

**Diving deeper into the world of Black Panther: Wakanda Forever**  
How do female audiences connect to the female characters in the movie?

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Master's Thesis

*June 2023*

Word Count: 12,348

## ABSTRACT

*This quantitative study aims to further explore the black female portrayals in the superhero movie Black Panther: Wakanda Forever (2022). More specifically, it dives deeper into how female audiences engage with the female characters and looks for differences between participants of colour and white participants. Representation of females and minorities in movies is a topic that is still sensitive due to its great lack and stereotypical portrayals within the film industry. Audiences want to feel seen, represented and have characters that inspire them on a deeper level. The following research question is posed: To what extent does engagement with female characters in Black Panther: Wakanda Forever impact entertainment of a female audience? According to previous research, female and minority portrayals in blockbuster movies suffer from stereotypes (Pennell & Behm-Morawitz, 2015). This research uses several character engagement concepts like recognizability, wishful identification and parasocial relationships. Furthermore, it measures the perception of gender traits and perceived realism of the female characters among the participants. After building a theoretical framework around these concepts and explaining the relevance of the cultivation theory, hypotheses were created based on previous literature and certain expectations. A survey made on Qualtrics (N = 152) was distributed to gather data from female Marvel fans who were familiar with the female characters Shuri, Okoye, Nakia and Queen Ramonda. After data cleaning and preparation, the hypotheses were tested using the program SPSS. Several tests were conducted such as t-tests, one-way ANOVA's and hierarchical regression analyses. Some hypotheses were accepted and other had to be rejected. Main findings included that female characters were considered to be both masculine and feminine which differed per character. Additionally, t-tests revealed that only differences in gender traits were found amongst the characters which shows a sign that all characters were perceived as real. However, there were no differences found for scores on, for example, wishful identification regarding participants of colour versus white participants, which is in contrast to previous research (Bui, 2017). The conclusions that black female characters become less stereotypical and are widely accepted among all kinds of audiences are drawn, which means that progress is being made in blockbuster movies regarding portrayals of females and minorities. The study concludes with a thorough discussion of the main findings, limitations, and suggestions for future research.*

**KEYWORDS:** *character engagement, female portrayals, female audience engagement, female superhero portrayals, minority portrayals*

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## 1 Introduction

"I do feel extremely proud when I have people of the South Asian community coming up to me and saying, thankfully we're seeing a non-stereotyped Indian. At an event, I remember this girl hugged me and started crying. She said, 'Thank you for making us relevant.' It gives me goosebumps every time I think about it," (Howard, 2016, p. 10). These are the words of actress Priyanka Chopra-Jonas. She highlights the importance of representing non-stereotyped characters when it comes to non-white representation.

The notion of cultural representation and diversity in entertainment, and in this case movies, is still an ongoing discussion as to whether there is enough of it. Research conducted on 2021's 100 highest-grossing movies showed that only 41% of the lead and co-leads were women, and only 32% were non-white (Sun, 2022). Furthermore, a study conducted by Kumar et al. (2022) reveals that women are usually stereotypically portrayed in movies. For instance, their characters relate to themes like romance, or they are sexualized which is a common standard for females in superhero films (Pennell & Behm-Morawitz, 2015). However, this is slowly decreasing over time (Kumar et al., 2022; Yang et al., 2020).

In 2018 Marvel released their first Black Panther movie, and it was proof that an all-black cast and crew production could be as successful as others. Now, the second movie of the Black Panther franchise, *Black Panther: Wakanda Forever* (2022, dir. Ryan Coogler), has a clear emphasis on female characters and portray them in a positive and nuanced way. Using this movie as a case study would be insightful to research how female audiences perceive the portrayal of black female characters and how that relates to their engagement with the characters. Through this research, the results can uncover if women feel represented by the characters in the movie, but also how they might relate or identify with the characters.

While there has been plenty of research done on the representation of race, gender, and cultures in movies recently (Erigha, 2015; Kumar et al., 2022; Pennell & Behm-Morawitz, 2015; Yang et al., 2020), not much research has been done that relates to how audiences connect to characters of colour, more specifically female characters. However, Hall (2022) researched how audiences respond to characters in superhero movies and how race and gender are related to this. His results reinforce the idea that cultural diversity within movies is important because audiences are likely to connect to characters of the same race or gender. Weaver (2011) offers insight into why there is not enough cultural and racial representation in films. Namely, he discovered that white audiences are less attracted to movies with a mostly black cast as opposed to white casts. This research would help to further uncover how audiences connect to characters portrayed in films, and the potential importance of cultural

diversity in movies. Besides this, the results will be able to reveal differences between the connection of white participants vs. participants of colour to the characters. This is especially interesting to reveal when using *Black Panther: Wakanda Forever* as a case study in this research.

Ways to measure the engagement of audiences with characters and their perceptions of them can be done with concepts like recognizability, wishful identification and parasocial relationships. Recognizability measures to which extent the audience recognizes themselves in a fictional character, wishful identification relates to which extent an audience member wishes to be like the character, and parasocial relationship talks about a consumer having a one-sided relationship with a character. By using both participants of colour and white participants this study offers an interesting angle to find out if there are significant differences between their perception of engaging to characters of colour. Furthermore, measuring how feminine or masculine audiences perceive the female characters can expose whether the female characters of *Black Panther: Wakanda Forever* are femininely stereotyped or are also perceived by the audience as masculine, which is related to traits like practical and rational as opposed to emotional and sensitive.

In order to find an answer to the possible impacts of a movie like *Black Panther: Wakanda Forever* on a female audience, the following research question is proposed:

To what extent does engagement with female characters in *Black Panther: Wakanda Forever* impact entertainment of a female audience?

Very little research has been done on female characters of colour as already existing literature tends to focus on characters of colour in general and how people of colour engage with these characters. With audiences pleading for more diverse characters on the screen and more female leads in Hollywood movies, this study can reveal if the representation of female characters of colour have a desired effect on female audiences in terms of engagement and perception.

The societal relevance of this research will help the movie industry to understand how audiences relate and engage with characters, but more specifically female characters and characters of colour. The results can help people in the movie industry to develop even better characters that audiences will really connect to, love, and understand. Furthermore, it will help audiences feel better represented and less stereotyped on a big platform in the future. The academic relevance includes the need to shed light on how female audiences (and in- and outgroups) engage with female characters of colour in a Hollywood blockbuster, and it will significantly contribute to already existing research that deals with character engagement.

Furthermore, it adds to literature regarding the first Black Panther movie, which focused mainly on a male lead.

The following chapter, the theoretical framework, discusses theories and concepts and dives deeper into previous research. Based on this an overview of several hypotheses will be proposed. Then the methods section will explain how this research was conducted, carefully explaining each step. Multiple analyses have been performed to answer the hypotheses which will be reported in the results section. Then, the findings will be interpreted and broadly discussed, limitations and suggestions for future research are presented, and finally a conclusion is offered.

## **2 Theoretical Framework**

### **2.1 Cultivation theory**

George Gerbner first introduced the concept of cultivation in 1969 (Potter, 1993) which refers to how television shapes audiences' beliefs, perceptions, values, and attitudes (Shrum, 2017). Therefore, it looks at the role of media and how it has the ability to shape cultures through storytelling. Cultivation theory holds one main assumption which is that the bigger the audience, the more people will embrace the media's underlying messages (Shrum, 2017). Diving deeper into the history of cultivation theory, Shrum (2017) mentions that many studies in the past have shown positive correlations between people watching violence on TV and matters such as perceived danger societal violence and fear of walking by yourself at night. However, the theory has gotten several criticisms throughout the years. These include its failure to reflect upon variation in TV content and the lack of including control variables in research (Romer et al., 2014). Furthermore, Romer et al. (2014) suggest that cultivation theory often points to negative effects on audiences when sometimes the contrary has been proven to be true.

Another theory that is similar to this one is the social cognitive theory of mass communication, which takes it a step further and thus focuses on short term versus long term effects of media consumption (Romer et al., 2014). Additionally, the social cognitive theory can reveal the way incorrect and problematic messages have potential to become popular beliefs among audiences after consuming media content (Romer et al., 2014).

Cultivation theory is a way to explain how media can influence audiences, not only via TV but through watching movies and engaging with social media as well. It serves as a basic understanding of how portrayals in media content make differences and can have a significant impact on audiences because it has the ability to alter their perceptions.



## **2.2 Character portrayals in film**

### **2.2.1 *Female characters***

Female characters are stereotypically portrayed in the media (Kumar et al., 2022). As research by Kumar et al. (2022) discusses, females are depicted in relation to love and romance, and many times they are sexualized, such as the character Catwoman from the DC comics. A study conducted by Xu (2021) has researched the influence of female Disney characters on society, and how they have developed over the decades with more feminist aspects showing in their recent films such as *Frozen* and *Mulan* instead of stereotypical portrayals of females in their earlier works. Disney films show how various decades ago females, most often princesses like Aurora or Snow White, took on the role of ‘housewives’ which resulted in women being regarded as such in society. This reinforces how the influence of female character portrayals in films should not be underestimated. Xu (2021) mentions the notion of the stereotype threat, first introduced by Steele, which talks about the risk of confirming a negative stereotype within a certain social group. Furthermore, Xu (2021) discusses how not only female behavioural stereotypes can have a negative impact on society but also their physical appearance (e.g., body type) and the representation of different cultures. In the 21<sup>st</sup> century, it is of high importance to have a broad range of body types and cultures included in media products due to recognizability among the audience and the extent to which they relate to the characters. Xu’s (2021) research showcases the truth of cultivation theory, which talks about the media’s ability to influence one’s beliefs and attitudes, because by letting children, especially, watch these movies they will associate the portrayals of the female characters to be accurate and carry these portrayals into the real world.

The differences between fictional content and reality are still important to discuss and research because it has the ability to influence audiences. A lot of media content, even though fictional, can be perceived as reality. Also, it is interesting and important to consider if there is a difference between live-action and animated content, and revealing if animated content also has the ability to influence audiences since there is a bigger difference in distinguishing reality from fiction due to its animated form. Such stereotypical and narrow views of female characters have been studied in relation to animated movies. León González et al. (2020) have done a content analysis on popular animated characters in movies for both male and female characters. By analysing associations between personality, social attributes, and physical appearance, they found that gender stereotypes are still prevalent in animated films, which are mostly targeted towards children. For example, their research revealed that tight-fitted clothing is associated with attractiveness for females. These portrayals of genders could also lead to potential negative views on gender development and body image.

Similar to previous results from Xu (2021) and León González et al. (2020), research has revealed that stereotypical portrayals of women are also prevalent in Nollywood films, the film industry in Nigeria (Onyenankeya et al., 2019). Results showed that many women still play diminishing roles, and they often do not meet the standards of social reality, for instance in regard to their professions. The authors conclude that Nollywood, much like Hollywood (Kumar et al., 2022; León González et al., 2020; Xu, 2021), still suffers from the outdated and stereotypical treatment of women. Research by Alola and Alola (2020), who used the feminist film theory, confirms the inaccurate portrayals of women in Nollywood, and adds women are portrayed as weak, dependent on men and sex objects. This issue has been proven to be present globally and reflects its severity and the need for change. Kagan et al. (2020) have investigated the film industry's gender gap and after analysing movie dialogue subtitles, which they gathered from IMDb, they found that there is significant improvement in women's roles. They specify that women are often becoming more central in movies, and they more frequently pass the Bechdel test (a recognized test evaluating the portrayals of women in fiction). This is important because female audiences feel seen and represented on a bigger scale. When they see females represented in a positive and relatable way in for example movies they engage more with the characters.

### 2.2.2 *Characters of colour*

It is not unknown or new that non-white characters are heavily underrepresented in the media, including the film industry (Prabasmoro et al., 2019). This is a problem which is slowly being solved, though it could not be solved fast enough because representation in media can have a big influence on the way people are perceived, and how they perceive themselves. Prabasmoro et al. (2019) have analysed the movie *Black Panther*, the first movie of the Black Panther franchise, and came to the conclusion that the world is in need of and hungry for superheroes like Black Panther. Representation in these big blockbusters matters because certain audiences can relate and finally recognize part of themselves on the big screen. It is a way for them to develop self-respect, dignity and celebrate their past and culture.

Erigha (2015) explains that cultural representation and diversity within Hollywood have been low for decades since the beginning of filmmaking. Predominantly white men were at the forefront while minorities took up way less space in films. Scholars, organizations and employees within the creative industries have pushed for more representation in films and behind-the-scenes regarding minorities and diversity (Erigha, 2015). More than 20 years later, research has revealed that not much has changed. However, Erigha (2015) sees positive change on the horizon, especially when minorities were often victims of racist and discriminating portrayals several years ago. She notes that there are three types of representation, namely numerical representation, quality of representation and centrality of representation. She argues that only by implementing all three of these concepts can the inequality of minority representation be correctly understood.

Furthermore, minorities are not always portrayed in popular media in the desired way. Often, characters of colour are disregarded in popular TV and movies, and are portrayed in a stereotypical manner (Bucciferro, 2021). For example, Toms-Anthony (2018) argues that the black female lead character in the TV show *How To Get Away With Murder* is negatively portrayed because it reinforces stereotypes about black women which could have a significant impact on the real world because the TV show is very successful. Thus, it has the power to reproduce opinions formed through the show on the real world. Such negative depictions of characters of colour are usually based on prevalent stereotypes, but very much unjust. These misrepresentations of minorities are also prevalent concerning Asian Americans portrayals in Hollywood films (Besana et al., 2019) or African women in Nigerian movies (Alola & Alola, 2020).

## **2.3 Characters and audience engagement**

### **2.3.1 Perception of gender traits**

Audiences tend to form an impression of a character based on what they perceive which can happen subconsciously. Thus, implementing gender traits and measuring this concept helps to understand and is able to give greater insight into how audience members interpret a character. Moreover, gender traits are a way of measuring how someone is perceived in terms of femininity and masculinity, and it allows the researcher to get a clearer idea of one's personality than just simply defining someone as male, female or non-binary (Żerebecki et al., 2022). Stereotypes stem from certain attributes linked to femininity or masculinity.

Dinella et al. (2017) confirm that gender traits are still prevalent in superhero films. Though research has shown that both male and female characters have masculine traits, e.g., traits like strong and aggressive, female characters tend to be more feminine by displaying traits like emotion and physical attraction (Dinella et al., 2017). Male characters, on the other hand, were depicted as angry and threatening. However, few studies focusing on superhero movies were done where the influence of gender-stereotyped portrayals on audiences were measured (Dinella et al., 2017). Yet, one shows that children were more likely to adopt masculine behaviours after regularly watching superhero content. When these gender-stereotyped portrayals are seen in movies by audiences they can, in accordance with the social cognitive theory, adopt these behaviours and implement these into their normal lives. Therefore, it is important that gender is portrayed in a non-stereotypical way so that the audience does not adopt these stereotypical views about gender and give them the possibility to also normalize these stereotypes.

Previous research has revealed that women are still not fully portrayed correctly and diversely (Kumar et al., 2022). It is mentioned women are often associated with love and romance, and they are sexualized, which can be considered as bad because, as previously mentioned, it has the ability to normalize gender stereotypes. Portraying female characters as very feminine (romantic, emotional, and sexual) risks upsetting female audiences since females can possess opposite traits. Therefore, measuring gender traits gives a better view into how female characters are perceived, such as figuring out if they are also portrayed as more masculine and less feminine.

González-Velázquez et al. (2020) have done research on the first Black Panther film. They studied how wellbeing, empowerment and identity can be influenced by the film and its originality. Results showed that Black/African American participants showed high identification with the main character T'Challa and it stimulated empowerment among the participants. In the second Black Panther film, the female characters are central to the story which makes it interesting to see whether the same engagement can be expected with female characters. Furthermore, the female characters, such as Shuri, are not as stereotypically portrayed as women usually are. Most are smart, tough, and not sexualized. Letting the participants measure the gender traits of these female characters will show how they perceive the characters and if they embody some masculine traits instead of solely being linked to femininity.

### **2.3.2 Recognizability**

Żerebecki et al. (2022) states that there is a strong lack of research on how minority characters in media such as film and TV are perceived by audience members from majorities, but also how audience members engage with these characters. He discusses how people from cultural majorities could have a harder time relating to the minorities portrayed in the media because they do not recognize themselves to that extent. Minorities often have different values, norms and lifestyles. Black Panther is a successful franchise and known by many around the world despite the cast and crew being predominantly black. It would be interesting to further investigate whether the characters do feel more recognizable by audience members from minorities.

Furthermore, the concept of recognizability measures character engagement in a slightly different way compared to wishful identification. Recognizability is able to truly measure the extent to which audience members recognize themselves in fictional characters. In contrast, wishful identification measures how much audience members aspire to be like the fictional character. However, despite the differences in what it measures, the two concepts still relate to character engagement. Żerebecki et al. (2022) also confirms that recognizability is positively correlated with wishful identification since it measures similarities between an audience member and a character.

Both recognizability and wishful identification influence the concept of parasocial relationships. If audience members desire to be like the character and they find similarities between them, they develop a stronger relationship or friendship with the character because they tend to engage more positively with the character (Żerebecki et al., 2022).

### **2.3.3 *Wishful identification***

Much research has been done on the concept of wishful identification which means the audience member would like to become the media character (González-Velázquez et al., 2020; Tolbert & Drogos, 2019). For example, someone watching the movie *Black Panther: Wakanda Forever* would like to be the protagonist, Shuri. Tolbert and Drogos (2019) explain that wishful identification goes beyond just liking the character, it is rather a psychological desire. An interesting study by Hoffner and Buchanan (2009) suggests that wishful identification is greater for characters of the same gender as the participants, and there is a higher tendency that they identify more with characters who they perceive with positive attributes. However, this research has not considered the aspect of ethnicity and/or race. Therefore, this will be interesting to measure to find out whether the same effect is reached for ethnicity/race just like it did for gender. The female characters shown in *Black Panther: Wakanda Forever* are depicted as strong, powerful and nuanced. For audience members of colour, this could be very encouraging and inspiring, especially when it is a superhero movie, which might lead to wishful identification.

### **2.3.4 *Parasocial relationships (PSR)***

Parasocial relationships is a concept introduced by Horton and Wohl in 1956 (Hu, 2016). It explains a one-sided relationship between the active consumer and the media character. Hu (2016) mentions that the concept has already been widely researched since its introduction. However, not much research has covered parasocial relationships regarding the portrayal of minorities and the potential differences between white participants and participants of colour. A study conducted by Bond (2021) has delved deeper into heterosexuals' parasocial relationship with gay characters depicted in a television series. The outcomes showed that audiences can connect with outgroup characters, and just like ingroup characters it can affect their behaviours and attitudes. This study has researched parasocial relationships between in- and outgroups but failed to include comparisons with people belonging to the outgroup characters. Researching parasocial relationships with regards to how people from the in- and outgroups feel can uncover interesting comparisons. The portrayal of strong, black women in a Hollywood blockbuster can increase the parasocial relationship between black audience members or minorities as opposed to white audience members.

Prior research has also found that children and college students are more likely to watch TV programs with same-race characters than programs with different race characters (Bui, 2017). These results show that similarity, such as ethnicity and/or race are indeed an important factor when it comes to choosing a media product to consume. Taking this a step further, it could lead to potential differences in in- and outgroups and their engagement with particular characters of a certain background/physique. If this would be true, the role of diversity and representation in media, and more specifically film, would be enhanced as it can have significant impacts on the connection with the audience.

### **2.3.5 Perceived realism**

Measuring the level of perceived realism in a movie with regards to the characters is necessary since inconsistencies caused by external realism and narrative realism can disrupt engagement with the narrative or characters among audiences (Busselle & Bilandzic, 2008). External realism can be understood as how consistent fictional content is to the actual world, whereas narrative realism deals with “the extent to which there is consistency among logic, motivations, and events within a fictional narrative” (Busselle & Bilandzic, 2008, p. 267). Busselle & Bilandzic (2008) state that perceived realism is often higher when the audience observes parallels between the real world and the fictional narrative.

Perceived realism is also important when studying cultivation because it is understood that audiences assume content is realistic in some way except when they have a reason to not believe so (Morgan et al., 2014). Furthermore, audiences convey their understandings and impressions from content into the real world (Morgan et al., 2014).

Since *Black Panther: Wakanda Forever* deals with fictional characters who show relatable emotions like grief, anger, and compassion, it is expected that the audience will be able to engage properly with the characters and narrative. However, since the African culture plays a big part in the movie, non-white participants may feel a deeper connection to the narrative because it seems more familiar to them.

## **2.4 The movie and its female characters**

The movie *Black Panther: Wakanda Forever* (2022, dir. Ryan Coogler) mainly follows the life of Shuri who mourns the loss of her big brother T'Challa, the former Black Panther and King of Wakanda. Together with her mother Ramonda they try to keep Wakanda safe now that their main protector, the Black Panther, is gone. The Dora Milaje, a Wakandan warrior team with females protect Wakanda. Okoye, the leader of the Dora Milaje, is later in

the movie removed from her position within the Dora Milaje by Ramonda after failing to protect Shuri following a mission they went on together. Meanwhile Wakanda is attacked by people from the underwater Talokan kingdom with Namor as their leader. Later, Nakia, former girlfriend of T'Challa, comes into the story when Ramonda seeks her out to rescue Shuri who is captured by Namor.

The character Shuri goes through a rough time in her life as she deals with the loss of her brother. Her grief and emotion are highlighted throughout the movie. However, she shows signs of anger, compassion, and revenge as well. She goes through all sorts of emotions based on the movie's events.

Ramonda grieves her son as well but has come to peace with it much sooner than Shuri does. She takes responsibility for leading Wakanda and making sure their country is protected. Furthermore, she worries for Shuri when she is taken by the main villain Namor and tries her best to bring her home.

Okoye is a strong warrior which shows through her fighting abilities. However, she also shows signs of arrogance because she trusts her own skills. Nevertheless, she can be emotional during moments of grief and sadness.

Nakia has a very calm presence in the movie and knows her strengths. She wants to be there for people dear to her and tries to fight for what is right. She often tries to reason with and talk to Shuri when she is upset.

## **2.5 Hypotheses**

Nakia, Shuri, Okoye and Queen Ramonda from *Black Panther: Wakanda Forever*, have some differences in character traits. Queen Ramonda and Nakia are slightly more at ease in this film, whereas Okoye is a strong warrior and must be sure of herself to succeed in combat, and Shuri is going through a very emotional phase in her life. The female audience will then score these characters differently when rating their gender traits. Based on this, these hypotheses are expected for the characters regarding gender traits:

H1: Queen Ramonda scores higher for positive femininity than a) Okoye and b) Shuri.

H2: Nakia scores higher for positive femininity than a) Okoye and b) Shuri.

H3: Shuri scores higher for positive femininity than Okoye.

H4: Shuri scores higher for negative femininity than a) Queen Ramonda, b) Nakia and c) Okoye.

H5: Okoye scores higher for negative masculinity than a) Nakia and b) Queen Ramonda.



H6: Shuri scores higher for negative masculinity than a) Nakia and b) Queen Ramonda.

H7: Nakia scores higher for positive masculinity than a) Shuri and b) Okoye.

H8: Queen Ramonda scores higher for positive masculinity than a) Shuri and b) Okoye.

Like previously suggested, participants of colour may feel a deeper connection to the black female characters as opposed to white participants. Especially because the African culture is incorporated in this movie. The following is expected:

H9: PoC score higher on wishful identification than non-PoC.

H10: PoC score higher on situational recognizability than non-PoC.

H11: PoC score higher on perceived realism than non-PoC.

Various variables like the gender traits subscales will likely impact the predictive value of independent variables like wishful identification, parasocial relationships and perceived realism differently. Furthermore, for participants of colour and white participants there might be a difference in the predictive value of the independent variables due to their possible differences in rating the dependent variables. These hypotheses are proposed:

H12: Wishful identification increases with a) positive femininity, b) positive masculinity, c) attitudinal recognizability, d) situational recognizability and e) personality recognizability and decreases with f) negative femininity and g) negative masculinity, and h) differs for PoC and non-PoC.

H13: Supportive PSR increases with a) positive femininity, b) positive masculinity, c) attitudinal recognizability, d) situational recognizability, e) personality recognizability and f) wishful identification and decreases with g) negative femininity and h) negative masculinity.

H14: Communicational PSR increases with a) positive femininity, b) positive masculinity, c) attitudinal recognizability, d) situational recognizability, e) personality recognizability and f) wishful identification and decreases with g) negative femininity and h) negative masculinity.

H15: Perceived realism increases with a) positive femininity, b) positive masculinity, c) wishful identification, d) attitudinal recognizability, e) situational recognizability, f) personality recognizability, g) supportive PSR and h) communicational PSR and decreases with i) negative femininity and j) negative masculinity, and k) differs for PoC and non-PoC.

### 3 Methods

#### 3.1 Justification and sampling

A quantitative approach was used to conduct this research, and thus an online survey has been distributed in order to collect the data. Using a quantitative approach allows this research to collect data from many participants as opposed to qualitative research which is in this case particularly interesting since it aims to discover general patterns among a female audience (Babbie, 2011). Additionally, many concepts had to be measured which would have been difficult with a qualitative approach, and this way a bigger sample unit can measure the effects better. Moreover, this study has followed a deductive approach in which general assumptions will become more specific, this is also called a nomothetic explanation (Babbie, 2011; Matveev, 2002).

Due to the large sample size, a quantitative approach permits the results to be generalized to a bigger population which enhances the external validity (Babbie, 2011). Babbie (2011) also explains that external validity increases because the results can be translated into another context. Furthermore, the internal validity is also high due to the carefully conducted research method and procedure (Babbie, 2011). For example, by assigning participants to a random character, there is no bias. Plus, the intended audience was targeted. By using scales from previous studies, the validity is increased because the scales have already been tested, and thus the concepts are operationalized based on peer-reviewed literature. Therefore, the scales measure the concepts correctly. Similarly, the construct validity of this study is high because several concepts which relate to each other are measured. Consequently, a strong correlation between these concepts could exist. This guarantees that the data will be consistent and accurate because adequate measurement instruments have been used (Babbie, 2011). The reliability of this research is high due to the reliability analyses that were conducted. They show that the dimensions per scale sufficiently correlate which increases its internal consistency.

Additionally, this research aims to discover significant effects between *Black Panther: Wakanda Forever* and the female audience in relation to the aforementioned concepts that have been measured. A quantitative analysis enables the chance to measure a cause-and-effect relationship which is very useful for the purpose of this study. This way multiple hypotheses can be tested and reveal whether or not these are true by gathering enough evidence (Matveev, 2002). Also, conducting a survey is easily repeatable (Babbie, 2011; Matveev, 2002), and this would be valuable to other researchers who would like to approach the same type of methodology.

## 3.2 Measurements

The measurements used in this study all deal with how the audience engages with the female characters of the movie. They either rate the characters based on their traits, how they recognize themselves, whether they wish to be like them, feel like they would have a friendship with them and how real they perceive them to be. Then some basic demographics about the participants were asked. See Appendix C for all factor and reliability analyses output.

### 3.2.1 Gender traits

*Gender traits.* The concept of gender traits was measured by using the scale of Berger and Krahe (2013) which contains four subscales, based on positive (Cronbach's  $\alpha = .75$ ) and negative (Cronbach's  $\alpha = .76$ ) femininity and positive (Cronbach's  $\alpha = .77$ ) and negative (Cronbach's  $\alpha = .86$ ) masculinity. Some traits were replaced by appropriate synonyms to make it clearer. It consisted of multiple items per subscale on a 5-point Likert Scale, ranging from 'not at all' to 'extremely'.

#### 3.2.1.1 Factor analysis gender traits scale

The 24 items which were Likert-scale based were entered into an exploratory factor analysis using a Principal Components extraction with Direct Oblimin rotation based on fixed numbers to extract ( $= 4.00$ ),  $KMO = .83$ ,  $\chi^2 (N = 152, 276) = 1596.91$ ,  $p < .001$ . The resultant model explained 54.7% of the variance of the gender traits scale for the characters. Factor loadings of individual items onto the four factors found are presented in Table 1. The factors found were:

*Negative masculinity.* The first factor included seven items about negative aspects related to masculinity, e.g., "arrogant".

*Positive femininity.* Five items were combined in the second factor about positive, feminine traits, such as "loving".

*Positive masculinity.* The third factor found had a total of six items based on positive traits connected to males, for example "analytical".

*Negative femininity.* Five items were combined in the last factor that related to negative, feminine traits, e.g., "overcautious".

Table 1. Factor loadings, explained variance and reliability of the four factors found for the Scale ‘Gender traits’ ( $N = 152$ )

	Negative masculinity	Positive femininity	Positive masculinity	Negative femininity
Cocky	.85			
Arrogant	.83			
Flashy/showy	.73			
Harsh	.63			
Power-hungry	.59			
Inconsiderate	.56			
Irritable	.54			
Passionate		.75		
Sensitive		.74		
Loving		.67		
Emotional		.66		
Emphatic		.61		
Logical			.81	
Solution-focused			.69	
Objective			.65	
Analytical			.62	
Rational			.60	
Practical			.59	
Self-doubting				-.74
Anxious				-.74
Confused				-.70
Overcautious				-.42
Naïve				-.42
Fragile				-.36
$R^2$	.29	.42	.49	.55
<i>Cronbach's <math>\alpha</math></i>	.86	.75	.77	.76

### 3.2.2 Recognizability

*Recognizability.* This concept was measured by the Minority Character Recognizability Scale (MRS) from Żerebecki et al. (2022). This 7-point Likert Scale (strongly

disagree to strongly agree) included three factors, namely personality (Cronbach's  $\alpha = .83$ ), situational (Cronbach's  $\alpha = .86$ ), and attitudinal (Cronbach's  $\alpha = .90$ ). A total of 20 items were included.

### 3.2.2.1 Factor analysis recognizability scale

The 20 items which were Likert-scale based were entered into an exploratory factor analysis using a Principal Components extraction with Direct Oblimin rotation based on fixed numbers to extract ( $= 3.00$ ),  $KMO = .87$ ,  $\chi^2 (N = 152, 190) = 1590.56$ ,  $p < .001$ . The resultant model explained 59.5% of the variance for the recognizability of the audience within the characters. Factor loadings of individual items onto the three factors found are presented in Table 2. The factors found were:

*Attitudinal recognizability.* The first factor included eight items about one's attitude, e.g., "I recognize the decisions of the character as decisions that I could make".

*Situational recognizability.* Seven items were included in the second factor that concerns one's situational awareness, for example "I recognize my life in the life of the character".

*Personality recognizability.* Five items were included in the last factor which are about one's personality, such as "I recognize the strengths of the character as strengths that I have".

Table 2. Factor loadings, explained variance and reliability of the three factors found for the Scale 'Recognizability' ( $N = 152$ )

	Attitudinal recognizability	Situational recognizability	Personality recognizability
I recognize the character's opinions about what is good and bad as opinions I have.	.91		
I recognize the character's opinions about social problems as opinions I have.	.88		
I recognize the character's opinions about other people as opinions I have.	.86		
I recognize the thought processes before decisions of the character as thought processes I have.		.77	

I recognize the decisions of the character as decisions that I could make.	.69	
I recognize the solutions to problems of the character as solutions I could follow.	.66	
I recognize the character's approach to life as an approach to life that I have.	.51	
I recognize the reactions to stressful situations of the character as reactions that I could have.	.39	
I recognize the problems that the character has as the problems that I could have.		.87
I recognize the places, in which I see the character as the places I could be in.		.77
I recognize the past experiences of the character as similar to my past experiences.		.75
I recognize the situations that the character encounters as situations that could also happen to me.		.73
I recognize my life in the life of the character.		.71
I recognize the life changes the character experiences as life changes that could happen to me.		.65
I recognize the topics that the character discusses with others as the topics I could discuss with other people in my life.		.59
I recognize the personality traits of the character as traits that I have.		-.84
I recognize myself in the character.		-.78
I recognize the weaknesses of the		-.77

character as weaknesses that I have.

I recognize the strengths of the character -.73

as strengths that I have.

I recognize the behaviors of the character -.64

as behaviors that I could show.

$R^2$	.37	.14	.09
<i>Cronbach's <math>\alpha</math></i>	.90	.86	.83

### 3.2.3 *Wishful identification*

*Wishful identification.* Hoffner (1996) presents a three-item scale to measure wishful identification (Cronbach's  $\alpha = .86$ ) on a 5-point Likert Scale (strongly disagree to strongly agree) which was adapted.

#### 3.2.3.1 *Factor analysis wishful identification scale*

The three items which were Likert-scale based were entered into an exploratory factor analysis using a Principal Components extraction with Direct Oblimin rotation based on fixed numbers to extract (= 1.00),  $KMO = .66$ ,  $\chi^2 (N = 152, 3) = 285.74$ ,  $p < .001$ . The resultant model explained 78.9% of the variance for the participants wishing to be like the characters. Factor loadings of individual items onto the one factor found are presented in Table 3. The factor found was:

*Wishful identification.* The factor included three items about how much one wishes to be like the character, e.g., “*I wish I could be more like her*”.

Table 3. Factor loadings, explained variance and reliability of one factor found for the Scale ‘Wishful identification’ ( $N = 152$ )

	Wishful identification
She is the sort of person I want to be like myself.	.94
I wish I could be more like her.	.93
I'd like to do the kinds of things she does in the movie.	.79
$R^2$	.79
<i>Cronbach's <math>\alpha</math></i>	.86

### 3.2.4 Parasocial relationships

*Parasocial relationships.* Parasocial relationships was measured by adapting the parasocial friendship scale (Tukachinsky, 2010) which contains 13 items on a 5-point Likert Scale, ranging from strongly disagree to strongly agree. The scale contains two subscales: communication (Cronbach's  $\alpha = .91$ ) and support (Cronbach's  $\alpha = .90$ ).

#### 3.2.4.1 Factor analysis parasocial relationships scale

The 13 items which were Likert-scale based were entered into an exploratory factor analysis using a Principal Components extraction with Direct Oblimin rotation based on fixed numbers to extract ( $= 2.00$ ),  $KMO = .89$ ,  $\chi^2 (N = 152, 78) = 1286.10$ ,  $p < .001$ . The resultant model explained 62.3% of the variance for how the audience experienced parasocial (friendship) relationships with the characters. Factor loadings of individual items onto the two factors found are presented in Table 4. The two factors found were:

*Friendship support.* Ten items were included in the first factor about how the audience would support the characters on a friendship level, such as “*If she was a real person, I would be able to count on her in times of need*”.

*Friendship communication.* Three items were included in the second factor about how the audience would share personal information with the characters on a friendship level, such as “*If she was a real person, I could have disclosed a great deal of things about myself to her*”.

Table 4. Factor loadings, explained variance and reliability of the two factors found for the Scale ‘Parasocial relationships’ ( $N = 152$ )

	Friendship support	Friendship communication
If she was a real person, I could trust her completely.	.83	
If she was a real person, I would will to share my possessions with her.	.83	
I want to promote the well-being of her.	.78	
Sometimes, I wish I could ask her for advice.	.76	
If she was a real person, I would be able to count on her in times of need.	.69	
Sometimes, I wish I knew what she would	.67	



do in my situation.		
If she was a real person, I would give her emotional support.	.64	
If she was a real person, I could have a warm relationship with her.	.63	
If she was a real person, she would be able to count on me in times of need.	.60	
I think she could be a friend of mine.	.55	
If she was a real person, I could have disclosed negative things about myself honestly and fully (deeply) to her.		-.96
If she was a real person, I could have disclosed a great deal of things about myself to her.		-.90
If she was a real person, I could have disclosed positive things about my self honestly and fully (deeply) to her.		-.79
$R^2$	.51	.62
<i>Cronbach's <math>\alpha</math></i>	.90	.91

### 3.2.5 *Perceived realism*

*Perceived realism.* To measure the perceived realism (Cronbach's  $\alpha = .76$ ) of the character among the participants, the 7-point Likert Scale (ranging from 'strongly disagree' to 'strongly agree') from Krakowiak & Oliver (2012) was adapted. This scale contains four items.

#### 3.2.5.1 *Factor analysis perceived realism scale*

The four items which were Likert-scale based were entered into an exploratory factor analysis using a Principal Components extraction with Direct Oblimin rotation based on fixed numbers to extract ( $= 1.00$ ),  $KMO = .74$ ,  $\chi^2 (N = 152, 6) = 175.83$ ,  $p < .001$ . The resultant model explained 59.3% of the variance for how real the audience perceives the characters. Factor loadings of individual items onto the one factor found are presented in Table 5. The factor found was:

*Perceived realism.* Four items were included about how real the audience perceives the characters, such as “*The character was similar to people in real life*”.

Table 5. Factor loadings, explained variance and reliability of one factor found for the Scale ‘Perceived realism’ ( $N = 152$ )

	Perceived realism
The character was similar to people in real life.	.88
The character did not seem like a real person. (R)	.81
The character behaved just like people do in real life.	.81
The character is like someone I know in real life.	.54
$R^2$	.59
<i>Cronbach’s <math>\alpha</math></i>	.76

### 3.2.6 Demographics

*Demographics.* Participants were also asked about their age, sex, country, ethnicity/race and if they have seen and are familiar with certain characters from the movie.

### 3.3 Stimulus materials

The movie *Black Panther: Wakanda Forever*, which was released in 2022, follows the story of Princess Shuri, her mother and Wakandan warriors after the passing of her brother who was King of Wakanda. Alongside her mother and the Wakandan warriors (such as the Dora Milaje) they are tasked with protecting and defending their country from invaders. The movie heavily relies on its female protagonists.

The reason why Shuri, Nakia, Okoye and Queen Ramonda (see Appendix B) have been chosen is because they are the four female characters who are mostly the protagonists of the movie (excluding the male characters). The four of them all have different traits and roles in the movie. Shuri is clearly the main character of the movie and around her Nakia, Okoye and Queen Ramonda are very prominent. Shuri is a girl known to be very tech savvy, intelligent, resilient, vulnerable but also shows that there is an angrier side to her, which is caused by the grief she is dealing with. Okoye, on the other hand, is a character who is portrayed to be very powerful, passionate, and strong. Nakia is an empathetic woman who shows a very prominent caring and intelligent side of her. Meanwhile, Queen Ramonda can be described as a classy, strong, and courageous woman. Though there are some similarities between the women, there are plenty of differences between them as well. This is also the

reason why Marvel fans are being targeted because they have more knowledge about the characters than a standard moviegoer.

### **3.4 Procedure**

The survey (see Appendix A), made by using the program Qualtrics, consisted mostly of scales (as a way to operationalize the aforementioned concepts) and other various questions such as basic demographics (age, gender, nationality and race/ethnicity) and consent. Firstly, the survey explained what the research is about, what its purpose is, and it gave participants the opportunity to reach out to the researcher for further questions. Additionally, they were briefed to quit at any given time should they desire this, and only to participate if they were 18 years or older. The survey also included three filter questions, namely asking the participants whether they identify as female (this was done to make the study inclusive since males and non-binary people can also identify as females), have seen the movie *Black Panther: Wakanda Forever* and if they are familiar with certain female characters. When ‘no’ was chosen as the answer, the participants were redirected towards the end of the survey. All participants were shown one of the four stimulus materials, which involved four female characters from the movie. This was made possible by including the randomization function in Qualtrics. Then, the participants were asked to fill out the gender traits scale in regards to their perception of the given character. Next, the recognizability, wishful identification and parasocial relationships scales were shown. After this, a short ‘perceived realness’ scale was presented to them. All scales were adjusted accordingly for the purpose of the research. For example, ‘the character’ was changed into ‘she’ in certain items. Lastly, the participants were asked to fill out basic demographics which included age, gender, nationality and race/ethnicity.

Before the survey was distributed, it was pre-tested for which it was sent to ten people who gave feedback on possible unclarities. Their feedback was incorporated and adjusted accordingly to make matters clearer. For instance, certain words from the gender traits scale were changed into simpler and more understandable synonyms. The survey was distributed on several Marvel Facebook groups and Marvel Reddit pages to reach the correct audience, namely Marvel fans who are familiar with the movie. Furthermore, snowball sampling was used in order to gain more participants. The survey was shared on social media platforms like Facebook, LinkedIn, WhatsApp, Instagram, Twitter and Tumblr.

### **3.5 Sample**

A total of 339 responses were recorded on SPSS ( $N = 339$ ). After data cleaning, 152 responses remained ( $N = 152$ ). Data cleaning included removing all responses that were not filled out sufficiently and participants who were redirected towards the end of the survey after they did not meet the criteria for the filter questions. In the sample the percentage of women is 95.4%, the male percentage is .7%, non-binary 2.6% and the option 'prefer not to say' 1.3%. Participants' average age was 31.06 ( $SD = 10.04$ ). Due to the international nature of the approached groups, the sample obtained a total of 35 different nationalities with the most prominent being the United States of America (32.2%), the Netherlands (13.2%), and the United Kingdom (12.5%). The most named ethnicity/race was White/Caucasian (65.8%) followed by Asian/Pacific Islander (14.5%) and multiple ethnicity/other (9.2%).

## 4 Results

### 4.1 Differences between the characters

Multiple one-way ANOVA analyses (see Appendices D and E for all the SPSS output) were conducted for all four characters to reveal if they are perceived differently by the participants for the dependent variables.

*Positive masculinity.* An ANOVA was conducted with the characters as IV and positive masculinity as DV. ANOVA revealed no significant main effect for the characters on positive masculinity,  $F(3, 148) = 0.83, p = .480$ , partial  $\eta^2 = .02$  ( $\neq$  H7a,b; H8a,b).

*Positive femininity.* An ANOVA was conducted with the characters as IV and positive femininity as DV. ANOVA revealed a significant main effect for the characters on positive femininity,  $F(3, 148) = 10.62, p < .001$ , partial  $\eta^2 = .18$ . Turkey post-hoc comparisons revealed that Nakia significantly showed more positive femininity ( $M = 3.59, SD = 0.58$ ) than Okoye ( $M = 3.17, SD = 0.70$ ),  $p = .016$  ( $=$  H2a). The comparisons also revealed that Shuri significantly showed more positive femininity ( $M = 3.78, SD = 0.63$ ) than Okoye ( $M = 3.17, SD = 0.70$ ),  $p < .001$  ( $=$  H3). Lastly, Queen Ramonda significantly showed more positive femininity ( $M = 3.85, SD = 0.49$ ) than Okoye ( $M = 3.17, SD = 0.70$ ),  $p < .001$  ( $=$  H1a). No other comparison reached significance ( $\neq$  H1b; H2b).

*Negative femininity.* An ANOVA was conducted with the characters as IV and negative femininity as DV. ANOVA revealed a significant main effect for the characters on negative femininity,  $F(3, 148) = 5.24, p = .002$ , partial  $\eta^2 = .10$ . Turkey post-hoc comparisons revealed that Shuri significantly showed more negative femininity ( $M = 2.04, SD = 0.55$ ) than Okoye ( $M = 1.54, SD = 0.52$ ),  $p = .002$  ( $=$  H4c). The comparisons also revealed that Shuri significantly showed more negative femininity ( $M = 2.04, SD = 0.55$ ) than Queen Ramonda ( $M = 1.61, SD = 0.58$ ),  $p = .008$  ( $=$  H4a). No other comparison reached significance ( $\neq$  H4b).

*Negative masculinity.* An ANOVA was conducted with the characters as IV and negative masculinity as DV. ANOVA revealed a significant main effect for the characters on negative masculinity,  $F(3, 148) = 3.75, p = .012$ , partial  $\eta^2 = .07$ . Turkey post-hoc comparisons revealed that Shuri significantly showed more negative masculinity ( $M = 2.04, SD = 0.61$ ) than Nakia ( $M = 1.56, SD = 0.81$ ),  $p = .036$  ( $=$  H6a). The comparisons also revealed that Okoye significantly showed more negative masculinity ( $M = 2.08, SD = 0.67$ ) than Nakia ( $M = 1.56, SD = 0.81$ ),  $p = .015$  ( $=$  H5a). No other comparison reached significance ( $\neq$  H5b; H6b).

*Attitudinal recognizability.* An ANOVA was conducted with the characters as IV and attitudinal recognizability as DV. ANOVA revealed no significant main effect for the characters on attitudinal recognizability,  $F(3, 148) = 1.35, p = .260$ , partial  $\eta^2 = .03$ .

*Situational recognizability.* An ANOVA was conducted with the characters as IV and situational recognizability as DV. ANOVA revealed no significant main effect for the characters on situational recognizability,  $F(3, 148) = 1.04, p = .379$ , partial  $\eta^2 = .02$ .

*Personality recognizability.* An ANOVA was conducted with the characters as IV and personality recognizability as DV. ANOVA revealed no significant main effect for the characters on personality recognizability,  $F(3, 148) = 0.59, p = .624$ , partial  $\eta^2 = .01$ .

*Communicational PSR.* An ANOVA was conducted with the characters as IV and communicational parasocial friendship as DV. ANOVA revealed no significant main effect for the characters on communicational parasocial friendship,  $F(3, 148) = 1.33, p = .268$ , partial  $\eta^2 = .03$ .

*Supportive PSR.* An ANOVA was conducted with the characters as IV and supportive parasocial friendship as DV. ANOVA revealed no significant main effect for the characters on supportive parasocial friendship,  $F(3, 148) = 1.42, p = .239$ , partial  $\eta^2 = .03$ .

*Wishful identification.* An ANOVA was conducted with the characters as IV and wishful identification as DV. ANOVA revealed no significant main effect for the characters on wishful identification,  $F(3, 148) = 0.44, p = .727$ , partial  $\eta^2 = .01$ .

*Perceived realism.* An ANOVA was conducted with the characters as IV and perceived realism as DV. ANOVA revealed no significant main effect for the characters on perceived realism,  $F(3, 148) = 1.11, p = .348$ , partial  $\eta^2 = .02$ .

#### 4.2 Differences between PoC participants and non-PoC participants

Several t-tests were conducted to discover whether PoC participants score differently for the dependent variables than non-PoC participants. The t-tests show that several hypotheses have to be rejected. Namely, H9, H10 and H11. Table 6 shows these results.

*Table 6.* Sample descriptives using t-tests for differences between PoC and non-PoC participants.

	PoC		Non-PoC		t-test
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Positive masculinity	3.72	0.70	3.74	0.54	$t(150) = 0.17$

Positive femininity	3.70	0.73	3.54	0.62	$t(150) = -1.50$
Negative femininity	1.88	0.72	1.63	0.55	$t(150) = -2.47^*$
Negative masculinity	1.96	0.92	1.86	0.63	$t(77.068) = -0.71$
Attitudinal recognizability	4.59	1.28	4.37	1.03	$t(150) = -1.15$
Situational recognizability	3.12	1.39	2.98	1.02	$t(80.393) = -0.62$
Personality recognizability	3.95	1.22	3.87	1.05	$t(150) = -0.43$
Communicational PSR	3.45	1.16	3.50	1.11	$t(150) = 0.28$
Supportive PSR	3.66	0.91	3.73	0.76	$t(150) = 0.48$
Wishful identification	3.50	1.18	3.60	0.95	$t(150) = 0.57$
Perceived realism	4.50	1.25	4.38	1.12	$t(150) = -0.58$

*Significance: \*  $p < .050$*

*Note. M = Mean. SD = Standard Deviation.*

### 4.3 Predicting wishful identification, PSR and perceived realism with character engagement variables

Four hierarchical regression analyses were conducted with wishful identification, communicational PSR, supportive PSR and perceived realism as criterion. Predictors were the gender traits subscales added in the first block, recognizability subscales added in the second block, wishful identification added in the third block and PSR subscales added in the fourth block. A summary of these analyses can be found in Table 7, Table 8, Table 9, and Table 10.

*Table 7. Standardized beta coefficients for hierarchical regression analyses predicting wishful identification with gender traits and recognizability.*

	<b>Model 1</b>	<b>Model 2</b>
Positive masculinity	.42***	.22**
Positive femininity	.14	.07
Negative femininity	.04	-.06
Negative masculinity	-.11	-.03
Attitudinal recognizability		.34***
Situational recognizability		.09

Personality recognizability		.18
	$R^2 = .26$	$\Delta R^2 = .20$
	$F(4, 147) = 12.92, p < .001$	$F(3, 144) = 18.05, p < .001$

*Significance: \*  $p < .050$ , \*\*  $p < .010$ , \*\*\*  $p < .001$*

A hierarchical regression analysis was conducted with wishful identification score as criterion. Gender traits subscales were included in the first block and recognizability subscales were added in the second block. Table 7 shows significance for positive masculinity as a predictor of wishful identification and a positive relationship which means H12b can be accepted. Furthermore, there was significance found for attitudinal recognizability and a positive direction. Hence, H12c can also be accepted. However, no other significant results were found. Thus, H12a, H12d, H12e, H12f and H12g have to be rejected.

*Table 8. Standardized beta coefficients for hierarchical regression analyses predicting communicational PSR with gender traits, recognizability and wishful identification.*

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Positive masculinity	.30***	.13	.06
Positive femininity	.20*	.14	.12
Negative femininity	.21*	.14	.16
Negative masculinity	-.17	-.10	-.09
Attitudinal recognizability		.36***	.26**
Situational recognizability		-.00	-.03
Personality recognizability		.06	.01
Wishful identification			.30**
	$R^2 = .20$	$\Delta R^2 = .12$	$\Delta R^2 = .05$
	$F(4, 147) = 8.96,$ $p < .001$	$F(3, 144) = 8.03,$ $p < .001$	$F(1, 143) = 11.07,$ $p = .001$

*Significance: \*  $p < .050$ , \*\*  $p < .010$ , \*\*\*  $p < .001$*



A hierarchical regression analysis was conducted with communicational parasocial relationship score as criterion. Gender traits subscales were included in the first block, recognizability subscales were added in the second block and wishful identification was added in the third block. The results in Table 8 show significance and a positive direction for positive masculinity, as well as positive femininity. So, H13a and H13b can be accepted. Surprisingly, there was a significance found for negative femininity. However, in a positive relationship which was against the assumption. Therefore, H13g has to be rejected. Attitudinal recognizability also showed significance and a positive direction; H13c is accepted. No further results show significance. Hence, H13d, H13e, H13f and H13h are rejected.

*Table 9.* Standardized beta coefficients for hierarchical regression analyses predicting supportive PSR with gender traits, recognizability and wishful identification.

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Positive masculinity	.44***	.22**	.13
Positive femininity	.04	-.03	-.06
Negative femininity	.19*	.11	.13
Negative masculinity	-.25**	-.16	-.14
Attitudinal recognizability		.49***	.36***
Situational recognizability		-.01	-.05
Personality recognizability		.06	-.01
Wishful identification			.40***
	$R^2 = .29$	$\Delta R^2 = .20$	$\Delta R^2 = .09$
	$F(4, 147) = 15.08,$	$F(3, 144) = 18.75,$	$F(1, 143) = 28.52,$
	$p < .001$	$p < .001$	$p < .001$

*Significance:* \*  $p < .050$ , \*\*  $p < .010$ , \*\*\*  $p < .001$

A hierarchical regression analysis was conducted with supportive parasocial relationship score as criterion. Gender traits subscales were included in the first block, recognizability subscales were added in the second block and wishful identification was added in the third block. The variable positive masculinity showed significance and a positive direction which means H14b can be accepted. Negative masculinity also showed significance

and a negative relationship which was assumed. Therefore, H14h is also accepted. Attitudinal recognizability and wishful identification both show significance and positive relationships. H14c and H14f are accepted. No further significances were found, so H14a, H14d, H14e and H14g are rejected.

*Table 10.* Standardized beta coefficients for hierarchical regression analyses predicting perceived realism with gender traits, recognizability, wishful identification and PSR.

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Positive masculinity	.05	-.13	-.13	-.16
Positive femininity	.18*	.12	.12	.09
Negative femininity	.07	-.03	-.03	-.08
Negative masculinity	-.35***	-.27**	-.27**	-.24**
Attitudinal recognizability		.34***	.33***	.23*
Situational recognizability		.14	.14	.15*
Personality recognizability		.09	.09	.09
Wishful identification			.01	-.10
Communicational PSR				.25**
Supportive PSR				.10
	$R^2 = .18$	$\Delta R^2 = .18$	$\Delta R^2 = .00$	$\Delta R^2 = .05$
	$F(4, 147) = 8.04, p < .001$	$F(3, 144) = 13.09, p < .001$	$F(1, 143) = 0.02, p = .904$	$F(2, 141) = 6.04, p = .003$

*Significance:* \*  $p < .050$ , \*\*  $p < .010$ , \*\*\*  $p < .001$

A hierarchical regression analysis was conducted with perceived realism score as criterion. Gender traits subscales were included in the first block, recognizability subscales were added in the second block, wishful identification was added in the third block and the

parasocial relationship subscales were added in the fourth block. In Table 10 the results show that positive femininity is significant and shows a positive direction. This means H15a can be accepted. Furthermore, negative masculinity shows significance and a negative relationship which is in accordance with H15j. This hypothesis can be accepted. Attitudinal and situational recognizability, as well as communicational parasocial relationships show significance in a positive direction. Thus, H15d, H15e and H15h are accepted. No further significant results are found. Hence, H15b, H15c, H15f, H15g and H15i are rejected.

#### 4.4 Predicting wishful identification, PSR and perceived realism with character engagement variables for PoC participants vs non-PoC participants

Four hierarchical regression analyses were conducted with wishful identification, communicational PSR, supportive PSR and perceived realism as criterion. However, this time participants of colour and white participants were separated. Predictors were the gender traits subscales added in the first block, recognizability subscales added in the second block, wishful identification added in the third block and PSR subscales added in the fourth block. A summary of these analyses can be found in Table 11, Table 12, Table 13, and Table 14.

*Table 11.* Standardized beta coefficients for hierarchical regression analyses predicting wishful identification with gender traits and recognizability.

	<b>Model 1</b>	<b>Model 2</b>
<b>Non-PoC</b>		
Positive masculinity	.41***	.27**
Positive femininity	.11	.05
Negative femininity	.10	.07
Negative masculinity	-.14	-.05
Attitudinal		.39***
recognizability		
Situational		.05
recognizability		
Personality		.04
recognizability		
	$R^2 = .22$	$\Delta R^2 = .15$
	$F(4, 95) = 6.55, p < .001$	$F(3, 92) = 7.12, p < .001$

PoC

Positive masculinity	.42**	.13
Positive femininity	.19	.14
Negative femininity	-.03	-.23
Negative masculinity	-.05	.06
Attitudinal recognizability		.32*
Situational recognizability		.14
Personality recognizability		.35**
$R^2 = .33$		$\Delta R^2 = .35$
$F(4, 47) = 5.72, p < .001$		$F(3, 44) = 15.53, p < .001$

*Significance: \*  $p < .050$ , \*\*  $p < .010$ , \*\*\*  $p < .001$*

A hierarchical regression analysis was conducted with wishful identification score as criterion. Gender traits subscales were included in the first block and recognizability subscales were added in the second block.

*Table 12.* Standardized beta coefficients for hierarchical regression analyses predicting communicational PSR with gender traits, recognizability and wishful identification.

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Non-PoC			
Positive masculinity	.24*	.09	.00
Positive femininity	.16	.09	.08
Negative femininity	.16	.15	.12
Negative masculinity	-.25*	-.17	-.16
Attitudinal recognizability		.31*	.19
Situational recognizability		-.10	-.11
Personality recognizability		.12	.10

Wishful identification			.31**
	$R^2 = .17$	$\Delta R^2 = .09$	$\Delta R^2 = .06$
	$F(4, 95) = 4.73, p = .002$	$F(3, 92) = 3.64, p = .016$	$F(1, 91) = 7.99, p = .006$
PoC			
Positive masculinity	.36*	.08	.04
Positive femininity	.34*	.31*	.27*
Negative femininity	.27	.10	.16
Negative masculinity	-.03	.08	.06
Attitudinal recognizability		.48**	.39*
Situational recognizability		.18	.14
Personality recognizability		-.05	-.15
Wishful identification			.26
	$R^2 = .32$	$\Delta R^2 = .21$	$\Delta R^2 = .02$
	$F(4, 47) = 5.48, p = .001$	$F(3, 44) = 6.30, p = .001$	$F(1, 43) = 2.16, p = .149$

Significance: \*  $p < .050$ , \*\*  $p < .010$ , \*\*\*  $p < .001$

A hierarchical regression analysis was conducted with communicational parasocial relationship score as criterion. Gender traits subscales were included in the first block, recognizability subscales were added in the second block and wishful identification was added in the third block.

Table 13. Standardized beta coefficients for hierarchical regression analyses predicting supportive PSR with gender traits, recognizability and wishful identification.

	Model 1	Model 2	Model 3
Non-PoC			

Positive masculinity	.36**	.12	-.02
Positive femininity	.04	-.06	-.08
Negative femininity	.19	.17	.13
Negative masculinity	-.28*	-.15	-.12
Attitudinal recognizability		.54***	.34***
Situational recognizability		-.12	-.14
Personality recognizability		.10	.08
Wishful identification			.51***
<hr/>			
	$R^2 = .23$	$\Delta R^2 = .23$	$\Delta R^2 = .17$
	$F(4, 95) = 7.24, p < .001$	$F(3, 92) = 12.77, p < .001$	$F(1, 91) = 40.47, p < .001$
<hr/>			
PoC			
Positive masculinity	.58***	.30*	.28
Positive femininity	.01	-.03	-.05
Negative femininity	.22	.07	.10
Negative masculinity	-.22	-.13	-.14
Attitudinal recognizability		.49**	.45**
Situational recognizability		.09	.07
Personality recognizability		.01	-.04
Wishful identification			.13
<hr/>			
	$R^2 = .39$	$\Delta R^2 = .19$	$\Delta R^2 = .01$
	$F(4, 47) = 7.52, p < .001$	$F(3, 44) = 6.76, p < .001$	$F(1, 43) = 0.55, p = .464$
<hr/>			

Significance: \*  $p < .050$ , \*\*  $p < .010$ , \*\*\*  $p < .001$

A hierarchical regression analysis was conducted with supportive parasocial relationship score as criterion. Gender traits subscales were included in the first block, recognizability subscales were added in the second block and wishful identification was added in the third block.

*Table 14. Standardized beta coefficients for hierarchical regression analyses predicting perceived realism with gender traits, recognizability, wishful identification and PSR.*

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Non-PoC				
Positive masculinity	-.08	-.19	-.20	-.20
Positive femininity	.15	.09	.09	.07
Negative femininity	.13	.08	.08	.04
Negative masculinity	-.41***	-.34**	-.34**	-.29**
Attitudinal recognizability		.31**	.30*	.23
Situational recognizability		.18	.18	.22*
Personality recognizability		.09	.09	.06
Wishful identification			.03	-.09
Communicational PSR				.29**
Support PSR				.06
	$R^2 = .16$	$\Delta R^2 = .19$	$\Delta R^2 = .00$	$\Delta R^2 = .06$
	$F(4, 95) = 4.57, p = .002$	$F(3, 92) = 8.67, p < .001$	$F(1, 91) = 0.06, p = .804$	$F(2, 89) = 4.86, p = .010$

PoC				
Positive masculinity	.24	-.00	.00	-.05
Positive femininity	.13	.09	.09	.02
Negative femininity	-.04	-.18	-.19	-.25
Negative masculinity	-.26	-.18	-.17	-.18
Attitudinal recognizability		.36*	.38*	.20
Situational recognizability		.07	.08	.02
Personality recognizability		.13	.15	.20
Wishful identification			-.05	-.15
Communicational PSR				.31
Support PSR				.13
	$R^2 = .27$	$\Delta R^2 = .17$	$\Delta R^2 = .00$	$\Delta R^2 = .05$
	$F(4, 47) = 4.41, p = .004$	$F(3, 44) = 4.32, p = .009$	$F(1, 43) = 0.07, p = .787$	$F(2, 41) = 2.13, p = .132$

*Significance: \*  $p < .050$ , \*\*  $p < .010$ , \*\*\*  $p < .001$*

A hierarchical regression analysis was conducted with perceived realism score as criterion. Gender traits subscales were included in the first block, recognizability subscales were added in the second block, wishful identification was added in the third block and the parasocial relationship subscales were added in the fourth block.



Table 15. Summary of hypotheses.

	<i>Hypotheses</i>	<i>Accepted</i>	<i>Rejected</i>
H1	Queen Ramonda scores higher for positive femininity than a) Okoye and b) Shuri.	H1a	H1b
H2	Nakia scores higher for positive femininity than a) Okoye and b) Shuri.	H2a	H2b
H3	Shuri scores higher for positive femininity than Okoye.	H3	
H4	Shuri scores higher for negative femininity than a) Queen Ramonda, b) Nakia and c) Okoye.	H4a,c	H4b
H5	Okoye scores higher for negative masculinity than a) Nakia and b) Queen Ramonda.	H5a	H5b
H6	Shuri scores higher for negative masculinity than a) Nakia and b) Queen Ramonda.	H6a	H6b
H7	Nakia scores higher for positive masculinity than a) Shuri and b) Okoye.		H7a,b
H8	Queen Ramonda scores higher for positive masculinity than a) Shuri and b) Okoye.		H8a,b
H9	PoC score higher on wishful identification than non-PoC.		H9
H10	PoC score higher on situational recognizability than non-PoC.		H10
H11	PoC score higher on perceived realism than non-PoC.		H11
H12	Wishful identification increases with a) positive femininity, b) positive masculinity, c) attitudinal recognizability, d) situational recognizability and e) personality recognizability and decreases with f) negative femininity and g) negative masculinity, and h) differs for PoC and non-PoC.	H12b,c	H12a,d,e,f,g,h
H13	Supportive PSR increases with a) positive femininity, b) positive masculinity, c) attitudinal recognizability, d) situational recognizability, e) personality recognizability and f) wishful identification and decreases with g) negative femininity and h) negative masculinity.	H13a,b,c	H13d,e,f,g,h

H14	<p>Communicational PSR increases with a) positive femininity, b) positive masculinity, c) attitudinal recognizability, d) situational recognizability, e) personality recognizability and f) wishful identification and decreases with g) negative femininity and h) negative masculinity.</p>	H14b,c,f,h	H14a,d,e,g
H15	<p>Perceived realism increases with a) positive femininity, b) positive masculinity, c) wishful identification, d) attitudinal recognizability, e) situational recognizability, f) personality recognizability, g) supportive PSR and h) communicational PSR and decreases with i) negative femininity and j) negative masculinity, and k) differs for PoC and non-PoC.</p>	H15a,d,e,h,j	H15b,c,f,g,I,k

## 5 Conclusion

### 5.1 Findings

This research aimed to investigate to what extent the female audience engages with the several female characters from the film *Black Panther: Wakanda Forever*. This study sought to discover to what extent the female audience felt connected and related to the characters because they are portrayed as strong leads and not very stereotyped as opposed to previous Hollywood films, and to verify how the audience interprets the characters based on their traits. Furthermore, the diverse female participants allowed this research to delve deeper into how participants of colour versus white participants engaged with the characters. Previous research found that many female characters were still portrayed as stereotypes and people of colour have a tendency to relate stronger to characters of colour than white people. Built upon existing literature and theories, hypotheses were formulated.

The first eight hypotheses focus on the characters and their gender traits, more specifically how the participants rate their traits. Various of these were accepted, which means that, as expected, characters like Okoye and Shuri showed negative masculinity more significantly than Nakia, whereas Queen Ramonda and Nakia score higher on positive femininity than Okoye. This shows how female characters are also interpreted as masculine, instead of only feminine. As opposed to Dinella et al. (2017), it promises that female characters are shown as non-stereotypical. This means that the portrayals of females and minorities are gradually changing in blockbusters (Erigha, 2015; Kumar et al., 2022; Yang et al., 2020), which is good because the female and minority audiences are represented in a less stereotypical manner.

Additionally, the ANOVA's revealed no significant main effects for any other concepts outside of gender traits. This means that all characters were perceived by the participants in the same way, meaning they perceived them all as real and rated them similarly for recognizability, wishful identification and parasocial relationships.

As previous literature suggested (Bui, 2017; González-Velázquez et al., 2020), people of colour tend to have a deeper relationship or connection to characters of colour. Some hypotheses were based on this accordingly, such as participants of colour scoring higher for recognizability because they might feel more familiar with some customs in minority cultures, and assuming there might be differences between PoC and non-PoC when predicting wishful identification and perceived realism with other variables. However, none of these hypotheses were true in this case. This could be because there were less participants of colour compared to white participants. However, another cause for this could be because all participants related

in the same way to these female characters and perceived them beyond looking at their racial background. We live in a time where people of all races and ethnicities increasingly accept each other which could be a reason for this. Furthermore, these characters are part of the well-known Marvel franchise, which means many types of people have seen these movies and are familiar with the characters and do not necessarily pay much attention to differences in racial portrayals. This is because Marvel movies have a wide reach of audiences globally.

Based on the findings, participants appreciate positive masculinity within a female character because it increases the wishful identification, supportive parasocial relationship and communicational parasocial relationship scores. This shows that some of the characters were not stereotyped with just feminine traits, but they are able to have traits that are often associated with males. Furthermore, participants who recognized themselves within the characters on an attitudinal level showed higher wishful identification. Thus, recognizing one's attitude towards certain matters shows that the participants have a wishful desire to be like that character which shows a positive impact on the audience. This also explains the relationship between wishful identification and recognizability (Żerebecki et al., 2022).

Results also showed that negative masculinity traits are not well received amongst the participants since it decreases the communicational parasocial relationships score. This indicates that participants do not feel comfortable sharing matters with the characters when they show traits associated with negative masculinity, which include arrogance and boastfulness.

The hierarchical regression analyses show in several cases that adding certain concepts as predictors of variables significantly improves the model. Therefore, it is important to take more variables into consideration when trying to predict certain variables. It helps to understand that these variables are correlated and add more strength and value to predicting concepts. Similarly, Żerebecki et al. (2022) stated that most concepts like recognizability, wishful identification and parasocial relationships are similar and positively correlate to each other.

## **5.2 Limitations and suggestions for future research**

Several limitations in this study could have impacted the results. Firstly, the number of white participants versus participants of colour has to be mentioned because there was quite a difference. Compared to participants of colour, there were almost twice as much white participants. Had this been different and more evenly distributed, the results could have been different and maybe other findings would have been presented. Furthermore, the sample size

could have been bigger. Perhaps this could have led to different results and more significances could be reached. However, many participants quit filling out the survey because it was quite lengthy. Would this not have been the case; more respondents could have completed the survey. Additionally, short-term research was conducted. This entails that the results are relevant for now, especially since the movie has just come out and is quite unique in the sense that not many Hollywood blockbusters focus on black female characters and minority cultures. In a couple of years if the same study is conducted, the results could be different because media products evolve constantly and the chance that more movies featuring strong, non-stereotyped female lead characters are on the way is quite big. The fact that the results might change overtime can slightly reduce the test-retest reliability.

The results of this study can potentially offer new insights in the field of character portrayals and minority representation in media as it thoroughly discusses audience engagement with female superhero portrayals and confirms that positive change is gradually happening. Furthermore, it has implemented multiple theories such as wishful identification, gender traits, perceived realism and parasocial relationships. Especially recognizability is interesting to look at since that is a fairly new concept within this field. As for societal implications, these results can be of interest to content creators. They could gain new insights from these results, such as how the female audience perceives culturally diverse representations of female superheroes and how their gender is portrayed.

This research focuses on how female audiences engage with female characters. However, it could be interesting to research how males engage with these characters. Some people believe that males cannot relate to female characters the way that females can relate to and engage with male characters. However, with females now being shown as strong leads and non-stereotyped, this might also change for how males view them. It would be interesting to find out if there would be a difference for stereotypical portrayals of females and non-stereotypical portrayals. Another interesting aspect to research would be to focus on how male characters are portrayed in blockbuster movies in regard to gender traits. Especially since previous research has shown males to be portrayed as strong and arrogant (Dinella et al., 2017). Besides this, an interesting angle for future research could also be to conduct interviews and specify how audiences really feel about the portrayals of female characters and what their preferences are. With qualitative research, such as interviews or focus groups, researchers are able to dive deeper into how an audience member thinks by asking specific questions. This could generate some interesting theories into what an audience member seeks in a good, non-stereotypical female character.

Many concepts were part of this study which is why a lot had to be analysed. However, by focusing on just a few of these concepts in one research, more could be revealed as the researcher could pay extra attention to these concepts.

### **5.3 Conclusion**

All in all, some assumptions of this research were found to be accepted while several had to be rejected. The results from the conducted analyses showed interesting results that were interpreted and compared to previous research. It shows progression in the portrayals of female lead characters in blockbuster movies as some were perceived differently from each other. Therefore, not all female characters were stereotyped which was often the case in movies from decades ago. Furthermore, it was found that people of colour had no huge differences in the way they engaged with the characters compared to white people, which contrasts to existing literature. The takeaways from this research then highlight the importance of continuing to develop strong, female characters without stereotypical portrayals as audience members seem to appreciate this. Hollywood is also encouraged to include more diverse female lead characters in their movies.

## References

- Alola, M. I., & Alola, U. V. (2020). Gender stereotypes in Nigerian films as a portrayal of the African womanhood: A feminist perspective. *Journal of Labor and Society*, 23(2), 221-243. <https://doi.org/10.1111/wusa.12465>
- Babbie, E. (2011). *Introduction to social research* (5th ed.). Belmont, CA: Thomson Wadsworth.
- Berger, A., & Krahe, B. (2013). Negative attributes are gendered too: Conceptualizing and measuring positive and negative facets of sex-role identity. *European Journal of Social Psychology*, 43(6), 516-531. DOI: 10.1002/ejsp.1970
- Besana, T., Katsiaficas, D., & Loyd, A. B. (2019). Asian American media representation: A film analysis and implications for identity development. *Research in Human Development*, 16(3-4), 201-225. <https://doi.org/10.1080/15427609.2020.1711680>
- Bond, B. J. (2021). The development and influence of parasocial relationships with television characters: A longitudinal experimental test of prejudice reduction through parasocial contact. *Communication Research*, 48(4), 573-593. <https://doi.org/10.1177/0093650219900632>
- Bucciferro, C. (2021). Representations of gender and race in Ryan Coogler's film *Black Panther*: disrupting Hollywood tropes. *Critical Studies in Media Communication*, 38(2), 169-182. <https://doi.org/10.1080/15295036.2021.1889012>
- Bui, N. H. (2017). Exploring similarity characteristics, identification, and parasocial interactions in choice of celebrities. *Psychology of popular media culture*, 6(1), 21. <https://doi.org/10.1037/ppm0000082>
- Busselle, R., & Bilandzic, H. (2008). Fictionality and perceived realism in experiencing stories: A model of narrative comprehension and engagement. *Communication theory*, 18(2), 255-280. doi:10.1111/j.1468-2885.2008.00322.x
- Dinella, L. M., Claps, J. M., & Lewandowski Jr, G. W. (2017). Princesses, princes, and superheroes: Children's gender cognitions and fictional characters. *The Journal of Genetic Psychology*, 178(5), 262-280. <http://dx.doi.org/10.1080/00221325.2017.1351417>
- Erigha, M. (2015). Race, gender, Hollywood: Representation in cultural production and digital media's potential for change. *Sociology compass*, 9(1), 78-89. DOI: 10.1111/soc4.12237
- González-Velázquez, C. A., Shackelford, K. E., Keller, L. N., Vinney, C., & Drake, L. M. (2020). Watching *Black Panther* with racially diverse youth: relationships between

- film viewing, ethnicity, ethnic identity, empowerment, and wellbeing. *Review of Communication*, 20(3), 250-259. <https://doi.org/10.1080/15358593.2020.1778067>
- Hall, A. E. (2022). Audience responses to diverse superheroes: The roles of gender and race in forging connections with media characters in superhero franchise films. *Psychology of Aesthetics, Creativity, and the Arts*, 16(3), 414–425. <https://doi.org/10.1037/aca0000363>
- Hoffner, C. (1996). Children's wishful identification and parasocial interaction with favorite television characters. *Journal of Broadcasting & Electronic Media*, 40(3), 389-402. DOI: 10.1080/08838159609364360
- Hoffner, C., & Buchanan, M. (2005). Young adults' wishful identification with television characters: The role of perceived similarity and character attributes. *Media psychology*, 7(4), 325-351. [https://doi.org/10.1207/S1532785XMEP0704\\_2](https://doi.org/10.1207/S1532785XMEP0704_2)
- Howard, H. (2016, February 28). *10 quotes on Hollywood diversity from your favorite actresses*. Teen Vogue. <https://www.teenvogue.com/gallery/10-actresses-quotes-hollywood-diversity>
- Hu, M. (2016). The influence of a scandal on parasocial relationship, parasocial interaction, and parasocial breakup. *Psychology of Popular Media Culture*, 5(3), 217–231. <https://doi.org/10.1037/ppm0000068>
- Kagan, D., Chesney, T., & Fire, M. (2020). Using data science to understand the film industry's gender gap. *Palgrave Communications*, 6(1), 1-16. Retrieved from <https://www.nature.com/articles/s41599-020-0436-1>
- Krakowiak, K. M., & Oliver, M. B. (2012). When good characters do bad things: Examining the effect of moral ambiguity on enjoyment. *Journal of Communication*, 62(1), 117-135. <https://doi.org/10.1111/j.1460-2466.2011.01618.x>
- Kumar, A. M., Goh, J. Y., Tan, T. H., & Siew, C. S. (2022). Gender stereotypes in Hollywood movies and their evolution over time: Insights from network analysis. *Big Data and Cognitive Computing*, 6(2), 50-82. <https://doi.org/10.3390/bdcc6020050>
- León González, M. P., Infantes-Paniagua, A., Thornborrow, T., & Contreras Jordán, O. (2020). Associations between media representations of physical, personality, and social attributes by gender: A content analysis of children's animated film characters. *International Journal of Communication*, 14(2020), 6026–6048.
- Matveev, A. V. (2002). The advantages of employing quantitative and qualitative methods in intercultural research: Practical implications from the study of the perceptions of intercultural communication competence by American and Russian managers. *Theory*



- of communication and applied communication*, 1(6), 59-67. Retrieved from [http://www.russcomm.ru/eng/rca\\_biblio/m/matveev01\\_eng.shtml](http://www.russcomm.ru/eng/rca_biblio/m/matveev01_eng.shtml)
- Morgan, M., Shanahan, J., & Signorielli, N. (2014). Cultivation theory in the twenty-first century. *The handbook of media and mass communication theory*, 480-497. <https://doi.org/10.1002/9781118591178.ch26>
- Oliver, M. B., & Raney, A. A. (2011). Entertainment as pleasurable and meaningful: Identifying hedonic and eudaimonic motivations for entertainment consumption. *Journal of Communication*, 61(5), 984-1004. <https://doi-org.eur.idm.oclc.org/10.1111/j.1460-2466.2011.01585.x>
- Onyenankeya, K. U., Onyenankeya, O. M., & Osunkunle, O. (2019). Sexism and gender profiling: Two decades of stereotypical portrayal of women in Nollywood films. *Journal of International Women's Studies*, 20(2), 73-90. Retrieved from <https://vc.bridgew.edu/jiws/vol20/iss2/6/>
- Pennell, H., & Behm-Morawitz, E. (2015). The empowering (super) heroine? The effects of sexualized female characters in superhero films on women. *Sex Roles*, 72, 211-220. DOI: 10.1007/s11199-015-0455-3
- Potter, W. J. (1993). Cultivation theory and research: A conceptual critique. *Human communication research*, 19(4), 564-601. <https://doi.org/10.1111/j.1468-2958.1993.tb00313.x>
- Prabasmoro, T., Budhyono, R., & Muhtadin, T. (2019). Black Panther: Identity, afrofuturism, and representation of superheroes. *Pertanika*, 27, 2672-2685.
- Romer, D., Jamieson, P., Bleakley, A., & Jamieson, K. H. (2014). Cultivation theory: Its history, current status, and future directions. *The handbook of media and mass communication theory*, 115-136. <https://doi.org/10.1002/9781118591178.ch7>
- Shrum, L. J. (2017). Cultivation theory: Effects and underlying processes. *The international encyclopedia of media effects*, 1-12. <https://doi.org/10.1002/9781118783764.wbieme0040>
- Sun, R. (2022, March 14). *Study finds women, people of color still underrepresented as movie leads*. The Hollywood Reporter. <https://www.hollywoodreporter.com/movies/movie-news/diversity-movies-study-annenbergs-inclusion-initiative-1235109900/>
- Tolbert, A. N., & Drogos, K. L. (2019). Tweens' wishful identification and parasocial relationships with YouTubers. *Frontiers in Psychology*, 10(2781), 1-15. <https://doi.org/10.3389/fpsyg.2019.02781>

- Toms-Anthony, S. (2018). Annalise Keating's portrayal as a Black attorney is the real scandal: Examining how the use of stereotypical depictions of Black women can lead to the formation of implicit biases. *National Black Law Journal*, 27, 59.
- Tukachinsky, R. (2010). Para-romantic love and para-friendships: Development and assessment of a multiple-parasocial relationships scale. *American Journal of Media Psychology*, 3(1/2), 73-94.
- Weaver, A. J. (2011). The role of actors' race in white audiences' selective exposure to movies. *Journal of Communication*, 61(2), 369–385. <https://doi.org/10.1111/j.1460-2466.2011.01544.x>
- Wirth, W., Hofer, M., & Schramm, H. (2012). Beyond pleasure: exploring the eudaimonic entertainment experience. *Human Communication Research*, 38(4), 406–428. <https://doi.org/10.1111/j.1468-2958.2012.01434.x>
- Xu (2021) Analysis on the influence of female characters in Disney films. *Advances in Social Science, Education and Humanities Research*, 571, 327-331. DOI: 10.2991/assehr.k.210806.061
- Yang, L., Xu, Z., & Luo, J. (2020). Measuring female representation and impact in films over time. *ACM Transactions on Data Science*, 1(4), 1-14. <https://doi.org/10.1145/3411213>
- Żerebecki, B. G., Oprea, S., J. Hofhuis, J., & Janssen, S. (2023). Development and validation of Minority Character Recognizability Scale (MRS). *Paper presented at the Etmaal2023*, Enschede, Netherlands, February.
- Żerebecki, B. G., van der Vliet, E., & Kneer, J. (2022). I want to be you (r friend): An investigation of the effects of gendered personality traits on engagement with different Modern Family characters. *Journalism and Media*, 3(2), 362-381. <https://doi.org/10.3390/journalmedia3020026>

# Appendix A: Survey

## Introduction

Dear respondent,

Thank you for your interest in this research. I am inviting you to fill in a questionnaire. In this questionnaire, I will present you a female character from the movie Black Panther: Wakanda Forever (2022). Then you will be asked to answer questions about several concepts, such as gender traits, recognizability, wishful identification, parasocial relationships and authenticity in relation to the movie and the character.

The purpose of this study is to investigate how females engage with the female characters in the movie. The questionnaire will take **approximately 8 minutes** to fill in. Please answer each question carefully and honestly, I am sincerely interested in your personal opinions and feelings. There are no right or wrong answers.

### CONFIDENTIALITY OF DATA

All research data remain completely confidential and are collected in anonymous form. I will not be able to identify you. There are no foreseeable risks or discomforts associated with participating in this research.

### VOLUNTARY

If you now decide not to participate in this research, this will not affect you. If you decide to cease your cooperation while filling in the questionnaire, this will in no way affect you either. You can cease your cooperation without giving reasons. NOTE: You must be **at least 18 years of age** to participate in this survey.

### FURTHER INFORMATION

If you have questions about this research, in advance or afterwards, you can contact the responsible researcher, Nalini Jhinkoe-Rai, email: 508136nj@student.eur.nl. This study has been approved by the Ethics Committee of Erasmus University Rotterdam. If you want to invoke your rights or if you have a question concerning privacy about this study, you can contact Erasmus University's DPO (Data Protection Officer) at fg@eur.nl.

P.S.: This survey contains credits to get free survey responses at SurveySwap.io

## Consent



Skip to

End of Survey if I disagree Is Selected

Please indicate if you agree to the aforementioned conditions to participate in this survey.

- I agree
- I disagree

## Female check



Skip to

End of Survey if No Is Selected

Please indicate whether you identify as a female.

- Yes
- No

## BP:WF

Seen the movie



Skip to

End of Survey if No Is Selected

Have you seen the movie Black Panther: Wakanda Forever (2022)?

- Yes
- No

Page Break

Familiarity charac



Skip to

End of Survey if No Is Selected

Are you familiar with these female characters:

Nakia, Okoye, Shuri and Queen Ramonda?



- Yes
- No

Nakia

The character you will be answering questions about is: **Nakia**.

Please keep this in mind for the rest of the survey.



Shuri

The character you will be answering questions about is: **Shuri**.

Please keep this in mind for the rest of the survey.



Okoye

The character you will be answering questions about is: **Okoye**.

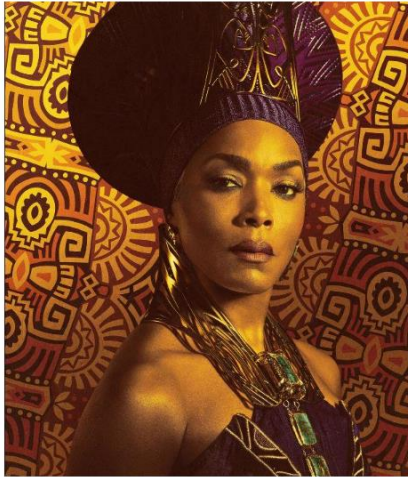
Please keep this in mind for the rest of the survey.



Queen Ramonda

The character you will be answering questions about is: **Queen Ramonda**.

Please keep this in mind for the rest of the survey.



note

Important: the following traits should be answered **based on the character in the movie**, not about yourself. There are no right or wrong answers, this is about your opinion.

Pos\_Masc



Please indicate to what extent you perceive the character based on the following characteristics.

	Not at all	Slightly	Moderately	Very	Extremely
Analytical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Objective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rational	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solution-focused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Neg\_Masc



Please indicate to what extent you perceive the character based on the following characteristics.

	Not at all	Slightly	Moderately	Very	Extremely
Arrogant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocky	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Harsh	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inconsiderate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flashy / showy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Power-hungry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

note

Important: the following traits should be answered **based on the character in the movie**, not about yourself. There are no right or wrong answers, this is about your opinion.

Pos\_Fem

🔍 ★

Please indicate to what extent you perceive the character based on the following characteristics.

	Not at all	Slightly	Moderately	Very	Extremely
Emotional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empathic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Passionate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sensitive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fragile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Neg\_Fem

🔍 ★

Please indicate to what extent you perceive the character based on the following characteristics.

	Not at all	Slightly	Moderately	Very	Extremely
Anxious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Naive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overcautious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-doubting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pers\_Rec

🔍 ★

Please indicate to what extent you relate to the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I recognize the personality traits of the character as traits that I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the weaknesses of the character as weaknesses that I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize myself in the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the strengths of the character as strengths that I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the behaviors of the character as behaviors that I could show.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Sit\_Rec

🔍 ★

Please indicate to what extent you relate to the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I recognize the situations that the character encounters as situations that could also happen to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the past experiences of the character as similar to my past experiences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the problems that the character has as the problems that I could have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the places, in which I see the character as the places I could be in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize my life in the life of the character.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the topics that the character discusses with others as the topics I could discuss with other people in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the life changes the character experiences as life changes that could happen to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Att\_Rec



Please indicate to what extent you relate to the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I recognize the character's approach to life as an approach to life that I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the character's opinions about what is good and bad as opinions I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the solutions to problems of the character as solutions I could follow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the character's opinions about other people as opinions I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the thought processes before decisions of the character as thought processes I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the character's opinions about social problems as opinions I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the decisions of the character as decisions that I could make.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recognize the reactions to stressful situations of the character as reactions that I could have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Import from library](#) [+ Add new question](#)

Add Block

Wishful identification

Wishful Ident



Please indicate to what extent you relate to the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I'd like to do the kinds of things she does in the movie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
She is the sort of person I want to be like myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish I could be more like her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Parasocial relationships

Friends\_Comm



Please indicate to what extent you relate to the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
If she was a real person, I could have disclosed negative things about myself honestly and fully (deeply) to her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If she was a real person, I could have disclosed a great deal of things about myself to her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes, I wish I knew what she would do in my situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If she was a real person, I could have disclosed positive things about myself honestly and fully (deeply) to her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes, I wish I could ask her for advice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think she could be a friend of mine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Friends\_support



Please indicate to what extent you relate to the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
If she was a real person, I would be able to count on her in times of need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If she was a real person, I would give her emotional support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If she was a real person, she would be able to count on me in times of need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If she was a real person, I would will to share my possessions with her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If she was a real person, I could trust her completely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If she was a real person, I could have a warm relationship with her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to promote the well-being of her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Perceived realness

**Realness** ⓘ ☆

Please indicate to what extent you agree to the following statements based on the character of the movie.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The character is like someone I know in real life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The character did not seem like a real person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The character was similar to people in real life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The character behaved just like people do in real life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographics

**Gender** ☆

Please indicate your gender.

Male

Female

Non-binary / third gender

Prefer not to say

**Age** ☆

Please indicate your age in numbers (e.g. 22).

**Nationality** | List of Countries ☆ x→

Please indicate your country of origin.

**Race/ethnicity** ☆

Which race or ethnicity best describes you?

American Indian or Alaskan Native

Asian / Pacific Islander

Black or African American

Hispanic / Latino

White / Caucasian

Multiple ethnicity / Other

End of Survey

Thank you for taking the time to participate in this survey! It is very much appreciated.

The following code gives you credits that can be used to get free research participants at SurveySwap.io.

Go to: <https://surveyswap.io/sr/OJWD-4LZ0-3EGR>

Or, alternatively, enter the code manually: OJWD-4LZ0-3EGR



**Appendix B: Stimulus materials**



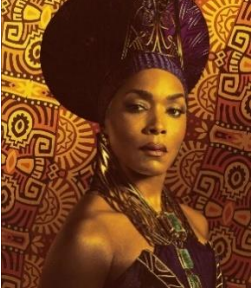
Shuri



Nakia



Okoye



Queen Ramonda

## Appendix C: SPSS output factor analyses + reliability

### Factor analysis gender traits

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.826
Bartlett's Test of Sphericity	Approx. Chi-Square	1596.914
	df	276
	Sig.	<.001

#### Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.038	29.323	29.323	7.038	29.323	29.323	5.499
2	2.992	12.466	41.790	2.992	12.466	41.790	2.748
3	1.766	7.358	49.147	1.766	7.358	49.147	4.795
4	1.331	5.545	54.692	1.331	5.545	54.692	3.818
5	1.242	5.174	59.866				
6	1.030	4.293	64.159				
7	.871	3.631	67.789				
8	.857	3.570	71.360				
9	.773	3.222	74.581				
10	.698	2.909	77.491				
11	.649	2.702	80.193				
12	.604	2.518	82.711				
13	.568	2.368	85.079				
14	.501	2.088	87.167				
15	.471	1.964	89.130				
16	.445	1.852	90.983				
17	.356	1.483	92.466				
18	.352	1.466	93.932				
19	.314	1.308	95.240				
20	.283	1.181	96.421				
21	.267	1.111	97.532				
22	.237	.987	98.519				
23	.186	.773	99.293				
24	.170	.707	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

**Pattern Matrix<sup>a</sup>**

	Component			
	1	2	3	4
Please indicate to what extent you perceive the character based on the following characteristics. - Cocky	.852			
Please indicate to what extent you perceive the character based on the following characteristics. - Arrogant	.832			
Please indicate to what extent you perceive the character based on the following characteristics. - Flashy / showy	.725			
Please indicate to what extent you perceive the character based on the following characteristics. - Harsh	.631			
Please indicate to what extent you perceive the character based on the following characteristics. - Power-hungry	.589			-.336
Please indicate to what extent you perceive the character based on the following characteristics. - Inconsiderate	.564			
Please indicate to what extent you perceive the character based on the following characteristics. - Irritable	.540			
Please indicate to what extent you perceive the character based on the following characteristics. - Passionate		.745		.484
Please indicate to what extent you perceive the character based on the following characteristics. - Sensitive		.737		
Please indicate to what extent you perceive the character based on the following characteristics. - Loving	-.348	.663		
Please indicate to what extent you perceive the character based on the following characteristics. - Emotional		.658	-.361	
Please indicate to what extent you perceive the character based on the following characteristics. - Empathic		.612		

Please indicate to what extent you perceive the character based on the following characteristics. - Logical			.813	
Please indicate to what extent you perceive the character based on the following characteristics. - Solution-focused			.686	
Please indicate to what extent you perceive the character based on the following characteristics. - Objective			.648	
Please indicate to what extent you perceive the character based on the following characteristics. - Analytical			.620	
Please indicate to what extent you perceive the character based on the following characteristics. - Rational			.597	
Please indicate to what extent you perceive the character based on the following characteristics. - Practical			.594	
Please indicate to what extent you perceive the character based on the following characteristics. - Self-doubting				-.736
Please indicate to what extent you perceive the character based on the following characteristics. - Anxious				-.735
Please indicate to what extent you perceive the character based on the following characteristics. - Confused				-.702
Please indicate to what extent you perceive the character based on the following characteristics. - Overcautious				-.422
Please indicate to what extent you perceive the character based on the following characteristics. - Naive	.300		-.323	-.415
Please indicate to what extent you perceive the character based on the following characteristics. - Fragile				-.358

## Reliability positive femininity

### Reliability Statistics

Cronbach's Alpha	N of Items
.747	5

### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you perceive the character based on the following characteristics. - Emotional	3.13	.995	152
Please indicate to what extent you perceive the character based on the following characteristics. - Empathic	3.60	.886	152
Please indicate to what extent you perceive the character based on the following characteristics. - Loving	4.05	.955	152
Please indicate to what extent you perceive the character based on the following characteristics. - Passionate	4.24	.763	152
Please indicate to what extent you perceive the character based on the following characteristics. - Sensitive	2.94	1.044	152

## Reliability negative masculinity

### Reliability Statistics

Cronbach's Alpha	N of Items
.859	7

### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you perceive the character based on the following characteristics. - Arrogant	2.12	1.016	152
Please indicate to what extent you perceive the character based on the following characteristics. - Cocky	2.06	1.129	152
Please indicate to what extent you perceive the character based on the following characteristics. - Harsh	2.28	1.136	152
Please indicate to what extent you perceive the character based on the following characteristics. - Inconsiderate	1.60	.856	152
Please indicate to what extent you perceive the character based on the following characteristics. - Flashy / showy	1.91	1.069	152
Please indicate to what extent you perceive the character based on the following characteristics. - Power-hungry	1.36	.850	152
Please indicate to what extent you perceive the character based on the following characteristics. - Irritable	1.91	.963	152

## Reliability positive masculinity

### Reliability Statistics

Cronbach's Alpha	N of Items
.770	6

### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you perceive the character based on the following characteristics. - Analytical	3.93	.851	152
Please indicate to what extent you perceive the character based on the following characteristics. - Logical	3.80	.789	152
Please indicate to what extent you perceive the character based on the following characteristics. - Objective	3.11	.960	152
Please indicate to what extent you perceive the character based on the following characteristics. - Practical	3.80	.854	152
Please indicate to what extent you perceive the character based on the following characteristics. - Rational	3.58	.895	152
Please indicate to what extent you perceive the character based on the following characteristics. - Solution-focused	4.16	.895	152

## Reliability negative femininity

### Reliability Statistics

Cronbach's Alpha	N of Items
.764	6

### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you perceive the character based on the following characteristics. - Anxious	1.89	.900	152
Please indicate to what extent you perceive the character based on the following characteristics. - Confused	1.53	.891	152
Please indicate to what extent you perceive the character based on the following characteristics. - Naive	1.46	.853	152
Please indicate to what extent you perceive the character based on the following characteristics. - Overcautious	1.87	1.008	152
Please indicate to what extent you perceive the character based on the following characteristics. - Self-doubting	1.75	.978	152
Please indicate to what extent you perceive the character based on the following characteristics. - Fragile	1.78	.868	152

## Factor analysis recognizability

### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.874	
Bartlett's Test of Sphericity	Approx. Chi-Square	1590.564
	df	190
	Sig.	<,001



Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.320	36.599	36.599	7.320	36.599	36.599	5.705
2	2.869	14.347	50.946	2.869	14.347	50.946	4.759
3	1.703	8.514	59.460	1.703	8.514	59.460	5.076
4	.997	4.986	64.446				
5	.796	3.979	68.425				
6	.776	3.882	72.307				
7	.669	3.347	75.654				
8	.657	3.285	78.940				
9	.632	3.160	82.100				
10	.561	2.807	84.907				
11	.428	2.139	87.046				
12	.368	1.838	88.883				
13	.345	1.724	90.607				
14	.341	1.707	92.315				
15	.323	1.616	93.930				
16	.305	1.526	95.456				
17	.292	1.461	96.917				
18	.249	1.244	98.161				
19	.197	.985	99.146				
20	.171	.854	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

**Pattern Matrix<sup>a</sup>**

	Component		
	1	2	3
Please indicate to what extent you relate to the following statements. - I recognize the character's opinions about what is good and bad as opinions I have.	.905		
Please indicate to what extent you relate to the following statements. - I recognize the character's opinions about social problems as opinions I have.	.875		
Please indicate to what extent you relate to the following statements. - I recognize the character's opinions about other people as opinions I have.	.856		
Please indicate to what extent you relate to the following statements. - I recognize the thought processes before decisions of the character as thought processes I have.	.766		
Please indicate to what extent you relate to the following statements. - I recognize the decisions of the character as decisions that I could make.	.686		
Please indicate to what extent you relate to the following statements. - I recognize the solutions to problems of the character as solutions I could follow.	.658		
Please indicate to what extent you relate to the following statements. - I recognize the character's approach to life as an approach to life that I have.	.508		
Please indicate to what extent you relate to the following statements. - I recognize the reactions to stressful situations of the character as reactions that I could have.	.386		-.380
Please indicate to what extent you relate to the following statements. - I recognize the problems that the character has as the problems that I could have.		.871	

Please indicate to what extent you relate to the following statements. - I recognize the places, in which I see the character as the places I could be in.		.774	
Please indicate to what extent you relate to the following statements. - I recognize the past experiences of the character as similar to my past experiences.		.746	
Please indicate to what extent you relate to the following statements. - I recognize the situations that the character encounters as situations that could also happen to me.		.733	
Please indicate to what extent you relate to the following statements. - I recognize my life in the life of the character.		.709	
Please indicate to what extent you relate to the following statements. - I recognize the life changes the character experiences as life changes that could happen to me.		.647	
Please indicate to what extent you relate to the following statements. - I recognize the topics that the character discusses with others as the topics I could discuss with other people in my life.		.593	
Please indicate to what extent you relate to the following statements. - I recognize the personality traits of the character as traits that I have.			- .844
Please indicate to what extent you relate to the following statements. - I recognize myself in the character.			- .781
Please indicate to what extent you relate to the following statements. - I recognize the weaknesses of the character as weaknesses that I have.			- .771
Please indicate to what extent you relate to the following statements. - I recognize the strengths of the character as strengths			- .728

Please indicate to what extent you relate to the following statements. - I recognize the behaviors of the character as behaviors that I could show.				- .641
Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. <sup>a</sup>				
a. Rotation converged in 5 iterations.				

### Reliability personality recognizability

#### Reliability Statistics

Cronbach's Alpha	N of Items
.831	5

#### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you relate to the following statements. - I recognize the personality traits of the character as traits that I have.	3.85	1.365	152
Please indicate to what extent you relate to the following statements. - I recognize the weaknesses of the character as weaknesses that I have.	3.86	1.411	152
Please indicate to what extent you relate to the following statements. - I recognize myself in the character.	3.52	1.465	152
Please indicate to what extent you relate to the following statements. - I recognize the strengths of the character as strengths that I have.	3.91	1.416	152
Please indicate to what extent you relate to the following statements. - I recognize the behaviors of the character as behaviors that I could show.	4.37	1.512	152

### Reliability situational recognizability

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.860	7

### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you relate to the following statements. - I recognize the situations that the character encounters as situations that could also happen to me.	2.58	1.507	152
Please indicate to what extent you relate to the following statements. - I recognize the past experiences of the character as similar to my past experiences.	2.38	1.418	152
Please indicate to what extent you relate to the following statements. - I recognize the problems that the character has as the problems that I could have.	3.29	1.638	152
Please indicate to what extent you relate to the following statements. - I recognize the places, in which I see the character as the places I could be in.	2.52	1.487	152
Please indicate to what extent you relate to the following statements. - I recognize my life in the life of the character.	2.43	1.485	152
Please indicate to what extent you relate to the following statements. - I recognize the topics that the character discusses with others as the topics I could discuss with other people in my life.	3.95	1.725	152
Please indicate to what extent you relate to the following statements. - I recognize the life changes the character experiences as life changes that could happen to me.	4.07	1.686	152

## Reliability attitudinal recognizability

### Reliability Statistics

Cronbach's Alpha	N of Items
.896	8

### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you relate to the following statements. - I recognize the character's approach to life as an approach to life that I have.	3.72	1.563	152
Please indicate to what extent you relate to the following statements. - I recognize the character's opinions about what is good and bad as opinions I have.	4.68	1.494	152
Please indicate to what extent you relate to the following statements. - I recognize the solutions to problems of the character as solutions I could follow.	4.26	1.495	152
Please indicate to what extent you relate to the following statements. - I recognize the character's opinions about other people as opinions I have.	4.55	1.351	152
Please indicate to what extent you relate to the following statements. - I recognize the thought processes before decisions of the character as thought processes I have.	4.36	1.445	152
Please indicate to what extent you relate to the following statements. - I recognize the character's opinions about social problems as opinions I have.	4.82	1.566	152
Please indicate to what extent you relate to the following statements. - I recognize the decisions of the character as decisions that I could make.	4.63	1.336	152
Please indicate to what extent you relate to the following statements. - I recognize the reactions to stressful situations of the character as reactions that I could have.	4.55	1.560	152

## Factor analysis wishful identification

### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.662
Bartlett's Test of Sphericity	Approx. Chi-Square	285.744
	df	3
	Sig.	<,001

### Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.366	78.863	78.863	2.366	78.863	78.863
2	.513	17.090	95.954			
3	.121	4.046	100.000			

Extraction Method: Principal Component Analysis.

## Reliability wishful identification

### Reliability Statistics

Cronbach's Alpha	N of Items
.862	3

### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you relate to the following statements. - I'd like to do the kinds of things she does in the movie.	3.55	1.184	152
Please indicate to what extent you relate to the following statements. - She is the sort of person I want to be like myself.	3.56	1.172	152
Please indicate to what extent you relate to the following statements. - I wish I could be more like her.	3.59	1.130	152

## Factor analysis parasocial relationships

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.888	
Bartlett's Test of Sphericity	Approx. Chi-Square	1286.099
	df	78
	Sig.	<,001

### Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.661	51.239	51.239	6.661	51.239	51.239	6.134
2	1.436	11.048	62.287	1.436	11.048	62.287	4.427
3	1.209	9.302	71.589				
4	.661	5.082	76.671				
5	.623	4.791	81.463				
6	.555	4.266	85.728				
7	.425	3.268	88.996				
8	.355	2.731	91.728				
9	.293	2.253	93.980				
10	.253	1.946	95.926				
11	.234	1.797	97.723				
12	.169	1.300	99.024				
13	.127	.976	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.



**Pattern Matrix"**

	Component	
	1	2
Please indicate to what extent you relate to the following statements. - If she was a real person, I could trust her completely.	.826	
Please indicate to what extent you relate to the following statements. - If she was a real person, I would will to share my possessions with her.	.825	
Please indicate to what extent you relate to the following statements. - I want to promote the well-being of her.	.778	
Please indicate to what extent you relate to the following statements. - Sometimes, I wish I could ask her for advice.	.756	
Please indicate to what extent you relate to the following statements. - If she was a real person, I would be able to count on her in times of need.	.693	
Please indicate to what extent you relate to the following statements. - Sometimes, I wish I knew what she would do in my situation.	.670	
Please indicate to what extent you relate to the following statements. - If she was a real person, I would give her emotional support.	.642	
Please indicate to what extent you relate to the following statements. - If she was a real person, I could have a warm relationship with her.	.633	
Please indicate to what extent you relate to the following statements. - If she was a real person, she would be able to count on me in times of need.	.598	
Please indicate to what extent you relate to the following statements. - I think she could be a friend of mine.	.546	
Please indicate to what extent you relate to the following statements. - If she was a real person, I could have disclosed		-.964

Please indicate to what extent you relate to the following statements. - If she was a real person, I could have disclosed a great deal of things about myself to her.		-.902
Please indicate to what extent you relate to the following statements. - If she was a real person, I could have disclosed positive things about myself honestly and fully (deeply) to her.		-.791
Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. <sup>a</sup>		

### Reliability communicational PSR

#### Reliability Statistics

Cronbach's Alpha	N of Items
.912	3

#### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you relate to the following statements. - If she was a real person, I could have disclosed negative things about myself honestly and fully (deeply) to her.	3.39	1.219	152
Please indicate to what extent you relate to the following statements. - If she was a real person, I could have disclosed a great deal of things about myself to her.	3.40	1.262	152
Please indicate to what extent you relate to the following statements. - If she was a real person, I could have disclosed positive things about myself honestly and fully (deeply) to her.	3.66	1.169	152

## Reliability supportive PSR

Reliability Statistics	
Cronbach's Alpha	N of Items
.902	10

### Item Statistics

	Mean	Std. Deviation	N
Please indicate to what extent you relate to the following statements. - Sometimes, I wish I knew what she would do in my situation.	2.95	1.294	152
Please indicate to what extent you relate to the following statements. - Sometimes, I wish I could ask her for advice.	3.14	1.324	152
Please indicate to what extent you relate to the following statements. - I think she could be a friend of mine.	3.55	1.060	152
Please indicate to what extent you relate to the following statements. - If she was a real person, I would be able to count on her in times of need.	4.23	.993	152
Please indicate to what extent you relate to the following statements. - If she was a real person, I would give her emotional support.	4.20	.990	152
Please indicate to what extent you relate to the following statements. - If she was a real person, she would be able to count on me in times of need.	4.13	1.031	152
Please indicate to what extent you relate to the following statements. - If she was a real person, I would will to share my possessions with her.	3.57	1.108	152
Please indicate to what extent you relate to the following statements. - If she was a real person, I could trust her completely.	3.55	1.217	152
Please indicate to what extent you relate to the following statements. - If she was a real person, I could have a warm relationship with her.	3.67	1.097	152
Please indicate to what extent you relate to the following statements. - I	4.04	.941	152

## Factor analysis perceived realism

### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.737
Bartlett's Test of Sphericity	Approx. Chi-Square	175.830
	df	6
	Sig.	<.001

Extraction method: Principal Component Analysis.

### Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.374	59.349	59.349	2.374	59.349	59.349
2	.824	20.596	79.945			
3	.464	11.605	91.550			
4	.338	8.450	100.000			

Extraction Method: Principal Component Analysis.

## Reliability perceived realism

### Reliability Statistics

Cronbach's Alpha	N of Items
.755	4

Item Statistics			
	Mean	Std. Deviation	N
Please indicate to what extent you agree to the following statements based on the character of the movie. - The character is like someone I know in real life.	3.1776	1.57001	152
Please indicate to what extent you agree to the following statements based on the character of the movie. - The character was similar to people in real life.	4.6974	1.40971	152
Please indicate to what extent you agree to the following statements based on the character of the movie. - The character behaved just like people do in real life.	4.6776	1.47204	152
Realness_2R	5.1250	1.65306	152

## Appendix D: SPSS output ANOVA's + t-tests

### ANOVA positive masculinity

#### Descriptive Statistics

Dependent Variable: Pos\_Masc

Character	Mean	Std. Deviation	N
Nakia	3.7188	.58726	32
Shuri	3.6351	.49040	37
Okoye	3.8455	.66080	41
Queen Ramonda	3.7183	.62739	42
Total	3.7325	.59714	152

#### Tests of Between-Subjects Effects

Dependent Variable: Pos\_Masc

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.889 <sup>a</sup>	3	.296	.828	.480	.017
Intercept	2090.003	1	2090.003	5841.416	<.001	.975
Character	.889	3	.296	.828	.480	.017
Error	52.953	148	.358			
Total	2171.389	152				
Corrected Total	53.842	151				

a. R Squared = .017 (Adjusted R Squared = -.003)

### Character

#### Multiple Comparisons

Dependent Variable: Pos\_Masc

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	.0836	.14440	.938	-.2916	.4588
	Okoye	-.1268	.14109	.806	-.4934	.2398
	Queen Ramonda	.0005	.14036	1.000	-.3642	.3652
Shuri	Nakia	-.0836	.14440	.938	-.4588	.2916
	Okoye	-.2104	.13563	.410	-.5628	.1420
	Queen Ramonda	-.0831	.13487	.927	-.4336	.2673
Okoye	Nakia	.1268	.14109	.806	-.2398	.4934
	Shuri	.2104	.13563	.410	-.1420	.5628
	Queen Ramonda	.1273	.13132	.767	-.2140	.4685
Queen Ramonda	Nakia	-.0005	.14036	1.000	-.3652	.3642
	Shuri	.0831	.13487	.927	-.2673	.4336
	Okoye	-.1273	.13132	.767	-.4685	.2140

Based on observed means.

The error term is Mean Square(Error) = .358

## ANOVA positive femininity

### Descriptive Statistics

Dependent Variable: Pos\_Fem

Character	Mean	Std. Deviation	N
Nakia	3.5875	.58351	32
Shuri	3.7784	.62678	37
Okoye	3.1659	.69556	41
Queen Ramonda	3.8524	.48802	42
Total	3.5934	.65808	152

### Tests of Between-Subjects Effects

Dependent Variable: Pos\_Fem

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	11.579 <sup>a</sup>	3	3.860	10.615	<,001	.177
Intercept	1943.172	1	1943.172	5344.072	<,001	.973
Character	11.579	3	3.860	10.615	<,001	.177
Error	53.815	148	.364			
Total	2028.120	152				
Corrected Total	65.393	151				

a. R Squared = ,177 (Adjusted R Squared = ,160)

## Character

### Multiple Comparisons

Dependent Variable: Pos\_Fem

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	-.1909	.14557	.557	-.5691	.1874
	Okoye	.4216 <sup>*</sup>	.14224	.018	.0520	.7912
	Queen Ramonda	-.2649	.14149	.245	-.6325	.1028
Shuri	Nakia	.1909	.14557	.557	-.1874	.5691
	Okoye	.6125 <sup>*</sup>	.13673	<,001	.2572	.9678
	Queen Ramonda	-.0740	.13596	.948	-.4273	.2793
Okoye	Nakia	-.4216 <sup>*</sup>	.14224	.018	-.7912	-.0520
	Shuri	-.6125 <sup>*</sup>	.13673	<,001	-.9678	-.2572
	Queen Ramonda	-.6865 <sup>*</sup>	.13239	<,001	-1.0305	-.3425
Queen Ramonda	Nakia	.2649	.14149	.245	-.1028	.6325
	Shuri	.0740	.13596	.948	-.2793	.4273
	Okoye	.6865 <sup>*</sup>	.13239	<,001	.3425	1.0305

Based on observed means.

The error term is Mean Square(Error) = .364

## ANOVA negative femininity

### Descriptive Statistics

Dependent Variable: Neg\_Fem

Character	Mean	Std. Deviation	N
Nakia	1.6979	.74106	32
Shuri	2.0405	.55334	37
Okoye	1.5447	.51777	41
Queen Ramonda	1.6071	.58414	42
Total	1.7149	.62173	152

### Tests of Between-Subjects Effects

Dependent Variable: Neg\_Fem

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5.608 <sup>a</sup>	3	1.869	5.244	.002	.096
Intercept	445.885	1	445.885	1250.766	<.001	.894
Character	5.608	3	1.869	5.244	.002	.096
Error	52.760	148	.356			
Total	505.389	152				
Corrected Total	58.368	151				

a. R Squared = ,096 (Adjusted R Squared = ,078)

### Character

#### Multiple Comparisons

Dependent Variable: Neg\_Fem

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	-.3426	.14414	.086	-.7172	.0319
	Okoye	.1532	.14084	.698	-.2128	.5192
	Queen Ramonda	.0908	.14010	.916	-.2733	.4548
Shuri	Nakia	.3426	.14414	.086	-.0319	.7172
	Okoye	.4958*	.13539	.002	.1440	.8476
	Queen Ramonda	.4334*	.13462	.008	.0836	.7832
Okoye	Nakia	-.1532	.14084	.698	-.5192	.2128
	Shuri	-.4958*	.13539	.002	-.8476	-.1440
	Queen Ramonda	-.0624	.13108	.964	-.4030	.2782
Queen Ramonda	Nakia	-.0908	.14010	.916	-.4548	.2733
	Shuri	-.4334*	.13462	.008	-.7832	-.0836
	Okoye	.0624	.13108	.964	-.2782	.4030

Based on observed means.

The error term is Mean Square(Error) = ,356.

\* The mean difference is significant at the .05 level.

## ANOVA negative masculinity

<b>Descriptive Statistics</b>			
Dependent Variable: Neg_Masc			
Character	Mean	Std. Deviation	N
Nakia	1.5625	.80644	32
Shuri	2.0386	.61413	37
Okoye	2.0801	.66857	41
Queen Ramonda	1.8299	.79272	42
Total	1.8919	.74258	152

### Tests of Between-Subjects Effects

Dependent Variable: Neg\_Masc

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5.883 <sup>a</sup>	3	1.961	3.750	.012	.071
Intercept	529.860	1	529.860	1013.398	<.001	.873
Character	5.883	3	1.961	3.750	.012	.071
Error	77.383	148	.523			
Total	627.327	152				
Corrected Total	83.265	151				

a. R Squared = .071 (Adjusted R Squared = .052)

### Character

<b>Multiple Comparisons</b>						
Dependent Variable: Neg_Masc						
Tukey HSD						
(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	-.4761*	.17456	.036	-.9297	-.0225
	Okoye	-.5176*	.17056	.015	-.9608	-.0744
	Queen Ramonda	-.2674	.16967	.395	-.7083	.1735
Shuri	Nakia	.4761*	.17456	.036	.0225	.9297
	Okoye	-.0415	.16396	.994	-.4676	.3845
	Queen Ramonda	.2087	.16303	.577	-.2150	.6323
Okoye	Nakia	.5176*	.17056	.015	.0744	.9608
	Shuri	.0415	.16396	.994	-.3845	.4676
	Queen Ramonda	.2502	.15875	.395	-.1623	.6627
Queen Ramonda	Nakia	.2674	.16967	.395	-.1735	.7083
	Shuri	-.2087	.16303	.577	-.6323	.2150
	Okoye	-.2502	.15875	.395	-.6627	.1623

Based on observed means.  
The error term is Mean Square(Error) = .523.  
\*. The mean difference is significant at the .05 level.



## ANOVA attitudinal recognizability

### Descriptive Statistics

Dependent Variable: Rec\_Att

Character	Mean	Std. Deviation	N
Nakia	4.6914	.96459	32
Shuri	4.5574	1.10969	37
Okoye	4.4146	1.05269	41
Queen Ramonda	4.1935	1.29440	42
Total	4.4465	1.12556	152

### Tests of Between-Subjects Effects

Dependent Variable: Rec\_Att

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5.106 <sup>a</sup>	3	1.702	1.353	.260	.027
Intercept	2994.735	1	2994.735	2380.420	<,001	.941
Character	5.106	3	1.702	1.353	.260	.027
Error	186.194	148	1.258			
Total	3196.609	152				
Corrected Total	191.300	151				

a. R Squared = ,027 (Adjusted R Squared = ,007)

### Post Hoc Tests

#### Character

#### Multiple Comparisons

Dependent Variable: Rec\_Att

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	.1340	.27077	.960	-.5696	.8376
	Okoye	.2768	.26457	.723	-.4107	.9643
	Queen Ramonda	.4980	.26319	.236	-.1859	1.1818
Shuri	Nakia	-.1340	.27077	.960	-.8376	.5696
	Okoye	.1428	.25434	.943	-.5181	.8037
	Queen Ramonda	.3640	.25290	.477	-.2932	1.0211
Okoye	Nakia	-.2768	.26457	.723	-.9643	.4107
	Shuri	-.1428	.25434	.943	-.8037	.5181
	Queen Ramonda	.2212	.24625	.806	-.4187	.8611
Queen Ramonda	Nakia	-.4980	.26319	.236	-1.1818	.1859
	Shuri	-.3640	.25290	.477	-1.0211	.2932
	Okoye	-.2212	.24625	.806	-.8611	.4187

Based on observed means.

The error term is Mean Square(Error) = 1,258.

## ANOVA situational recognizability

### Descriptive Statistics

Dependent Variable: Rec\_Sit

Character	Mean	Std. Deviation	N
Nakia	2.7411	1.20534	32
Shuri	3.2162	1.10432	37
Okoye	3.0174	1.13218	41
Queen Ramonda	3.0952	1.18042	42
Total	3.0291	1.15513	152

### Tests of Between-Subjects Effects

Dependent Variable: Rec\_Sit

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.140 <sup>a</sup>	3	1.380	1.035	.379	.021
Intercept	1368.220	1	1368.220	1026.111	<.001	.874
Character	4.140	3	1.380	1.035	.379	.021
Error	197.344	148	1.333			
Total	1596.184	152				
Corrected Total	201.483	151				

a. R Squared = .021 (Adjusted R Squared = .001)

### Character

#### Multiple Comparisons

Dependent Variable: Rec\_Sit

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	-.4751	.27876	.325	-1.1995	.2492
	Okoye	-.2764	.27238	.741	-.9841	.4314
	Queen Ramonda	-.3542	.27095	.560	-1.0582	.3499
Shuri	Nakia	.4751	.27876	.325	-.2492	1.1995
	Okoye	.1988	.26184	.873	-.4816	.8792
	Queen Ramonda	.1210	.26036	.967	-.5555	.7975
Okoye	Nakia	.2764	.27238	.741	-.4314	.9841
	Shuri	-.1988	.26184	.873	-.8792	.4816
	Queen Ramonda	-.0778	.25351	.990	-.7366	.5809
Queen Ramonda	Nakia	.3542	.27095	.560	-.3499	1.0582
	Shuri	-.1210	.26036	.967	-.7975	.5555
	Okoye	.0778	.25351	.990	-.5809	.7366

Based on observed means.

The error term is Mean Square(Error) = 1,333.

## ANOVA personality recognizability

### Descriptive Statistics

Dependent Variable: Rec\_Pers

Character	Mean	Std. Deviation	N
Nakia	3.7813	.96835	32
Shuri	4.0432	1.09254	37
Okoye	3.9902	1.03629	41
Queen Ramonda	3.7762	1.29253	42
Total	3.9000	1.10890	152

### Tests of Between-Subjects Effects

Dependent Variable: Rec\_Pers

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.188 <sup>a</sup>	3	.729	.588	.624	.012
Intercept	2282.911	1	2282.911	1841.340	<.,001	.926
Character	2.188	3	.729	.588	.624	.012
Error	183.492	148	1.240			
Total	2497.600	152				
Corrected Total	185.680	151				

a. R Squared = .012 (Adjusted R Squared = -.008)

### Character

### Multiple Comparisons

Dependent Variable: Rec\_Pers

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	-.2620	.26880	.764	-.9605	.4365
	Okoye	-.2090	.26265	.856	-.8915	.4735
	Queen Ramonda	.0051	.26127	1.000	-.6738	.6840
Shuri	Nakia	.2620	.26880	.764	-.4365	.9605
	Okoye	.0530	.25248	.997	-.6031	.7091
	Queen Ramonda	.2671	.25105	.712	-.3853	.9194
Okoye	Nakia	.2090	.26265	.856	-.4735	.8915
	Shuri	-.0530	.25248	.997	-.7091	.6031
	Queen Ramonda	.2141	.24446	.817	-.4212	.8493
Queen Ramonda	Nakia	-.0051	.26127	1.000	-.6840	.6738
	Shuri	-.2671	.25105	.712	-.9194	.3853
	Okoye	-.2141	.24446	.817	-.8493	.4212

Based on observed means.

The error term is Mean Square(Error) = 1.240.

## ANOVA communicational PSR

### Descriptive Statistics

Dependent Variable: Comm\_PSR\_Friendship

Character	Mean	Std. Deviation	N
Nakia	3.8125	.90375	32
Shuri	3.5045	.89795	37
Okoye	3.3415	1.31125	41
Queen Ramonda	3.3571	1.23058	42
Total	3.4846	1.12228	152

### Tests of Between-Subjects Effects

Dependent Variable: Comm\_PSR\_Friendship

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.978 <sup>a</sup>	3	1.659	1.326	.268	.026
Intercept	1844.884	1	1844.884	1474.243	<.,001	.909
Character	4.978	3	1.659	1.326	.268	.026
Error	185.209	148	1.251			
Total	2035.889	152				
Corrected Total	190.186	151				

a. R Squared = ,026 (Adjusted R Squared = ,006)

### Character

#### Multiple Comparisons

Dependent Variable: Comm\_PSR\_Friendship

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Nakia	Shuri	.3080	.27005	.665	-.3937	1.0097
	Okoye	.4710	.26387	.285	-.2146	1.1567
	Queen Ramonda	.4554	.26249	.309	-.2267	1.1374
Shuri	Nakia	-.3080	.27005	.665	-1.0097	.3937
	Okoye	.1630	.25366	.918	-.4961	.8222
	Queen Ramonda	.1474	.25222	.937	-.5080	.8028
Okoye	Nakia	-.4710	.26387	.285	-1.1567	.2146
	Shuri	-.1630	.25366	.918	-.8222	.4961
	Queen Ramonda	-.0157	.24560	1.000	-.6539	.6225
Queen Ramonda	Nakia	-.4554	.26249	.309	-1.1374	.2267
	Shuri	-.1474	.25222	.937	-.8028	.5080
	Okoye	.0157	.24560	1.000	-.6225	.6539

Based on observed means.

The error term is Mean Square(Error) = 1,251.

## ANOVA supportive PSR

### Descriptive Statistics

Dependent Variable: Sup\_PSR\_Friendship

Character	Mean	Std. Deviation	N
Nakia	3.7750	.77958	32
Shuri	3.8189	.60224	37
Okoye	3.7610	.78545	41
Queen Ramonda	3.4857	.98762	42
Total	3.7020	.81114	152

### Tests of Between-Subjects Effects

Dependent Variable: Sup\_PSR\_Friendship

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.784 <sup>a</sup>	3	.928	1.422	.239	.028
Intercept	2068.466	1	2068.466	3170.203	<.001	.955
Character	2.784	3	.928	1.422	.239	.028
Error	96.566	148	.652			
Total	2182.450	152				
Corrected Total	99.349	151				

a. R Squared = .028 (Adjusted R Squared = .008)

### Character

#### Multiple Comparisons

Dependent Variable: Sup\_PSR\_Friendship

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	-.0439	.19500	.996	-.5506	.4628
	Okoye	.0140	.19054	1.000	-.4811	.5091
	Queen Ramonda	.2893	.18954	.424	-.2032	.7818
Shuri	Nakia	.0439	.19500	.996	-.4628	.5506
	Okoye	.0579	.18316	.989	-.4180	.5339
	Queen Ramonda	.3332	.18212	.264	-.1400	.8064
Okoye	Nakia	-.0140	.19054	1.000	-.5091	.4811
	Shuri	-.0579	.18316	.989	-.5339	.4180
	Queen Ramonda	.2753	.17734	.409	-.1855	.7361
Queen Ramonda	Nakia	-.2893	.18954	.424	-.7818	.2032
	Shuri	-.3332	.18212	.264	-.8064	.1400
	Okoye	-.2753	.17734	.409	-.7361	.1855

Based on observed means.

The error term is Mean Square(Error) = .652.

## ANOVA wishful identification

### Descriptive Statistics

Dependent Variable: Wishful\_Ident

Character	Mean	Std. Deviation	N
Nakia	3.5313	1.00486	32
Shuri	3.4595	1.04039	37
Okoye	3.7154	.95324	41
Queen Ramonda	3.5397	1.12366	42
Total	3.5658	1.02868	152

### Tests of Between-Subjects Effects

Dependent Variable: Wishful\_Ident

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.403 <sup>a</sup>	3	.468	.437	.727	.009
Intercept	1905.992	1	1905.992	1781.041	<.001	.923
Character	1.403	3	.468	.437	.727	.009
Error	158.383	148	1.070			
Total	2092.444	152				
Corrected Total	159.787	151				

a. R Squared = .009 (Adjusted R Squared = -.011)

## Character

### Multiple Comparisons

Dependent Variable: Wishful\_Ident

Tukey HSD

(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Nakia	Shuri	.0718	.24973	.992	-.5771	.7207
	Okoye	-.1842	.24402	.874	-.8183	.4499
	Queen Ramonda	-.0084	.24274	1.000	-.6392	.6223
Shuri	Nakia	-.0718	.24973	.992	-.7207	.5771
	Okoye	-.2560	.23457	.695	-.8655	.3535
	Queen Ramonda	-.0802	.23324	.986	-.6863	.5259
Okoye	Nakia	.1842	.24402	.874	-.4499	.8183
	Shuri	.2560	.23457	.695	-.3535	.8655
	Queen Ramonda	.1758	.22712	.866	-.4144	.7659
Queen Ramonda	Nakia	.0084	.24274	1.000	-.6223	.6392
	Shuri	.0802	.23324	.986	-.5259	.6863
	Okoye	-.1758	.22712	.866	-.7659	.4144

Based on observed means.

## ANOVA perceived realism

### Descriptive Statistics

Dependent Variable: Realness

Character	Mean	Std. Deviation	N
Nakia	4.6328	.95669	32
Shuri	4.2162	1.04110	37
Okoye	4.2927	1.31089	41
Queen Ramonda	4.5595	1.23936	42
Total	4.4194	1.16111	152

### Tests of Between-Subjects Effects

Dependent Variable: Realness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.468 <sup>a</sup>	3	1.489	1.107	.348	.022
Intercept	2942.742	1	2942.742	2187.392	<,001	.937
Character	4.468	3	1.489	1.107	.348	.022
Error	199.107	148	1.345			
Total	3172.313	152				
Corrected Total	203.575	151				

a. R Squared = ,022 (Adjusted R Squared = ,002)

### Character

Multiple Comparisons						
Dependent Variable: Realness						
Tukey HSD						
(I) Character	(J) Character	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Nakia	Shuri	.4166	.28000	.447	-.3110	1.1442
	Okoye	.3401	.27359	.600	-.3708	1.0511
	Queen Ramonda	.0733	.27216	.993	-.6339	.7805
Shuri	Nakia	-.4166	.28000	.447	-1.1442	.3110
	Okoye	-.0765	.26301	.991	-.7599	.6069
	Queen Ramonda	-.3433	.26152	.556	-1.0229	.3362
Okoye	Nakia	-.3401	.27359	.600	-1.0511	.3708
	Shuri	.0765	.26301	.991	-.6069	.7599
	Queen Ramonda	-.2668	.25465	.722	-.9285	.3948
Queen Ramonda	Nakia	-.0733	.27216	.993	-.7805	.6339
	Shuri	.3433	.26152	.556	-.3362	1.0229
	Okoye	.2668	.25465	.722	-.3948	.9285

Based on observed means.  
The error term is Mean Square(Error) = 1,345.

## T-test positive masculinity

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Pos_Masc	Non-PoC	100	3.7383	.54291	.05429
	PoC	52	3.7212	.69524	.09641

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means					
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
Pos_Masc	Equal variances assumed	1.785	.184	.168	150	.434	.867	.01718	.10242	-.18520	.21956
	Equal variances not assumed			.155	84.115	.438	.877	.01718	.11065	-.20285	.23721

Independent Samples Effect Sizes					
	Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Pos_Masc	Cohen's d	.59907	.029	-.306	.364
	Hedges' correction	.60208	.029	-.305	.362
	Glass's delta	.69524	.025	-.311	.360

## T-test positive femininity

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Pos_Fem	Non-PoC	100	3.5360	.61620	.06162
	PoC	52	3.7038	.72544	.10060

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means					
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
Pos_Fem	Equal variances assumed	2.037	.156	-1.498	150	.068	.136	-.16785	.11205	-.38925	.05356
	Equal variances not assumed			-1.423	89.927	.079	.158	-.16785	.11797	-.40222	.06653

Independent Samples Effect Sizes					
	Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Pos_Fem	Cohen's d	.65539	-.256	-.592	.081
	Hedges' correction	.65869	-.255	-.589	.080
	Glass's delta	.72544	-.231	-.568	.108

a. The denominator used in estimating the effect sizes.

## T-test negative femininity

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Neg_Fem	Non-PoC	100	1.6267	.54594	.05459
	PoC	52	1.8846	.72200	.10012

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means					
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
Neg_Fem	Equal variances assumed	2.262	.135	-2.467	150	.007	.015	-.25795	.10455	-.46453	-.05137
	Equal variances not assumed			-2.262	82.096	.013	.026	-.25795	.11404	-.48481	-.03109

Independent Samples Effect Sizes					
	Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Neg_Fem	Cohen's d	.61151	-.422	-.760	-.083
	Hedges' correction	.61459	-.420	-.756	-.082
	Glass's delta	.72200	-.267	-.600	-.043



## T-test negative masculinity

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Neg_Masc	Non-PoC	100	1.8571	.63499	.06350
	PoC	52	1.9588	.91815	.12733

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Neg_Masc	Equal variances assumed	8.863	.003	-.800	150	.213	.425	-.10165	.12711	-.35281	.14951
	Equal variances not assumed			-.714	77.068	.239	.477	-.10165	.14228	-.38496	.18166

Independent Samples Effect Sizes					
		Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval	
				Lower	Upper
Neg_Masc	Cohen's d	.74347	-.137	-.472	.199
	Hedges' correction	.74721	-.136	-.470	.198
	Glass's delta	.91815	-.111	-.446	.226

a. The denominator used in estimating the effect sizes. Cohen's d uses the pooled standard deviation. Hedges' correction uses the pooled standard deviation, plus a correction factor. Glass's delta uses the sample standard deviation of the control group.

## T-test attitudinal recognizability

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Rec_Att	Non-PoC	100	4.3713	1.03268	.10327
	PoC	52	4.5913	1.28388	.17804

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Rec_Att	Equal variances assumed	.986	.322	-1.145	150	.127	.254	-.22010	.19224	-.59994	.15975
	Equal variances not assumed			-1.069	86.069	.144	.288	-.22010	.20582	-.62926	.18906

Independent Samples Effect Sizes					
		Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval	
				Lower	Upper
Rec_Att	Cohen's d	1.12440	-.196	-.531	.140
	Hedges' correction	1.13007	-.195	-.529	.140
	Glass's delta	1.28388	-.171	-.507	.166

a. The denominator used in estimating the effect sizes. Cohen's d uses the pooled standard deviation. Hedges' correction uses the pooled standard deviation, plus a correction factor. Glass's delta uses the sample standard deviation of the control group.

## T-test situational recognizability

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Rec_Sit	Non-PoC	100	2.9829	1.01895	.10189
	PoC	52	3.1181	1.38670	.19230

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Rec_Sit	Equal variances assumed	7.890	.006	-.684	150	.248	.495	-.13527	.19784	-.52619	.25564
	Equal variances not assumed			-.622	80.393	.268	.536	-.13527	.21763	-.56834	.29779

Independent Samples Effect Sizes					
		Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval	
				Lower	Upper
Rec_Sit	Cohen's d	1.15717	-.117	-.452	.219
	Hedges' correction	1.16300	-.116	-.450	.218
	Glass's delta	1.38670	-.098	-.433	.239

a. The denominator used in estimating the effect sizes.

## T-test personality recognizability

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Rec_Pers	Non-PoC	100	3.8720	1.05199	.10520
	PoC	52	3.9538	1.21985	.16916

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Rec_Pers	Equal variances assumed	2.237	.137	-.431	150	.334	.667	-.08185	.19010	-.45747	.29378
	Equal variances not assumed			-.411	91.059	.341	.682	-.08185	.19921	-.47754	.31385

Independent Samples Effect Sizes					
	Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Rec_Pers	Cohen's d	1.11191	-.074	-.409	.262
	Hedges' correction	1.11751	-.073	-.407	.260
	Glass's delta	1.21985	-.067	-.402	.269

## T-test communicational PSR

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Comm_PSR_Friendship	Non-PoC	100	3.5033	1.10959	.11096
	PoC	52	3.4487	1.15637	.16036

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Comm_PSR_Friendship	Equal variances assumed		.001	.981	.284	.388	.777	.05462	.19246	-.32567	.43490
	Equal variances not assumed				.280	.390	.780	.05462	.19501	-.33228	.44151

Independent Samples Effect Sizes					
	Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Comm_PSR_Friendship	Cohen's d	1.12571	.049	-.287	.384
	Hedges' correction	1.13138	.048	-.285	.382
	Glass's delta	1.15637	.047	-.288	.382

a. The denominator used in estimating the effect sizes.  
Cohen's d uses the pooled standard deviation.  
Hedges' correction uses the pooled standard deviation, plus a correction factor.

## T-test supportive PSR

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Sup_PSR_Friendship	Non-PoC	100	3.7250	.76149	.07615
	PoC	52	3.6577	.90518	.12553

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Sup_PSR_Friendship	Equal variances assumed	2.415	.122	.484	150	.315	.629	.06731	.13903	-.20741	.34202
	Equal variances not assumed			.458	89.220	.324	.648	.06731	.14682	-.22441	.35902

Independent Samples Effect Sizes					
	Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Sup_PSR_Friendship	Cohen's d	.81320	.083	-.253	.418
	Hedges' correction	.81730	.082	-.251	.416
	Glass's delta	.90518	.074	-.261	.409

a. The denominator used in estimating the effect sizes.  
Cohen's d uses the pooled standard deviation.

## T-test wishful identification

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Wishful_Ident	Non-PoC	100	3.6000	.94756	.09476
	PoC	52	3.5000	1.17620	.16311

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Wishful_Ident	Equal variances assumed	3.566	.061	.567	150	.286	.571	.10000	.17627	-.24829	.44829
	Equal variances not assumed			.530	86.176	.299	.597	.10000	.18864	-.27498	.47498

Independent Samples Effect Sizes					
	Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Wishful_Ident	Cohen's d	1.03100	.097	-.238	.432
	Hedges' correction	1.03619	.097	-.237	.430
	Glass's delta	1.17620	.085	-.251	.420

a. The denominator used in estimating the effect sizes.  
Cohen's d uses the pooled standard deviation.  
Hedges' correction uses the pooled standard deviation, plus a correction factor.

## T-test perceived realism

Group Statistics					
	PoC	N	Mean	Std. Deviation	Std. Error Mean
Realness	Non-PoC	100	4.3800	1.11718	.11172
	PoC	52	4.4952	1.24901	.17321

Independent Samples Test											
Levene's Test for Equality of Variances						t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Realness	Equal variances assumed	.199	.656	-.579	150	.282	.563	-.11519	.19895	-.50831	.27792
	Equal variances not assumed			-.559	93.890	.289	.578	-.11519	.20611	-.52443	.29405

Independent Samples Effect Sizes					
	Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Realness	Cohen's d	1.16368	-.099	-.434	.236
	Hedges' correction	1.16954	-.098	-.432	.235
	Glass's delta	1.24901	-.092	-.427	.244

a. The denominator used in estimating the effect sizes

## Appendix E: SPSS output HRA + PoC vs non-PoC HRA

### HRA wishful identification

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.510 <sup>a</sup>	.260	.240	.89683	.260	12.917	4	147	<.001
2	.680 <sup>b</sup>	.462	.436	.77246	.202	18.049	3	144	<.001

a. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att

#### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.555	4	10.389	12.917	<.001 <sup>b</sup>
	Residual	118.231	147	.804		
	Total	159.787	151			
2	Regression	73.863	7	10.552	17.684	<.001 <sup>c</sup>
	Residual	85.923	144	.597		
	Total	159.787	151			

a. Dependent Variable: Wishful\_Ident

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

c. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.258	.817		.315	.753
	Pos_Masc	.725	.147	.421	4.947	<.001
	Pos_Fem	.220	.120	.140	1.834	.069
	Neg_Fem	.060	.152	.036	.394	.694
	Neg_Masc	-.154	.131	-.111	-1.174	.242
2	(Constant)	-.278	.714		-.389	.698
	Pos_Masc	.383	.139	.222	2.750	.007
	Pos_Fem	.113	.104	.072	1.085	.280
	Neg_Fem	-.103	.133	-.062	-.771	.442
	Neg_Masc	-.048	.114	-.034	-.417	.677
	Rec_Att	.310	.077	.339	4.006	<.001
	Rec_Sit	.084	.062	.094	1.346	.181
	Rec_Pers	.165	.071	.178	2.317	.022

a. Dependent Variable: Wishful\_Ident

### HRA communicational PSR

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.443 <sup>a</sup>	.196	.174	1.01991	.196	8.959	4	147	<.001
2	.558 <sup>b</sup>	.311	.278	.95376	.115	8.033	3	144	<.001
3	.601 <sup>c</sup>	.361	.325	.92207	.049	11.067	1	143	.001

a. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att

c. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att, Wishful\_Ident

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.276	4	9.319	8.959	<.001 <sup>b</sup>
	Residual	152.911	147	1.040		
	Total	190.186	151			
2	Regression	59.197	7	8.457	9.297	<.001 <sup>c</sup>
	Residual	130.990	144	.910		
	Total	190.186	151			
3	Regression	68.606	8	8.576	10.087	<.001 <sup>d</sup>
	Residual	121.580	143	.850		
	Total	190.186	151			

a. Dependent Variable: Comm\_PSR\_Friendship

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.026	.929		-.028	.978
	Pos_Masc	.572	.167	.304	3.432	<.001
	Pos_Fem	.334	.136	.196	2.455	.015
	Neg_Fem	.376	.173	.208	2.173	.031
	Neg_Masc	-.249	.149	-.165	-1.670	.097
2	(Constant)	-.315	.882		-.357	.722
	Pos_Masc	.248	.172	.132	1.441	.152
	Pos_Fem	.245	.129	.144	1.902	.059
	Neg_Fem	.256	.164	.142	1.560	.121
	Neg_Masc	-.147	.141	-.097	-1.041	.300
	Rec_Att	.361	.096	.362	3.775	<.001
	Rec_Sit	-.001	.077	-.001	-.007	.994
Rec_Pers	.059	.088	.059	.676	.500	
3	(Constant)	-.223	.853		-.261	.794
	Pos_Masc	.121	.170	.064	.710	.479
	Pos_Fem	.207	.125	.122	1.660	.099
	Neg_Fem	.290	.159	.161	1.823	.070
	Neg_Masc	-.131	.137	-.087	-.961	.338
	Rec_Att	.258	.097	.259	2.650	.009
	Rec_Sit	-.028	.075	-.029	-.378	.706
	Rec_Pers	.005	.086	.005	.056	.955
Wishful_Ident	.331	.099	.303	3.327	.001	

a. Dependent Variable: Comm\_PSR\_Friendship

## HRA supportive PSR

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				
						F Change	df1	df2	Sig. F Change	
1	.539 <sup>a</sup>	.291	.272	.69223	.291	15.083	4	147	<.001	
2	.700 <sup>b</sup>	.490	.465	.59308	.199	18.753	3	144	<.001	
3	.758 <sup>c</sup>	.575	.551	.54343	.085	28.516	1	143	<.001	

a. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem  
b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att  
c. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att, Wishful\_Ident

ANOVA <sup>a</sup>							
Model		Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	28.910	4	7.228	15.083	<.001 <sup>b</sup>	
	Residual	70.439	147	.479			
	Total	99.349	151				
2	Regression	48.699	7	6.957	19.779	<.001 <sup>c</sup>	
	Residual	50.651	144	.352			
	Total	99.349	151				
3	Regression	57.120	8	7.140	24.178	<.001 <sup>d</sup>	
	Residual	42.230	143	.295			
	Total	99.349	151				

a. Dependent Variable: Sup\_PSR\_Friendship  
b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.359	.631		2.154	.033
	Pos_Masc	.603	.113	.444	5.331	<.001
	Pos_Fem	.048	.092	.039	.524	.601
	Neg_Fem	.250	.117	.192	2.131	.035
	Neg_Masc	-.271	.101	-.248	-2.676	.008
2	(Constant)	1.106	.548		2.017	.046
	Pos_Masc	.292	.107	.215	2.734	.007
	Pos_Fem	-.036	.080	-.029	-.447	.655
	Neg_Fem	.139	.102	.107	1.363	.175
	Neg_Masc	-.172	.088	-.158	-1.963	.052
	Rec_Att	.356	.059	.494	5.989	<.001
	Rec_Sit	-.009	.048	-.012	-.183	.855
Rec_Pers	.042	.055	.058	.775	.439	
3	(Constant)	1.193	.503		2.373	.019
	Pos_Masc	.172	.100	.127	1.715	.088
	Pos_Fem	-.071	.074	-.058	-.967	.335
	Neg_Fem	.171	.094	.131	1.827	.070
	Neg_Masc	-.157	.080	-.144	-1.956	.052
	Rec_Att	.259	.057	.359	4.509	<.001
	Rec_Sit	-.035	.044	-.050	-.794	.429
	Rec_Pers	-.009	.051	-.013	-.182	.856
Wishful_Ident	.313	.059	.397	5.340	<.001	

a. Dependent Variable: Sup\_PSR\_Friendship

## HRA perceived realism

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.424 <sup>a</sup>	.179	.157	1.06600	.179	8.037	4	147	<.,001
2	.596 <sup>b</sup>	.355	.324	.95470	.176	13.091	3	144	<.,001
3	.596 <sup>c</sup>	.355	.319	.95798	.000	.015	1	143	.904
4	.637 <sup>d</sup>	.406	.364	.92592	.051	6.037	2	141	.003

a. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att

c. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att, Wishful\_Ident

d. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att, Wishful\_Ident, Comm\_PSR\_Friendship, Sup\_PSR\_Friendship

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.531	4	9.133	8.037	<.,001 <sup>b</sup>
	Residual	167.044	147	1.136		
	Total	203.575	151			
2	Regression	72.326	7	10.332	11.336	<.,001 <sup>c</sup>
	Residual	131.249	144	.911		
	Total	203.575	151			
3	Regression	72.339	8	9.042	9.853	<.,001 <sup>d</sup>
	Residual	131.236	143	.918		
	Total	203.575	151			
4	Regression	82.692	10	8.269	9.645	<.,001 <sup>e</sup>
	Residual	120.884	141	.857		
	Total	203.575	151			

a. Dependent Variable: Realness

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	3.759	.971		3.869	<.001
	Pos_Masc	.091	.174	.047	.525	.601
	Pos_Fem	.316	.142	.179	2.221	.028
	Neg_Fem	.127	.181	.068	.701	.484
	Neg_Masc	-.546	.156	-.349	-3.506	<.001
2	(Constant)	3.131	.883		3.546	<.001
	Pos_Masc	-.247	.172	-.127	-1.437	.153
	Pos_Fem	.210	.129	.119	1.628	.106
	Neg_Fem	-.049	.164	-.026	-.300	.764
	Neg_Masc	-.428	.141	-.274	-3.032	.003
	Rec_Att	.347	.096	.337	3.631	<.001
	Rec_Sit	.143	.077	.142	1.855	.066
	Rec_Pers	.096	.088	.092	1.097	.275
3	(Constant)	3.134	.886		3.536	<.001
	Pos_Masc	-.252	.177	-.130	-1.423	.157
	Pos_Fem	.208	.130	.118	1.605	.111
	Neg_Fem	-.048	.165	-.026	-.291	.772
	Neg_Masc	-.428	.142	-.274	-3.016	.003
	Rec_Att	.343	.101	.333	3.394	<.001
	Rec_Sit	.142	.078	.141	1.823	.070
	Rec_Pers	.094	.090	.090	1.050	.295
4	(Constant)	3.024	.877		3.450	<.001
	Pos_Masc	-.307	.173	-.158	-1.776	.078
	Pos_Fem	.165	.128	.094	1.294	.198
	Neg_Fem	-.146	.163	-.078	-.900	.370
	Neg_Masc	-.372	.139	-.238	-2.678	.008
	Rec_Att	.241	.105	.234	2.294	.023
	Rec_Sit	.154	.075	.153	2.043	.043
	Rec_Pers	.094	.087	.090	1.087	.279
	Wishful_Ident	-.116	.110	-.103	-1.050	.295
	Comm_PSR_Friendship	.256	.088	.247	2.904	.004
Sup_PSR_Friendship	.140	.150	.098	.935	.351	

a. Dependent Variable: Dealness



## HRA wishful identification PoC vs non-PoC

**Model Summary**

PoC	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
							F Change	df1	df2	
Non-PoC	1	.465 <sup>a</sup>	.216	.183	.85644	.216	6.547	4	95	<.001
	2	.603 <sup>b</sup>	.364	.315	.78402	.148	7.121	3	92	<.001
PoC	1	.572 <sup>a</sup>	.327	.270	1.00484	.327	5.719	4	47	<.001
	2	.821 <sup>b</sup>	.673	.621	.72374	.346	15.533	3	44	<.001

a. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att

**ANOVA<sup>a</sup>**

PoC	Model		Sum of Squares	df	Mean Square	F	Sig.
Non-PoC	1	Regression	19.207	4	4.802	6.547	<.001 <sup>b</sup>
		Residual	69.682	95	.733		
		Total	88.889	99			
	2	Regression	32.338	7	4.620	7.516	<.001 <sup>c</sup>
		Residual	56.551	92	.615		
		Total	88.889	99			
PoC	1	Regression	23.100	4	5.775	5.719	<.001 <sup>b</sup>
		Residual	47.456	47	1.010		
		Total	70.556	51			
	2	Regression	47.509	7	6.787	12.957	<.001 <sup>c</sup>
		Residual	23.047	44	.524		
		Total	70.556	51			

a. Dependent Variable: Wishful Ident

**Coefficients<sup>a</sup>**

PoC	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Non-PoC	1	(Constant)	.386	1.104		.350	.727
		Pos_Masc	.722	.190	.413	3.793	<.001
		Pos_Fem	.172	.149	.112	1.154	.251
		Neg_Fem	.177	.195	.102	.906	.367
		Neg_Masc	-.205	.170	-.137	-1.208	.230
	2	(Constant)	-.340	1.056		-.322	.748
		Pos_Masc	.472	.195	.270	2.425	.017
		Pos_Fem	.071	.140	.046	.510	.611
		Neg_Fem	.126	.180	.072	.698	.487
		Neg_Masc	-.072	.160	-.048	-.451	.653
		Rec_Att	.358	.105	.390	3.423	<.001
		Rec_Sit	.045	.091	.049	.498	.620
		Rec_Pers	.039	.094	.044	.420	.675
		PoC	1	(Constant)	-.075	1.338	
Pos_Masc	.713			.257	.422	2.778	.008
Pos_Fem	.310			.231	.191	1.343	.186
Neg_Fem	-.052			.269	-.032	-.194	.847
Neg_Masc	-.066			.223	-.051	-.296	.769
2	(Constant)		-.644	.976		-.660	.513
	Pos_Masc		.227	.208	.134	1.091	.281
	Pos_Fem		.222	.167	.137	1.328	.191
	Neg_Fem		-.367	.202	-.225	-1.819	.076
	Neg_Masc		.075	.163	.059	.461	.647
	Rec_Att		.289	.115	.316	2.521	.015
	Rec_Sit		.119	.087	.140	1.370	.178
	Rec_Pers		.335	.107	.347	3.116	.003

a. Dependent Variable: Wishful\_Ident

## HRA communicational PSR PoC vs non-PoC

**Model Summary**

PoC	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
							F Change	df1	df2	
Non-PoC	1	.408 <sup>a</sup>	.166	.131	1.03433	.166	4.733	4	95	.002
	2	.505 <sup>b</sup>	.255	.198	.99372	.088	3.641	3	92	.016
	3	.561 <sup>c</sup>	.315	.255	.95801	.060	7.986	1	91	.006
PoC	1	.564 <sup>a</sup>	.318	.260	.99471	.318	5.481	4	47	.001
	2	.723 <sup>b</sup>	.523	.447	.85982	.205	6.301	3	44	.001
	3	.739 <sup>c</sup>	.546	.461	.84868	.023	2.163	1	43	.149

a. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att

c. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att, Wishful\_Ident

**ANOVA<sup>a</sup>**

PoC	Model		Sum of Squares	df	Mean Square	F	Sig.
Non-PoC	1	Regression	20.253	4	5.063	4.733	.002 <sup>b</sup>
		Residual	101.634	95	1.070		
		Total	121.888	99			
	2	Regression	31.040	7	4.434	4.490	<.001 <sup>c</sup>
		Residual	90.848	92	.987		
		Total	121.888	99			
	3	Regression	38.369	8	4.796	5.226	<.001 <sup>d</sup>
		Residual	83.519	91	.918		
		Total	121.888	99			
PoC	1	Regression	21.693	4	5.423	5.481	.001 <sup>b</sup>
		Residual	46.504	47	.989		
		Total	68.197	51			
	2	Regression	35.668	7	5.095	6.892	<.001 <sup>c</sup>
		Residual	32.529	44	.739		
		Total	68.197	51			
	3	Regression	37.226	8	4.653	6.461	<.001 <sup>d</sup>
		Residual	30.971	43	.720		
		Total	68.197	51			

a. Dependent Variable: Comm PSR Friendship

**Coefficients<sup>a</sup>**

PoC	Model		Unstandardized Coefficients		Standardized	t	Sig.
			B	Std. Error	Coefficients Beta		
Non-PoC	1	(Constant)	.927	1.334		.695	.489
		Pos_Masc	.495	.230	.242	2.155	.034
		Pos_Fem	.280	.180	.156	1.554	.124
		Neg_Fem	.328	.236	.161	1.391	.168
		Neg_Masc	-.430	.205	-.246	-2.100	.038
	2	(Constant)	.762	1.338		.569	.570
		Pos_Masc	.173	.247	.085	.703	.484
		Pos_Fem	.164	.177	.091	.926	.357
		Neg_Fem	.297	.228	.146	1.304	.195
		Neg_Masc	-.301	.203	-.172	-1.486	.141
		Rec_Att	.329	.133	.306	2.484	.015
		Rec_Sit	-.107	.116	-.098	-.927	.356
		Rec_Pers	.121	.119	.115	1.017	.312
	3	(Constant)	.885	1.291		.685	.495
		Pos_Masc	.004	.245	.002	.015	.988
		Pos_Fem	.138	.171	.077	.809	.421
		Neg_Fem	.252	.220	.124	1.144	.256
		Neg_Masc	-.275	.196	-.157	-1.407	.163
		Rec_Att	.200	.136	.186	1.477	.143
		Rec_Sit	-.124	.112	-.113	-1.107	.271
		Rec_Pers	.107	.115	.101	.930	.355
Wishful_Ident	.360	.127	.307	2.826	.006		
PoC	1	(Constant)	-1.505	1.324		-1.136	.262
		Pos_Masc	.590	.254	.355	2.320	.025
		Pos_Fem	.544	.228	.341	2.380	.021
		Neg_Fem	.431	.266	.269	1.617	.112
		Neg_Masc	-.035	.220	-.028	-1.58	.875
	2	(Constant)	-1.568	1.159		-1.353	.183
		Pos_Masc	.125	.247	.075	.507	.615
		Pos_Fem	.494	.199	.310	2.486	.017
		Neg_Fem	.155	.240	.097	.646	.521
		Neg_Masc	.100	.194	.079	.515	.609
		Rec_Att	.429	.136	.476	3.145	.003
		Rec_Sit	.149	.103	.179	1.451	.154
		Rec_Pers	-.051	.128	-.054	-.401	.690
	3	(Constant)	-1.401	1.150		-1.218	.230
		Pos_Masc	.066	.247	.040	.268	.790
		Pos_Fem	.436	.200	.274	2.181	.035
		Neg_Fem	.251	.246	.156	1.021	.313
		Neg_Masc	.080	.192	.064	.419	.677
		Rec_Att	.354	.144	.393	2.456	.018
		Rec_Sit	.118	.104	.142	1.143	.260
		Rec_Pers	-.138	.139	-.146	-.993	.326
Wishful_Ident	.260	.177	.264	1.471	.149		

a. Dependent Variable: Career Self-Efficacy

## HRA supportive PSR PoC vs non-PoC

**Model Summary**

PoC	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
							F Change	df1	df2	
Non-PoC	1	.483 <sup>a</sup>	.234	.201	.68054	.234	7.239	4	95	<.001
	2	.677 <sup>b</sup>	.459	.418	.58104	.225	12.773	3	92	<.001
	3	.791 <sup>c</sup>	.626	.593	.48606	.167	40.471	1	91	<.001
PoC	1	.625 <sup>a</sup>	.390	.338	.73623	.390	7.523	4	47	<.001
	2	.763 <sup>b</sup>	.583	.516	.62951	.192	6.762	3	44	<.001
	3	.767 <sup>c</sup>	.588	.511	.63278	.005	.547	1	43	.464

a. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att

c. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att, Wishful\_Ident

**ANOVA<sup>a</sup>**

PoC	Model		Sum of Squares	df	Mean Square	F	Sig.
Non-PoC	1	Regression	13.410	4	3.353	7.239	<.001 <sup>b</sup>
		Residual	43.997	95	.463		
		Total	57.408	99			
	2	Regression	26.347	7	3.764	11.149	<.001 <sup>c</sup>
		Residual	31.060	92	.338		
		Total	57.408	99			
	3	Regression	35.909	8	4.489	18.999	<.001 <sup>d</sup>
		Residual	21.499	91	.236		
		Total	57.408	99			
PoC	1	Regression	16.311	4	4.078	7.523	<.001 <sup>b</sup>
		Residual	25.475	47	.542		
		Total	41.787	51			
	2	Regression	24.350	7	3.479	8.778	<.001 <sup>c</sup>
		Residual	17.437	44	.396		
		Total	41.787	51			
	3	Regression	24.569	8	3.071	7.670	<.001 <sup>d</sup>
		Residual	17.218	43	.400		
		Total	41.787	51			

a. Dependent Variable: Sup\_PSR\_Friendship

Coefficients <sup>a</sup>							
PoC	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Non-PoC	1	(Constant)	1.841	.878		2.098	.039
		Pos_Masc	.503	.151	.359	3.328	.001
		Pos_Fem	.052	.119	.042	.441	.660
		Neg_Fem	.264	.155	.189	1.704	.092
		Neg_Masc	-.329	.135	-.275	-2.443	.016
	2	(Constant)	1.524	.783		1.948	.054
		Pos_Masc	.173	.144	.123	1.201	.233
		Pos_Fem	-.068	.104	-.055	-.651	.516
		Neg_Fem	.233	.133	.167	1.750	.083
		Neg_Masc	-.179	.118	-.149	-1.509	.135
		Rec_Att	.395	.078	.536	5.097	<.001
		Rec_Sit	-.088	.068	-.118	-1.304	.196
		Rec_Pers	.072	.070	.100	1.041	.301
	3	(Constant)	1.664	.655		2.541	.013
		Pos_Masc	-.021	.124	-.015	-.168	.867
		Pos_Fem	-.097	.087	-.078	-1.116	.267
		Neg_Fem	.182	.112	.130	1.625	.108
		Neg_Masc	-.149	.099	-.124	-1.503	.136
		Rec_Att	.248	.069	.336	3.601	<.001
		Rec_Sit	-.107	.057	-.143	-1.886	.062
		Rec_Pers	.056	.058	.078	.965	.337
Wishful_Ident		.411	.065	.512	6.362	<.001	
PoC	1	(Constant)	.715	.980		.729	.469
		Pos_Masc	.752	.188	.578	3.997	<.001
		Pos_Fem	.012	.169	.010	.073	.942
		Neg_Fem	.280	.197	.224	1.422	.162
		Neg_Masc	-.220	.163	-.223	-1.347	.184
	2	(Constant)	.668	.849		.787	.435
		Pos_Masc	.389	.181	.299	2.147	.037
		Pos_Fem	-.036	.145	-.029	-.245	.807
		Neg_Fem	.085	.176	.068	.485	.630
		Neg_Masc	-.128	.142	-.129	-.900	.373
		Rec_Att	.342	.100	.486	3.429	.001
		Rec_Sit	.057	.075	.087	.757	.453
		Rec_Pers	.004	.093	.005	.041	.967
	3	(Constant)	.731	.857		.852	.399
		Pos_Masc	.367	.184	.282	1.988	.053
		Pos_Fem	-.057	.149	-.046	-.384	.703
		Neg_Fem	.121	.183	.097	.661	.512
		Neg_Masc	-.135	.143	-.137	-.945	.350
		Rec_Att	.314	.107	.446	2.926	.005
		Rec_Sit	.045	.077	.070	.588	.560
		Rec_Pers	-.029	.104	-.039	-.277	.783
Wishful_Ident		.097	.132	.127	.739	.464	

a. Dependent Variable: Sup\_PSR\_Friendship

## HRA perceived realism PoC vs non-PoC

**Model Summary**

PoC	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
							F Change	df1	df2	
Non-PoC	1	.402 <sup>a</sup>	.161	.126	1.04439	.161	4.570	4	95	.002
	2	.588 <sup>b</sup>	.346	.296	.93709	.185	8.667	3	92	<.001
	3	.589 <sup>c</sup>	.347	.289	.94190	.000	.062	1	91	.804
	4	.641 <sup>d</sup>	.411	.345	.90435	.064	4.857	2	89	.010
PoC	1	.523 <sup>a</sup>	.273	.211	1.10933	.273	4.413	4	47	.004
	2	.662 <sup>b</sup>	.439	.349	1.00760	.166	4.323	3	44	.009
	3	.663 <sup>c</sup>	.439	.335	1.01837	.001	.074	1	43	.787
	4	.702 <sup>d</sup>	.492	.368	.99261	.053	2.131	2	41	.132

a. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem

b. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att

c. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att, Wishful\_Ident

d. Predictors: (Constant), Neg\_Masc, Pos\_Fem, Pos\_Masc, Neg\_Fem, Rec\_Sit, Rec\_Pers, Rec\_Att, Wishful\_Ident, Comm\_PSR\_Friendship, Sup\_PSR\_Friendship

**ANOVA<sup>a</sup>**

PoC	Model		Sum of Squares	df	Mean Square	F	Sig.
Non-PoC	1	Regression	19.939	4	4.985	4.570	.002 <sup>b</sup>
		Residual	103.621	95	1.091		
		Total	123.560	99			
	2	Regression	42.771	7	6.110	6.958	<.001 <sup>c</sup>
		Residual	80.789	92	.878		
		Total	123.560	99			
	3	Regression	42.826	8	5.353	6.034	<.001 <sup>d</sup>
		Residual	80.734	91	.887		
		Total	123.560	99			
	4	Regression	50.771	10	5.077	6.208	<.001 <sup>e</sup>
		Residual	72.789	89	.818		
		Total	123.560	99			
PoC	1	Regression	21.722	4	5.431	4.413	.004 <sup>b</sup>
		Residual	57.839	47	1.231		
		Total	79.561	51			
	2	Regression	34.890	7	4.984	4.909	<.001 <sup>c</sup>
		Residual	44.671	44	1.015		
		Total	79.561	51			
	3	Regression	34.967	8	4.371	4.215	<.001 <sup>d</sup>
		Residual	44.595	43	1.037		
		Total	79.561	51			
	4	Regression	39.165	10	3.917	3.975	<.001 <sup>e</sup>
		Residual	40.396	41	.985		
		Total	79.561	51			

**Coefficients<sup>a</sup>**

PoC	Model		Unstandardized Coefficients		Standardized	t	Sig.
			B	Std. Error	Beta		
Non-PoC	1	(Constant)	4.945	1.347		3.672	<.001
		Pos_Masc	-.168	.232	-.081	-.722	.472
		Pos_Fem	.276	.182	.152	1.516	.133
		Neg_Fem	.263	.238	.129	1.106	.272
		Neg_Masc	-.723	.207	-.411	-3.496	<.001
	2	(Constant)	3.694	1.262		2.927	.004
		Pos_Masc	-.398	.233	-.193	-1.710	.091
		Pos_Fem	.167	.167	.092	.997	.321
		Neg_Fem	.168	.215	.082	.780	.437
		Neg_Masc	-.599	.191	-.340	-3.136	.002
		Rec_Att	.336	.125	.310	2.684	.009
		Rec_Sit	.196	.109	.179	1.798	.075
		Rec_Pers	.096	.112	.090	.856	.394
	3	(Constant)	3.704	1.269		2.918	.004
		Pos_Masc	-.413	.241	-.200	-1.711	.091
		Pos_Fem	.164	.168	.091	.977	.331
		Neg_Fem	.164	.217	.080	.756	.451
		Neg_Masc	-.597	.192	-.339	-3.104	.003
		Rec_Att	.324	.133	.300	2.431	.017
		Rec_Sit	.195	.110	.178	1.773	.080
		Rec_Pers	.095	.113	.089	.840	.403
		Wishful_Ident	.031	.125	.027	.250	.804
	4	(Constant)	3.313	1.262		2.625	.010
		Pos_Masc	-.412	.232	-.200	-1.779	.079
		Pos_Fem	.132	.164	.073	.805	.423
		Neg_Fem	.076	.211	.037	.360	.719
		Neg_Masc	-.505	.188	-.287	-2.693	.008
		Rec_Att	.246	.137	.228	1.799	.075
		Rec_Sit	.239	.108	.218	2.224	.029
		Rec_Pers	.059	.109	.056	.544	.588
		Wishful_Ident	-.106	.145	-.090	-.736	.464
		Comm_PSR_Friendship	.289	.109	.287	2.662	.009
Sup_PSR_Friendship	.082	.214	.056	.381	.704		



PoC	1	(Constant)	2.920	1.477		1.977	.054
		Pos_Masc	.424	.284	.236	1.495	.142
		Pos_Fem	.217	.255	.126	.853	.398
		Neg_Fem	-.062	.297	-.036	-.209	.836
		Neg_Masc	-.352	.246	-.259	-1.432	.159
	2	(Constant)	2.694	1.358		1.984	.054
		Pos_Masc	-.008	.290	-.004	-.026	.979
		Pos_Fem	.149	.233	.087	.640	.525
		Neg_Fem	-.305	.281	-.176	-1.085	.284
		Neg_Masc	-.241	.227	-.177	-1.062	.294
		Rec_Att	.352	.160	.361	2.200	.033
		Rec_Sit	.062	.121	.069	.512	.611
3	(Constant)	2.657	1.379		1.926	.061	
	Pos_Masc	.005	.297	.003	.018	.985	
	Pos_Fem	.162	.240	.094	.675	.504	
	Neg_Fem	-.326	.295	-.189	-1.107	.274	
	Neg_Masc	-.237	.230	-.174	-1.030	.309	
	Rec_Att	.368	.173	.379	2.132	.039	
	Rec_Sit	.069	.124	.076	.551	.584	
	Rec_Pers	.150	.167	.147	.899	.374	
	Wishful_Ident	-.058	.212	-.054	-.272	.787	
4	(Constant)	2.986	1.382		2.161	.037	
	Pos_Masc	-.083	.302	-.046	-.276	.784	
	Pos_Fem	.028	.247	.016	.114	.910	
	Neg_Fem	-.431	.292	-.249	-1.477	.147	
	Neg_Masc	-.239	.227	-.175	-1.051	.299	
	Rec_Att	.194	.193	.200	1.006	.320	
	Rec_Sit	.021	.123	.023	.171	.865	
	Rec_Pers	.201	.165	.196	1.221	.229	
	Wishful_Ident	-.161	.213	-.152	-.758	.453	
	Comm_PSR_Friendship	.330	.179	.306	1.844	.072	
	Sup_PSR_Friendship	.183	.240	.132	.760	.452	