explain why in my complications section. Finally, I

analyzed my data by race in R studio, a computer program, by labeling white men as the number

1, black men as 2, and "other" as 3. I analyzed whether or not the writers utilized the 12 different

coding criteria by coding 1 for yes and 0 for no in my Microsoft excel document. Then, finally, I

broached the topic of answering my 6 questions, which as a reminder were:

1: Overall, regardless of race of the recipient, does race impact the message criterion used by the

writers?

2: Overall, regardless of race of the recipient, does age impact the message criterion used by the

writers?

3: does race impact the message criterion used by the writers in relation to only the black

recipient?

4: Does race impact the message criterion used by the writers in relation to only the white

recipient?

5:Does age impact the message criterion used by the writers in relation to only the black

recipient?

6: Does age impact the message criterion used by the writers in relation to only the black

recipient?

My findings section will attempt to answer these questions.

### *Age and Race Breakdown of Writers in this Observational Study*

Because of my interest in the concept of homophily, I wanted to include a racialized

breakdown of the men who wrote to each recipient. I analyzed this data simply by coding 1, for

writers who appeared to encompass the racial identity of white, 2 for individuals who appeared

to be black, and 3 for individuals who I could not identify purely on appearance alone. As to

avoid skewing this data, I decided to include  group 3, and categorize it as "racial other", which

can also be understood as unidentified participants, as to not assume a race/ethnicity especially

since I could not inquire about this part of my data in reference to the writers, as to avoid ethical

problems. For the black recipient, I observed that the racial breakdown was as such: 64 white

males, 54 black males, and 5 male individuals who encompassed the "other" category. This data

was surprising to me, especially when directly comparing the writer's race breakdown for the

black recipient against the race breakdown of the white recipient. For the white recipient, I

observed that the racial breakdown of the writers was as such: 99 white males, 14 black males,

and 10 men who fit into the racialized other category. This data seems to reflect on the concept of

homophily beautifully, as in, white men considerably outnumber the black and writers identified

as "other" in reference to the white recipient, taking up 7 times more of the data for this

recipient. The potential implication of this is that as the OkCupid study depicted this

psychological concept of homophily does exist, at least for this interaction between white men reaching out to white women.

This data could be just a reflection of some sort of selection bias, or it could directly correlate to OkCupid's study wherein the black men were found to not show an affinity to swiping on black women, unlike other racial groups, like white men in their interactions with white women. Although, this sample size is exponentially smaller, this phenomenon wherein the black male writer, swiping and interacting with the black female recipient, at least seems to hold for my smaller scale study on Tinder.

Consequently, in my data, both observationally, and also after posing a chi-square test of significance of age by race, I found that there was no reason to reject the null hypothesis that race of the recipient and age of the writers did not correlate. As in, there was no one age group that gravitated towards the white recipient or the black participant.  However, age group labeled "twenties," took up an overwhelming amount of data in this experiment, with over 90 male writers in this category for both the white and black recipient.

### Research Findings

### Question 1: Tinder Findings on Message Content Based on Writers' Race for Both Recipients

The first question that I sought out to answer regarded whether the race of the writers impacted the message criterion utilized in conversation with the two recipients. These criterions referred to the instances in which the writers responded directly to the bio of the recipient, commented on the appearance of the recipients, and if the writer sent their social media information/phone number, respectively. After running chi square tests, I found that for message criterions 1, 2, 5, 6, 7, 9, 10, 11, and 12 that I was forced to fail to reject my null hypothesis. So, with that, I could not

conclude that race had any impact on these particular message criterions that were used. However, I did find significant reason to reject my null hypothesis and accept my alternate hypothesis in the cases in which the message criterion 3, 4, and 8 were used.

***Question 2: Tinder Findings on Message Content Based on Writers' Age for Both Recipients***
The second question that I sought out to answer regarded whether the age of the writers impacted the message criterion utilized in conversation with the two recipients. After running chi-square tests, I found that the writers' age did not impact the message criterions for 1, 2, 3, 4, 5, 6, 7, 8, 9, and 12. However, message criterion 10, insisting that the writer utilized their own name in communication with the recipients, and message criterion 11, depicting that the writers' greeting reflected the time of day/day of the week, proved to have significantly low p-values, lying lower than .05, leading me to reject my null hypothesis and accept my alternate hypothesis.

***Question 3: Tinder Findings on Message Content Based on Writers' Race for Black Recipient***
The third question that I sought out to answer regarded whether the race of the writers impacted the message criterion utilized in conversation singularly with the black recipient. I found, after conducting chi-square tests, that the race of the writers did not impact whether or not the writers used message criterion 1, 2, 5, 6, 7, 8, 9, 10, 11, and 12. However, in regard to the black recipient, The usage of the message criterion of 3 and 4 seemed to be impacted by the race of the writers.

***Question 4: Tinder Findings on Message Content Based on Writers' Race for White Recipient***
The fourth question that I sought out to answer regarded whether the race of the writers impacted the message criterion utilized in conversation singularly with the white recipient. I did not garner any information based on message content and writers' race in regard to the white recipient. However, I could not conduct a chi square test for message criterion 8 based on writers' race

because none of the men utilized messaging criterion 8 in communication with the white recipient.

***Question 5: Tinder Findings on Message Content Based on Writers' Age for Black Recipient***
The fifth question that I sought out to answer regarded whether the age of the writers impacted the message criterion utilized in conversation singularly with the black recipient. I found, after conducting chi-square tests, that the age of the writers did not impact the decision for the writers to utilize the message criterion of 1, 2, 3, 5, 6, 7, 8, 10, and 12. However, in examining message criterion 4, 9, and 11 that dictates that the writer comments on the appearance of the recipient, uses some "other" comment/question unrelated to the recipient, or their greeting reflects the time of day/day of the week, respectively.


***Question 6: Tinder Findings on Message Content Based on Writers' Age for White Recipient***
The sixth question that I sought to answer regarded whether the age of the writers impacted the message criterion utilized in conversation singularly with the white recipient. I found, after conducting chi-square tests, that the age of the writers did not impact the decision made in part by the writers to utilize the message criterion 1, 2, 3, 4, 5, 6, 7, 9, 11, and 12. However, I was not able to conduct a chi-square test for message criterion 8, that dictates that the writer sends their phone number/ social media information immediately in their initial greeting,  because none of the 123 men utilized this criteria for the white recipient. In regard to message criterion 10, I found that the age of the writer did indeed affect whether or not the writer utilized their own name in communication with the white recipient. After performing the chi-square test, I obtained such a small p-value, 0.00000000000000022, that only makes sense when keeping in mind that

only one person utilized this criterion in the sample size of 123, and they encompassed the fifties age group.

### *Discussion*

       I plan to center my discussion on message criterion 3, 4, 8, 9,10, and 11, as these criterions were the only message criterions that caused me to reject my null hypotheses. However, I would like to mention that I do acknowledge and accept the moments in which I was forced to fail to reject my null hypotheses in this  experiment. I do not want the omission of these message criterion to conflate the results from this observational study, but rather, I choose to focus on message criterion 3, 4, 8, 9, 10, and 11 as they commonly presented themselves as being influenced by age or race in regard to the recipients.

       First, I will discuss message criterion 3, wherein the writer responded directly to the bio of the recipient. We found that the writers' race did affect whether or not the writers utilized criterion 3 in communication with the recipients overall. I found myself rejecting my null hypothesis and accepting my alternate hypothesis in the cases of question 1 and question 3 (not to be confused with message criterion 1 and 3). For question 1, we were interested in whether the race of the writer impacted the writer's decision to utilize a certain message criterion. Here, out of the 48 men who used this criterion in the experiment, 41 were white. participants and posit a question or comment in their interactions with the recipients. I will go further into this potential implication by refocusing the 3 criteria to question 3 wherein we were interested in whether race had an impact on message content utilized in relation to only the black recipient. Here, I found that the writers' race did affect whether or not the writers utilized criterion 3 in communication with the black recipient. However, in observing the data, of the 19 people who

utilized this criterion, 15 of them were white. This was not a significant finding for the white

recipient, seeming to suggest that despite the race of the writer, the white recipient was more

likely to garner a message responding to their bio in the experiment overall. This seems to be

important when thinking about the necessity for relevant message content in communication,

especially in the context of developing relationships. In my observations, the main utilizers of

this relevant message content criterion were white men in interaction with the black

recipient. This seems to substantiate some sort of basis for communication needs and potentially

verbalized racial performance with regards to first initial message sent to the recipient.

Next, I will examine message criterion 4, wherein the writer commented on the

appearance of the recipient. Interestingly, message criterion 4 had the same exact trend that

message criterion 3 shared, being significant regarding race overall and in regard to race for the

black recipient. In the overall experiment, regardless of race, the writers' race did affect whether

or not the writers utilized criterion 4 in communication with the recipients overall, and of the 43

individuals utilizing message criterion 4, 21 were white, 20 were black, and 2 were other. In

connection to criterion 4's prevalence with the black recipient, I found that the writers' race was

also impactful. The data showed that of the 24 men that used this message criterion, 17 were

black. This data is very interesting to me, especially in response to the topic of homophily

and OkCupid's conclusion in 2014 that black men did not show a preference to black women.

This data, even though it is of a much smaller sample size, shows at least for the case of message

criterion 4, depicting attraction, that race does impact message criterion, in part of the black man

to the black woman. Age also impacted the utilization for criteria 4 in regard to the black

recipient. Of the 24 men who commented on the appearance of the black recipient, 16 of them

were in their twenties. This data was poignant to me, because even on a much smaller scale than the OkCupid study, we found that at least in the communication of attraction from a black man towards a black woman on Tinder, that maybe we can reevaluate just a bit on Cupid's data from 2014. An updated study, or a new study would definitely need to be conducted to compare that hesitant conclusion to. However, another way to look at this data is inquiring as to why was criterion 4 not significant based on race for the white recipient. I will posit that it was due to the prevalence of each racial group communicating this attraction. For the black recipient, we only see homophily at work, and not much on communication from the other two racial groups defined in this study.

The next messaging criterion that I will bring to your attention is criterion 8. Which dictates that the writer sends their phone number/social media information, was absolutely not present in regard to the white recipient, and so I was not able to conduct a chi-square test. However, overall regardless of the race of the recipient, the writers' race did affect whether or not the writers utilized criteria 8 in communication with the recipients overall. It seems, overall, only three people shared their social media number/social media information, and they were all black writers. So, in the only times that criterion 8 was utilized, they were not used in the context of the white recipient and were only used by black writers. I will not focus too much on this data although it proves to be significant that black men were the only group that sent their social media information/phone numbers, regardless of the race of the recipient, the amount just seems to skew the data, but there could potentially be an underlying trend at work here that could lead to implications of future research.

Next, I will veer your attention to message criterion 9 that referred to the instances in which the writers made an unrelated question/comment to the recipient. These unrelated questions/comments also consisted of meme usage, or even more vulgar types of messages. This criterion only presented itself as significant in the context of age in regard to the black recipient. Of the 8 people who used this criterion, 5 were in their twenties and three were in their teens, which seems to suggest that age impacts message content relevancy.

Next, I will focus on message criterion 10, writer utilizes their own name in greeting, virtually reintroducing themselves to the recipient. This criterion only presented itself as significant in the context of age, in the overall study and singularly in the context of the white recipient. The writers' age did affect whether or not the writers utilized criteria 10 in communication with the recipients overall, and of the 5 individuals who utilized this criterion, three of them were in their twenties. However, in the context of the white recipient, only one person reintroduced themselves, and it was a man who was in his fifties, this suggests that the utilization of message criterion 10 is not completely based on age, like I previously thought. My own biases caused me to predict potentially older men would reintroduce themselves because of a potential ignorance of the app. However, I found that men in their twenties reintroduced themselves the most, completely proving me wrong, and potentially showing that older men are not as dissociated from dating apps as I previously believed. However, once again, this is based on a  small sample size and could also allude to implications for future research.

Lastly, I will introduce message criterion 11, wherein the writers' greeting reflected time of day/day of the week. This criterion was significant by age overall and also for the black recipient. The writers' age did affect whether or not the writers utilized criteria 11 in

communication with the recipients overall, and of the 30 individuals who utilized this criterion, 20 were in their twenties. Specifically, for the black recipient, the writers' age affected whether or not the writers utilized criteria 11 in communication with the black recipient, and of the 19 in the sample, 10 were in their twenties. In both cases, this information seems to point out that men in their twenties were the most prevalent greeters that called on the time of day to justify relevance of communication. This also seems to point at some age/communication decision phenomena in part of the men in their twenties to potentially easily "break-the-ice" by referencing the day of week.

In summary, it seems that age and race impacted the decision for the writers to utilize certain message criterions. However, this was not an overall trait, and only stood out in cases like when the writers chose to utilize message criteria 3, 4, 8, 9,10, and 11. The most poignant message criteria by race and age breakdowns that I discovered in the confines of this study dealt with message criterion 3 and 4, as they alluded relevancy of communication and attraction in part of the writers. The invisibility of message criterion 8 for the white recipient caused me to question why recipients did not send their social media info/phone numbers, but in consideration to the fact that only three men used this criterion, and they were all black, I cannot feel confident in leaving a more conclusive reasoning for that occurrence. In regards to message criterion 9, it seemed that younger men utilized this irrelevant message criterion more often than older men. However, in reference to both message criteria 10 and 11, younger men, in their teens and twenties, were more likely to reintroduce themselves or call on simple relevant information, like the time of day, in order to initiate communication with the recipients. This particular finding could allude to a mastery of communication in the context of Tinder, but there I would need to

conduct further research in order to test that. Overall, it was exceedingly interesting to see how

and when age or race would impact the message criterion used.

*Complications/ Implications for Future Research*

        I ran into a couple of problems in conducting this research study. The first was that there

does not exist a lot of information regarding message content and Tinder. However, to my

knowledge this has led to my study being the first of its kind, wherein actual message content,

and not messaging rates, is being analyzed and coded for. I was forced to conduct this study

twice, as the first time that I ran this study, I was marked as spam due to the stock photos that I

utilized being present in media advertisements without my knowledge. This led to my phone

number being permanently banned from Tinder.  I also could not message back the

writers because this would have caused larger ethical issues, as in that case, consent

would have been needed, but it could have been helpful in recording and accounting for natural

language performance in message content on Tinder. I performed this experiment without

providing age, location, or names of the writers to ensure maximum protection of their

information.

        This study, of course, has the potential to be implicated in future research. The

implications are such that I would be interested in increasing the sample size of the writers and

utilize more recipients, as to observe trends in message content in a more concrete manner. Also,

I feel that the methods of this research would do well in comparing message content in relation

to same sex interactions on Tinder. I think this could potentially fill a gap in both psychological

and linguistic data circumventing message content and Tinder. This could potentially tell us

about message content trends, along with matching trends, in these same-sex interactions. I

would want to see how message content differs based on race and age, if it does at all, for man-man interactions and woman-woman interactions. This would be even more poignant in discussion with evolutionary psych data about mating habits and how that translates to Tinder, wherein men are less picky in their swiping patterns due to a selective pattern in part of women. I predict that men would also be less selective in same sex interactions, as well, and I assume the same hypothesis would hold true that women would still be selective in same-sex interactions. However, I don't know what hypothesis I would make based on the race/age of recipients. This confusion that I have leads to me believe that these answers could potentially be answered after conducting an experiment like the one I that I have conducted here. I would hypothesize now that I would expect for black women and men in these same-sex interactions to be messaged slower, as well as potentially receive different messages because of their race. However, I would want to conduct these experiments, with the inclusion of more marginalized identities, to see how these messaging content criterion hold.

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*Message Criterion Chart* (table 1)

| TABLE 1 | MESSAGING CRITERION UTILIZED |
|---|---|
| 1 | Writer says hi/hello |
| 2 | Writers asks recipient on date |
| 3 | Writer responds directly to bio of recipient |
| 4 | Writer comments on appearance of recipient |
| 5 | Writer utilizes some slang form of hi/hello—"What's up/wssp" |
| 6 | Writer utilizes recipients name as the only form of greeting |
| 7 | Writer uses a "pick-up" line |
| 8 | Writer sends phone number/social media info immediately |
| 9 | Other(a question/comment/unrelated to recipient) |
| 10 | writer utilizes their own name in greeting |
| 11 | greeting reflects time of day/day of the week |
| 12 | writer asks about where the recipient is from |

*Table 1 refers to the messaging criteria used by the writers.