The effect of the face of a consultant on risk taking behavior by his clients

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ABSTRACT

People do judge other people by their appearance, and those judgments are already made within 100ms. This paper therefore investigates the relative impact of the facial Width-to-Hight ratio of a consultant on his clients' tendency towards a risky investment decision. Furthermore, this research investigates whether the facial Width-to-Hight ratio of a consultant influences clients' preferences of a consultant. The moderation effects of the variables age, gender and nationality were analyzed too. Hypotheses were tested by performing an online survey. Respondents were first asked which out of two consultants they prefer if they had to make a risky investment decision regardless of the situational context. After that, a fictional business problem was presented where two fictional consultants came up with a solution. The first consultant presented a rather secure solution with low risk involved, where the second consultant presented a riskier solution. Respondents were asked to choose among the two consultants and their ideas. The questionnaire with both questions got two versions, a version where the second consultant's face was small and a version where the second consultant's face was wide. The survey got 361 responses, 191 for version 1 and 170 for version 2. Contradicting with the hypotheses, it was found that people prefer a consultant with a wider face when making a risky investment decision. However, the facial Width-to-Hight ratio of a consultant does not have an influence on a clients' tendency towards a risky investment decision. Moderation effects were found for the variables age and nationality, where a wider face has a greater impact on professionals (with an age above 25) compared to students (with an age till 25) and on people with an Asian nationality compared to people with a European nationality.

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Keywords

fWHR, risk-behavior, risk aversion, likelihood of choice, moderation effect of gender, moderation effect of nationality, moderation effect of age

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1. INTRODUCTION

Although one could say that we should not judge people by their appearance, the opposite is true. We do judge people by their appearance and have a reason to do so. Judgments on attractiveness, likeability, trustworthiness, competence and aggressiveness are already made within 100ms (Willes and Todorov 2006). Naylor (2007) showed that those judgments based on nonverbal cues could be largely correct. In a business context, research showed that a face can predict company profits for both male (Rule and Ambady 2008) and female (Rule and Ambady 2009) CEOs.

A facial ratio often used in research is the facial Width-to-Hight ratio (fWHR), measured by dividing the distance between the left and right Zygion by the distance between the Nasion and Prosthion, see Figure 1. For example, companies managed by a male CEO with a high fWHR have higher financial achievement (Wong et al 2011). Besides that, a high fWHR can predict the achievement drive among the past US presidents (Lewis et al. 2012). Furthermore, it has a positive effect on negotiation performance (Haselhuhn 2014). However, a high fWHR also predicts unethical behavior (Haselhuhn and Wong 2011) and the likelihood to exploit the trust of others (Stirrat and Perrett 2010). Besides that, Caré and McCormick (2008) found that a high fWHR predicts aggressive behavior. The fWHR differs among genders (where men have larger ratios than women), but does not depend on body size (Weston et al. 2007). The difference between males and females emerges during puberty and some researches argue this is due to an increased testosterone level for boys (Verdonck et al. 1999).

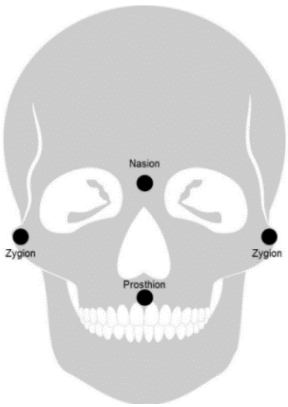

Figure 1. Facial Width-to-Hight ratio, measured by dividing the distance between the left and right Zygion by the distance between the Nasion and Prosthion.

This research focuses on the influence of a consultant's fWHR on his clients' choice regarding a risky investment decision. Besides that, this paper tries to give an answer to whether people prefer a consultant with a low fWHR when making a risky investment decision. The effects of the potential moderation variables age, gender and nationality will be tested too. A moderating role can be described as "whether the prediction of a dependent variable, Y, from an independent variable, X, differs across levels of a third variable, Z. Moderator variables affect the strength and/or direction of the relation between a predictor and an outcome: enhancing, reducing, or changing the influence of the predictor" (Fairchild and MacKinnon 2009, p. 90).

In general, a person with a low fWHR is considered as rather trustworthy (Stirrat and Perrett 2010). It is however not the only non-verbal thing that influences perceived trustworthiness, other factors like attractiveness have a positive influence on trustworthiness too (Wilson and Eckel 2006). Van 't Wout and Sanfey (2008) showed that trustworthiness judgements impacts the decisions people make.

The objectives of this research are to determine whether the fWHR of a consultant affects the choice his clients make regarding a risky investment decision and to identify whether this effect is moderated by age, gender and/or nationality. This paper therefore gives an answer to the following research question:

Does the fWHR of a consultant affect the choice his clients make regarding a risky investment decision and is that effect moderated by age, gender or nationality?

In order to answer the main research question regarding the influence of a consultant's fWHR on his clients' choices, the first sub-questions were formulated.

SQ1a: *Do people prefer a consultant with a low fWHR when making a risky investment decision?*

SQ1b: *Do people have a higher tendency towards a risky decision when the consultant's fWHR is low?*

To find out whether there are moderating roles for the variables age, gender and nationality, the following sub-questions were formulated as well.

SQ2a: *Is there a moderating role of age on people's preferences of a consultant with a low fWHR when making a risky investment decision?*

SQ2b: *Is there a moderating role of age on the relationship between the fWHR of a consultant and his client's tendency towards a risky decision?*

SQ3a: *Is there a moderating role of gender on people's preferences of a consultant with a low fWHR when making a risky investment decision?*

SQ3b: *Is there a moderating role of gender on the relationship between the fWHR of a consultant and his client's tendency towards a risky decision?*

SQ4a: *Is there a moderating role of nationality on people's preferences of a consultant with a low fWHR when making a risky investment decision?*

SQ4b: *Is there a moderating role of nationality on the relationship between the fWHR of a consultant and his client's tendency towards a risky decision?*

This research will add to existing literature, since not much is known yet in this area. Besides that, there is no literature available which examines the moderation effects of age, gender, and nationality on the relationship between fWHR and perceived trust. It is interesting to research these effects, since it can give new insights in this field. It has a practical relevance, since this research gives consultancy companies an insight on whom of their employees to show on their website, and how to show their employees online. For individuals, this research can give recommendations on how to express themselves on professional social media platforms like LinkedIn. One could say that this research could influence the selection process within business consultancy firms. However, it is arguable whether this is ethically responsible. This, because a selection based on the fWHR could tend to look like segregation based on facial features.

This paper starts with a literature review. At the end of the literature review the hypotheses will be developed. Then, the methodology will be discussed. After that, the results of this research will be presented, which will be followed by a conclusion. In the end, the discussions and limitations will be presented.

2. THEORY

The literature review will be separated in four subsections. First, the effects of facial features will be discussed by looking at the predictions that can be made by appearance and the way people are judged by their appearance. After that, a deeper insight is given on people's aversion and perception towards risk. After that, the prospect theory will be explained. This all, to develop the eight hypotheses tested in this paper.

2.1 Facial Effects

2.1.1 Predictions

There are quite some things that can be predicted by a face (Rule and Ambady 2010). As mentioned earlier, a face can predict company profits, financial achievement, achievement drive and negotiation performance. Furthermore, a high fWHR predicts unethical behavior, the likelihood to exploit the thrust of others and aggressive behavior. Some researchers argue this is due to the positive relationship of a fWHR and testosterone level (Verdonck et al. 1999). However, other recent research found contradicting results, stating that there is no relationship between the fWHR and testosterone level (Bird et al. 2016).

There are however way more facial effects. For instance, black baby-faced CEO's earn more compared to black mature-faced CEO's (Livingston and Pearce 2009). Livingston and Pearce (2009) refer to this as the Teddy-Bear Effect. Whether this is just because the way people are looking to others is arguable. This, because baby-faced boys show higher academic achievement than mature-faced boys (Zebrowitz et al. 1998).

Armstrong et al. (2010) found that a face can even predict election outcomes, as is studied among the presidential elections in the United states of America. This is in accordance with previous research on the gubernatorial elections (the most important elections in the United States besides the presidential elections) in the United states of America (Ballew and Todorov 2007). Both studies indicate that a face has an influence on election preferences, which is supported by research (Little et al. 2007).

2.1.2 Judgments

It is arguable whether judging people on their appearance is in accordance with ethical morality. However, facial features are impacted by the same hormones that also affect personality, emotional development, and behavioral characteristics (Neave et al. 2003), indicating that judgments can be right.

As mentioned earlier, baby-faced boys show higher academic achievement than mature-faced boys. However, we judge baby-faced people to be less competent than non-baby-faced individuals (Zebrowitz and Montepare 2005), showing that judgments may not always be true. Interesting is the fact that despite a judgment of less competence, babyfacedness does not negatively correlate with electoral success/wins (Poutvaara et al. 2009). Furthermore, "babyfacedness was found to be positively correlated with perceptions of warmth, honesty, naiveté, and kindness" (Berry and Zebrowitz 1985, p.316). A person with a high fWHR is perceived as more successful and dominant (Alrajih and Ward 2013). However, stereotypes may change over time and over experience (Duehr and Bono 2006).

Cross-culturally, there is a consensus in judgments on personality (Albright et al. 1997). Besides that, across cultures there is an agreement about perceived competences retrieved from a face (Rule et al. 2010). However, different cultures put different values and weights to these perceived competences (Rule et al. 2010).

2.2 Risk Taking and Risk Aversion

People are risk averse, no matter the pay-off level (Holt and Laury 2002). However, research by Chakravarty et al. (2011) and Rigoli et al. (2018) showed that people become less risk averse when making decision for others. On the other side, impulsiveness has a positive effect on risk taking behavior (Stanford et al. 1996). When it comes to gender differences are women more risk averse (Charness and Gneezy 2012; Borghans et al. 2009; Gong and Yang 2012) and less willing to make decisions affecting a group (Ertac and Gurdal 2012). The prospects of risks are evaluated by the average individual at two levels, namely cognitively and emotionally (Loewenstein et al. 2001). Income, family structure and ethnicity "provide only limited understanding of adolescent risk behaviors" (Blum et al. 2001, p. 1879), showing no big differences in risk taking behavior among different races and social classes.

2.2.1 Risk Perception

People expect a lower chance of negative events to happen to themselves than to an average person, showing unrealistic optimism about the perception of risks (Weinstein 1980). However, Wright and Bower (1992) showed that uncertainty predictions are highly affected by an individual's current mood. For instance, where fearful people tend to have more pessimistic predictions do angry people tend to have more optimistic predictions (Lerner and Keltner 2001). This results in fearful people being more risk-averse and angry people being more risk seeking.

Finucane et al. (2001) proved that people's perception of perceived risk and perceived benefit are related. People's perception of risk directly affects an individual's behavior regarding decision making (Brewer et al. 2004).

2.2.2 Risk Taking Among Age

Gardner and Steinberg (2005) showed that the older one gets, the more risk aware and risk averse one becomes. Other research however showed that the difference between older adults and younger adults on risk seeking is highly task depended (Mata et al. 2011). Talking about beliefs on the consequences of risky behavior, Beyth-Marom et al. (1993) showed that this is the same for adults and adolescents.

2.2.3 Risk Taking Within Groups

Previous research found that people take less risk when they need to decide for a couple (Bateman and Munro 2005) or a group (Ertac and Gurdal 2012), resulting in groups being more risk averse than individuals (Masclet et al. 2009). However, "the average group is more risk averse than the average individual in high-risk situations, but groups tend to be less risk averse in low-risk situations" (Shup and Williams 2008, p. 258). Individual risk aversion *within* a group increases when individuals know other group members' risk preference (Harrison et al. 2013). Research by Rockenbach et al. (2007) showed that "teams accumulate significantly more expected value at a significantly lower total risk" (p. 412), indicating a better estimation of risk levels.

2.3 The Prospect Theory

The prospect theory is a theory developed by Kahneman and Tversky (1979) which describes economic decision making under risk. It is considered to be the best descriptive theory in this field (Erner et al. 2013). The model is developed as critique on the expected utility theory, as it is developed by Von Neumann and Morgenstern (1944). The expected utility theory is a theory of utility in which risky investment choices of people regarding uncertain results are described by the function of the payout amount and the likelihood that such a payout amount will be paid out. For instance, consider a situation where individuals

need to choose among getting $500 for sure or getting $1000 with a chance of 60% and 0$ with a chance of 40%. The utility theory, as a rational way of decision making, suggests that the second option is better since the expected utility is higher. (0.6*$1000 + 0.4*$0= $600). Kahneman and Tversky showed that people do not always make decisions according to the expected utility theory.

In their research, Kahneman and Tversky presented the results of survey questions which highlights the decision-making behavior under a certain risk. Respondents were given certain prospects and had to choose amongst them. "In such a prospect, one receives x with probability p, y with probability q, and nothing with probability 1 -p -q, where p +q ≤ 1" (Kahneman and Tversky 1979, p. 275). Two of the problems, which Kahneman and Tversky presented to two different groups, are showed below. The results show risk averse behavior by individuals for positive prospects and risk seeking behavior by individuals for negative prospects.

Problem 1: In addition to whatever you own, you have been given 1,000. You are now asked to choose between

(A) (1.000, .50) (B) (500)

Problem 2: In addition to whatever you own, you have been given 2,000. You are now asked to choose between

(A) (-1,000, .50) (B) (-500)

Where at the first problem 84% of the respondents (N=70) chose option B, at the second problem 69% of the respondents (N=68) chose option A.

Two key findings of these survey questions are that (1) Potential gains are evaluated differently than potential losses and (2) that there is a framing effect which may affect choices. In general, people become more risk seeking when there is a loss involved, but more risk averse when there is a gain involved. As can be seen are the example problems presented above identical if they are rationally evaluated with respect to the final financial position. However, they are evaluated differently, showing a framing effect.

In conclusion, Kahneman and Tversky (1979) showed that "the value function is (i) defined on deviations from the reference point; (ii) generally concave for gains and commonly convex for losses; (iii) steeper for losses than for gains" (p. 279). A function illustrating this is presented in Figure 2.

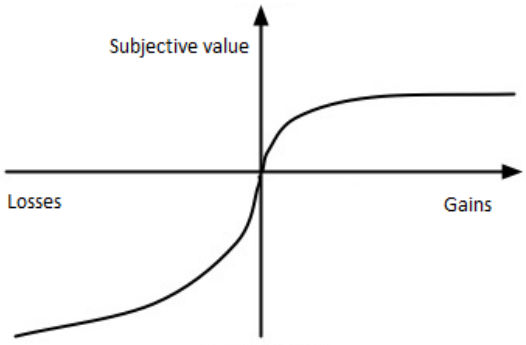

Figure 2. the prospect theory

2.4 Hypotheses development

2.4.1 Main Hypothesis

It is proven that a face, and judgments by a certain face, has an influence on other people's choices. As stated before, a low fWHR is positively associated with trustworthiness. On the other hand, a high fWHR is associated with unethical behavior and the damage of trust. It is therefore expected that people prefer a consultant with a low fWHR when making a risky investment decision. Furthermore, it is expected that people would go earlier into a risky investment when the consultant's fWHR is low.

H1a: *People prefer a consultant with a low fWHR when making a risky investment decision.*

H1b: *People have a higher tendency towards a risky investment decision when the consultant's fWHR is low.*

2.4.2 Moderation Effect of Age

Recent research found that not only adults make trustworthiness judgments by a face, but children as young as 8 years old do it too (Ma et al. 2015). Besides that, previous research found that age, and work experience to a smaller extent, has a significant positive effect on the tendency to trust others (Zeffane 2018). In addition to that, other research showed as well that elderly are more likely than young people to make investments with people who have a rather untrustworthy reputation (Bailey et al. 2016). This directly makes elderly more vulnerable for fraud (Castle et al. 2012). However, Sutter and Kocher (2007) argue that trust increases within childhood, but stays rather constant in adult age groups. When it comes to risk-taking, Gardner and Steinberg (2005) showed that the older one gets, the more risk averse one becomes. Other research however showed that the difference between older adults and younger adults on risk seeking is highly depending on the task (Mata et al. 2011). Talking about beliefs on the consequences of risky behavior, Beyth-Marom et al. (1993) showed that this is the same for adults and adolescents, indicating no big differences.

It is expected that age (which leads to an increase in tendency to trust others and a decrease in risk averse behavior) has a moderation effect on the relationship between the fWHR of a consultant and his clients' tendency towards a risky investment. It is however unclear whether this effect will be positive or negative.

H2a: *There is a moderating role of age on people's preferences of a consultant with a low fWHR when making a risky investment decision.*

H2b: *There is a moderating role of age on the relationship between the fWHR of a consultant and his client's tendency towards a risky decision.*

2.4.3 Moderation Effect of Gender

Researchers found that women are more risk averse (Charness and Gneezy 2012; Borghans et al. 2009; Gong and Yang 2012). This could be explained by the testosterone level, since a high testosterone level has a positive effect on risk taking behavior among men and women (Sapienza et al. 2009), where men on average have higher testosterone levels (Manning et al. 1998). Furthermore, men are more confident than women in judging the trustworthiness of faces (Mattarozzi et al 2015). Besides that, males and females use different financial decision strategies to make choices (Powell and Ansic 1997). This however does not have a significant impact on performance (Powell and Ansic 1997).

Therefore, it is also expected that gender (which leads to an increase in testosterone level and a decrease in risk averse behavior for men) has a moderation effect on the relationship between the fWHR of a consultant and his clients' tendency towards a risky investment. It is however also for this effect unclear whether this effect will be positive or negative.

H3a: *There is a moderating role of gender on people's preferences of a consultant with a low fWHR when making a risky investment decision.*

H3b: *There is a moderating role of gender on the relationship between the fWHR of a consultant and his client's tendency towards a risky decision.*

2.4.4 Moderation Effect of Nationality

As mentioned before there is an agreement about the perceived competences retrieved from a face across cultures. However, different cultures put different values and weights to these perceived competences. It is expected that the latter would potentially influence one's decision making. Also, the fact that Asians are less influenced by some facial features compared to Hispanics and Whites (Cunningham et al. 1995) could potentially influence decisions.

H4a: *There is a moderating role of nationality on people's preferences of a consultant with a low fWHR when making a risky investment decision.*

H4b: *There is a moderating role of nationality on the relationship between the fWHR of a consultant and his client's tendency towards a risky decision.*

2.4.5 Conceptual Framework

Taking these hypotheses together, the conceptual framework of this research will look as follows, as explained in Figure 3.

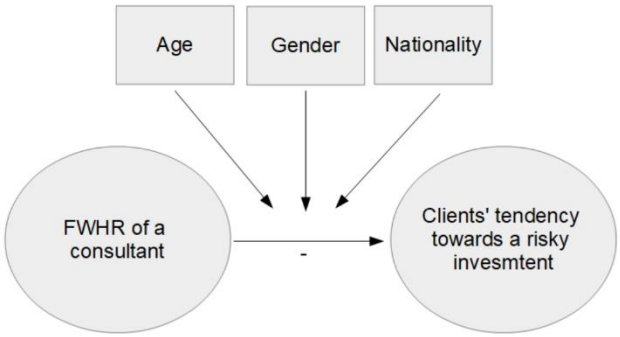

Figure 3. Conceptual framework

3. METHODOLOGY

3.1 Research Design

The hypotheses were tested by performing an online questionnaire where respondents were asked to make an investment decision, choosing among two options as presented by two different consultants. Before that, respondents were asked to choose among the two consultants without a scenario involved. After that, the survey presented the respondents a nowadays common banking problem scenario, which will be explained in section 3.2 in an elaborated way. Where consultant 1 showed a relatively certain solution with low risk, did the second consultant show a more uncertain solution with higher risk, but on the other hand higher potential reward.

Respondents were randomly assigned in two groups, where the face of the consultant with the riskier investment idea was manipulated. Where one group received a questionnaire where the second consultant's fWHR for both questions is low, the other group received a questionnaire where the second consultant's fWHR is high.

3.2 Survey Development

3.2.1 Photo Selection

In search of real consultants' pictures to attach to the two investment ideas, a big Dutch consultancy firm which shows their employees online was approached. These pictures were a perfect match with this research, since all pictures were made by the same photographer and contain the same number of pixels. Besides that, the consultants all wear professional business clothing on the pictures. The consultancy firm involved gave their agreement towards the usage of the pictures of their consultants. The two final consultants involved gave their agreement towards the usage of their pictures in scientific research too. In search for the two best pictures fitting this research, the following selection criteria had been set up: male, no glasses, no moustache or beard, no visible other nationality than the Dutch nationality, and looking straight into the camera. Out of these criteria, 24 consultants remained. Four consultants could not be used since they were visible looking younger (N=2) or older (N=2) than the others. Four were bald, which is expected to have an impact on one's choice, so they were not used too. Two of the remaining had a really low fWHR, which would not be ideal for this research, so they were not used as well. From the fourteen consultants left, nine had dark hair and five had blond hair. It is decided to choose the final two among the ones with dark hair, since the five who had blond hair had a lot of different facial features. Out of the nine remaining, two took the attention since they appeared to have the same age (around thirty years old), and both did not have overhanging hair on their face. More importantly, both consultants almost have the same fWHR as calculated using ImageJ software, namely 1.96 and 1.97 respectively. The picture of the first consultant, with a fWHR of 1.96, is used for consultant 1 in the survey. For consultant 2 in the survey, the second consultant's picture (with an original fWHR of 1.97) is manipulated using Polarr Photo Editor software. By making his face once smaller and once wider, two different pictures out of the same picture were made. The fWHR's of the manipulated faces are 1.76 for the 'low fWHR consultant 2' and 2.24 for the 'high fWHR consultant 2', as calculated using ImageJ software. It was decided to manipulate the faces to these values, since now a reasonable difference between the two faces is visible. Also, the fWHR's were not manipulated further, since that would have impacted the authenticity of the pictures.

3.2.2 Scenario Development

The questionnaire used for this research is made using Google Forms. Respondents to the questionnaire were first asked to choose between the two consultants with the question: "If you had to make a risky investment decision, which consultant would you hire based on a first impression? (Please indicate your preference)". This question had two functions. First of all, it gave an impression of respondents' choice regardless of the situational context. Secondly, via this way respondents were already familiar with the consultants' faces showed in the scenario which was presented later in the questionnaire. It is expected that via this way respondents are already familiar with the faces and will therefore keep them more into account during the decision-making process in the scenario.

After that, the questionnaire sketched a nowadays common banking problem: digitalization and decreased localization. Respondents were asked to imagine that they were the CEO of a national bank and that the bank faced a problem. More and more banking activities were arranged via the internet and a local bank was not profitable anymore, because the services offered did not cover the building renting costs. Respondents were asked to choose among two consultants which both had a different idea on how to solve this issue. Respondents were told that 80% of the fictional bank's customers are already using digital banking and only 20% of the customers visit the bank for their enquiries. The fictional ideas the consultants came up with, and where respondents could choose among, were as follows.

Consultant 1: His idea is to move employees from the head bank to the local bank, so they can do their work there and the local bank does not need to shut down. A disadvantage of this idea is that it can lead to miscommunications within the bank. The consultant will help building new communication networks within the bank. Respondents are told that the consultant calculated the risks and impact on profit to be as follows.

- 75% chance of 98% of last years' profit
- 25% chance of 95% of last years' profit.

Consultant 2: His idea is to shut down the local bank and offer customers the chance to learn about digital banking for free. Respondents are told that the consultant will help building a teaching method to teach customers about digital banking. Risks in this scenario would be that customers will move towards other banks who still offer local banking services. As sketched in the scenario, the consultant calculated the risks and impact on profit to be as follows.

- 60% chance of 115% of last years' profit
- 40% chance of 85% of last years' profit.

In both the questionnaires the face of the second (more risk taking) consultant was manipulated using Polarr photo editor. For half of the questionnaires the second consultant's fWHR was 1.76, whereas at the other questionnaires the second consultant had a fWHR of 2.24. It was made sure that around 50% of the respondents filled in the first questionnaire, and the other half filled in the second questionnaire, with random assignment. Via this way, the influence of the fWHR of the second consultant on the decisions of the respondents could be assessed.

Besides these decisions, respondents were asked to fill in their age, gender and nationality. As a control question, respondents were asked whether they knew or recognized one of the business consultants presented in the questionnaire. If respondents did so, this could have potentially influenced their decisions and that is why these data were removed.

The scenario presented was first individually checked by three business students before it was sent out in the questionnaire, assuming the scenario is realistic and presentable. It was chosen to make this certain scenario because it was expected that it is easy to understand and imaginable for both students and professionals.

The prospect theory, as developed by Kahneman and Tversky (1979), suggests that the second option would be more popular in general. This, because the theory shows that people become more risk-taking when there is a negative prospect (=a decrease in profit in the scenario) involved. It was therefore decided to show a negative prospect in the questionnaire, since it is expected that differences between decision making is the highest for a negative prospect. Also, the expected utility theory by Von Neumann and Morgenstern (1944) is in favor of the second decision. This, because the expected utility of the second consultant's idea is higher than the expected utility of the idea of the first consultant (103% of last year's profit over 97¼% of last year's profit).

3.3 Hypotheses testing

To find out whether people prefer a consultant with a low fWHR when making a risky investment decision (=H1a), and whether there is a higher tendency towards a risky decision when the consultant's fWHR is low (=H1b), a Chi-Square test was performed using SPSS IBM 25. The Chi-square test, also known as goodness of fit test, is often used in research to test the effects of categorial data. The test formula of the Chi-square is presented hereafter, where o stands for observed data and e for expected data.

$$\chi^2 = \sum \frac{(o-e)^2}{e}$$

To test whether there are moderation effects of gender, age, and nationality, multiple line charts have been created. To measure the moderation effect of gender, a separation was made between people till 25 years old and people older than 25 years old, labelled as "students" and "professionals". To measure the moderation effect of nationality, people with a European nationality were grouped as well as people with an Asian nationality.

3.4 Data Collection

Data was retrieved by first asking business students to fill in the survey. Besides that, business professionals were asked to fill in the questionnaire too. Via this way, younger and older business-related individuals filled in the questionnaire. The questionnaire was shared among the internet and via (professional) social media platforms. The questionnaire was compatible for all devices, including mobile devices.

Since the questionnaire was mainly spread throughout the Netherlands, the questionnaire was made in both Dutch and English. Respondents had the opportunity to make the questionnaire in either Dutch or English. Via this way, any language barriers among Dutch respondents were minimized.

4. RESULTS

4.1 Descriptive statistics

The questionnaire got 364 responses. However, 3 respondents knew or recognized the consultants involved, so these answers were not used. The 361 respondents remaining (mean age= 34.33, SD=15.71, range=16-75; 48.8% male, 51.2% female), whose answers will be used answering the hypotheses, were spread among twenty-one countries. These countries are spread among the following continents: Europe (N=269), Asia (N=89), North-America (N=1), South-America(N=1) and Oceania (N=1).

Version 1 got filled in 191 times (mean age= 35.29, SD=16.50, range=16-75; 52.9% male, 47.1% female), where version 2 got 170 responses (mean age= 33.25, SD=14.74, range=17-74; 44.1% male, 55.9% female).

4.1.1 Main Effects

In Table 1 and Table 2 the descriptive statistics for both questions can be seen separately, where question 1 represents the first question in the questionnaire: "If you had to make a risky investment decision, which consultant would you hire based on a first impression? (Please indicate your preference)". Question 2 represents the business scenario, where consultant 1 presented a rather secure solution and where consultant 2 (who's face got manipulated) presented a riskier solution.

Table 1. Descriptive Statistics Question 1

			Questionnaire version		
			Version 1: low fWHR consultant 2	Version 2: high fWHR consultant 2	Total
Question 1	Consultant 1	Count	130	90	220
		%	68.1%	52.9%	60.9%
	Consultant 2	Count	61	80	141
		%	31.9%	47.1%	39.1%
Total		Count	191	170	361
		%	100.0%	100.0%	100.0%

Table 2. Descriptive Statistics Question 2

			Questionnaire version		
			Version 1: low fWHR consultant 2	Version 2: high fWHR consultant 2	Total
Question 2	Consultant 1	Count	115	87	202
		%	60.2%	51.2%	56.0%
	Consultant 2	Count	76	83	159
		%	39.8%	48.8%	44.0%
Total		Count	191	170	361
		%	100.0%	100.0%	100.0%

As can be seen becomes consultant 2 more popular when his fWHR is high, which contrasts with Hypotheses H1a and H1b (which expected consultant 2 to become more popular when his fWHR is low). This is the case for both Question 1 and Question 2.

4.1.2 Moderation Effects

4.1.2.1 Gender

To test the moderation effect of gender, females (N=185; mean age= 31.96, SD=14.32, range=16-75) and males (N=176; mean age= 38.82, SD=16.73, range=17-74) were separated in the line charts below. The mean (in both questions) shows the amount of people who chose the second consultant.

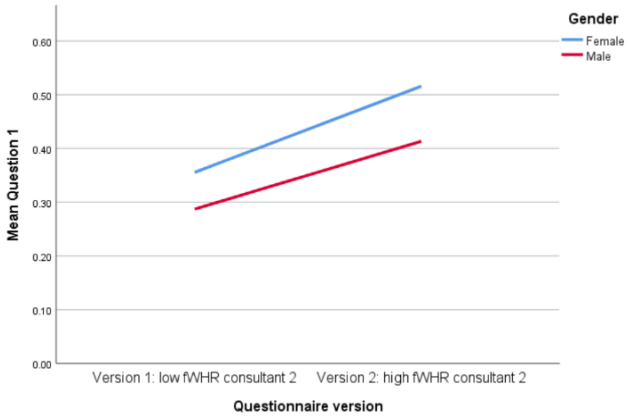

Figure 4. Multiple Line Lean of Question 1 by Questionnaire Version by Gender

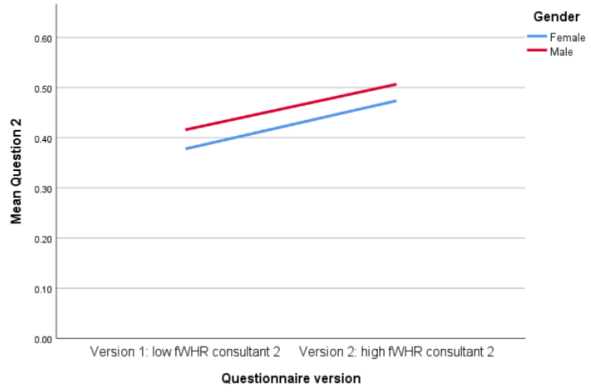

Figure 5. Multiple Line Lean of Question 2 by Questionnaire Version by Gender

As can be seen do the slopes of the lines for females and males not differ in Figure 4. Therefore, it can be concluded that there is no moderation effect of gender on people's preferences of a consultant with a low fWHR when making a risky investment decision (H2a). This is also the case in Figure 5, thus it can be concluded that there is also no moderating role of gender on the relationship between the fWHR of a consultant and his client's tendency towards a risky decision (H2b).

4.1.2.2 Age

To test the moderation effect of age, only respondents from Europe were used. This, because of a lack of respondents from Asia with an age above 25 ("professionals"). In the line charts below, students (N=99; mean age= 21.35, SD=1.77, range=16-25; 50.50% male, 49.50% female) and professionals (N=170; mean age= 47.45, SD=12.03, range=26-75; 56.47% male, 43.53% female) are separated. The mean (in both questions) shows the amount of people who chose the second consultant.

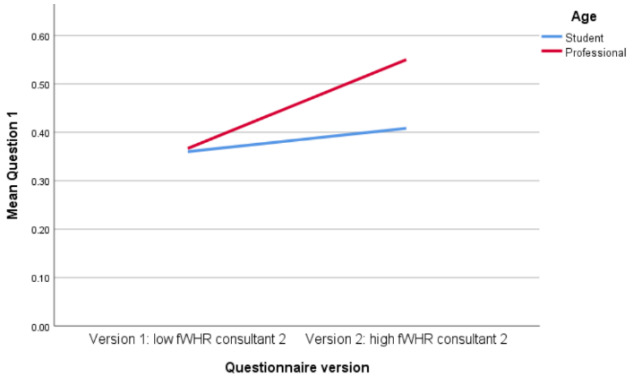

Figure 6. Multiple Line Lean of Question 1 by Questionnaire Version by Age

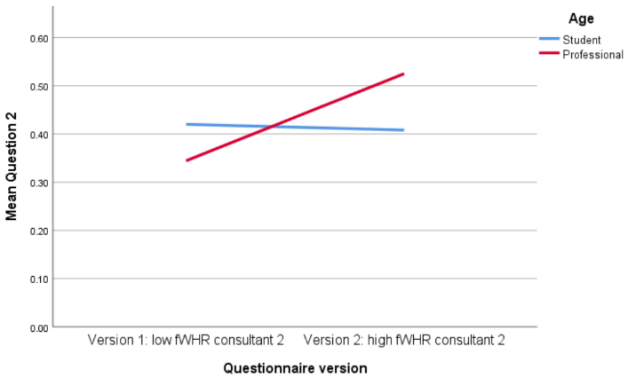

Figure 7. Multiple Line Lean of Question 2 by Questionnaire Version by Age

As can be seen do the slopes of the lines for students and professionals differ in Figure 6, with a steeper slope for professionals. Therefore, it can be concluded that on the first sight there seem to be a moderation effect of age on people's preferences of a consultant with a low fWHR when making a risky investment decision (H3a). This is also the case in Figure 7, with even bigger differences. For students there is a small *negative* relationship between the fWHR of a consultant and his client's tendency towards a risky decision. On the other hand, there is a *positive* relationship found for professionals (H3b).

4.1.2.3 Nationality

To test the moderation effect of nationality, only respondents with an age till 25 ("students" in the dataset) were used. This, because of a lack of respondents from Asia with an age above 25 ("professionals"). In the line chart below, Europeans (N=99; mean age= 21.35, SD=1.77, range=16-25; 50.51% male, 49.49% female) and Asians (N=78; mean age= 20.49, SD=1.53, range=18-25; 32.05% male, 67.95% female) are separated. The

mean (in both questions) shows the amount of people who chose the second consultant.

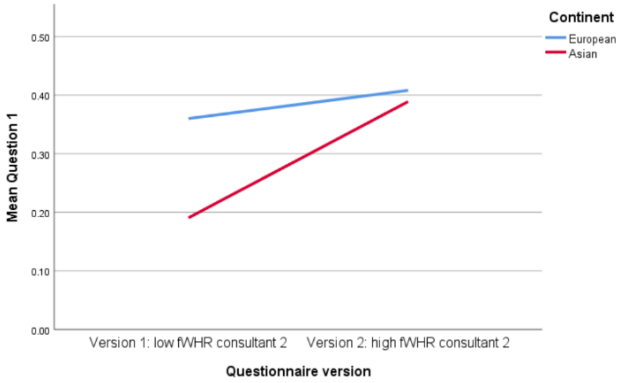

Figure 8. Multiple Line Lean of Question 1 by Questionnaire Version by Continent

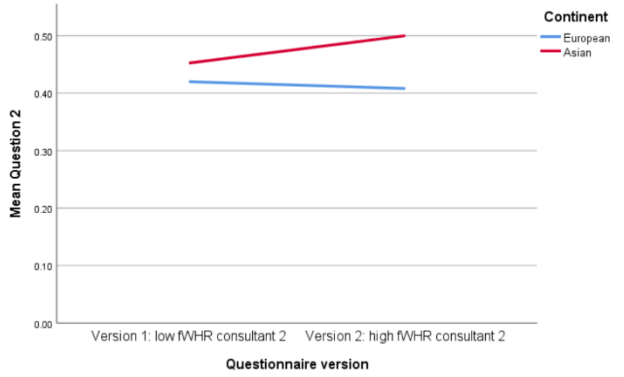

Figure 9. Multiple Line Lean of Question 2 by Questionnaire Version by Continent

As can be seen do the slopes of the lines for Europeans and Asians differ in Figure 8, with a steeper slope for Asians. Therefore, it can be concluded that on the first sight there seem to be a moderation effect of nationality on people's preferences of a consultant with a low fWHR when making a risky investment decision (H4a). This is also the case in Figure 9, with even bigger differences. For Europeans there is a small *negative* relationship between the fWHR of a consultant and his client's tendency towards a risky decision. On the other hand, there is a *positive* relationship found for Asians (H4b).

4.2 Inferential statistics

A Chi-Square test is performed to measure whether H1a and H1b are true. As shown earlier do the descriptive statistics contrasts with our hypotheses. So, if significant results are found for these two hypotheses, it will be significant in the wrong direction.

H1a: *People prefer a consultant with a low fWHR when making a risky investment decision.*

The Chi-Square test shows significant results (*Pearson Chi-Square*=8.641, *df*=1, *N*=361, *p*=0.03). It could already have been said that hypotheses H1a is false. Instead, there is statistical evidence that people prefer a consultant with a high fWHR when making a risky investment decision.

H1b: *People have a higher tendency towards a risky investment decision when the consultant's fWHR is low.*

The Chi-Square test does not show significant results (*Pearson Chi-Square*=2.978, *df*=1, *N*=361, *p*=0.084). It could already have been said that hypotheses H1b is false. Additionally, this shows that there is also no statistical evidence that people have a higher tendency towards a risky decision when the consultant's fWHR is high. However, since there is a relatively low p-value, it can be said that this is a weak conclusion.

5. CONCLUSION & LIMITATIONS

5.1 Conclusions

This research gave an insight in whether people would go earlier into a risky investment decision when the consultant involved has a low fWHR. Besides that, this research tested the preferences of people on a consultant when making a risky investment decision regardless the situational context. Furthermore, this research assessed potential moderation effects of the variables age, gender and nationality. This all, to answer the main hypothesis:

Does the fWHR of a consultant affect the choice his clients make regarding a risky investment decision and is that effect moderated by age, gender or nationality?

This research found contradicting results with the hypothesis. It was expected that people would prefer a consultant with a low fWHR, however this research found that a consultant becomes more popular when his fWHR is high. Significant results were found for Hypothesis 1a, indicating that there is statistical evidence that people prefer a consultant with a high fWHR when making a risky investment decision. Hypothesis 1b did not give significant results, indicating that there is no statistical evidence that people have a higher tendency towards a risky investment decision when the consultant's fWHR is high. Moderation effects were found for the variables 'age' and 'nationality' on both the preference of a consultant when making a risky investment decision and the tendency towards a risky investment decision. For the variable 'age' does a high fWHR have a greater impact on professionals (with an age above 25) compared to students (with an age till 25). For the variable 'nationality' does a high fWHR have a greater impact on people with an Asian nationality compared to people with a European nationality. No moderation effect was found for the variable 'gender', indicating no differences between males and females.

5.2 Discussion

Other researchers have investigated effects of the fWHR too. Some things that are found to be negatively associated with a high fWHR are unethical behavior, aggressive behavior and the likelihood to exploit the trust of others. On the other side, a high fWHR is positively associated with performance and achievement drive. It could be expected that due to the negative associations with a high fWHR, a consultant becomes more popular for long term investment ideas when his fWHR is low, since the average individual puts value to ethics and trustworthiness, which impacts decision making. However, this research found contradicting results. For both questions, the 'preference question' regardless of the situational context and the business case scenario, the second consultant became more popular when his fWHR was 2.24 compared to when his fWHR was 1.76. This is also contradicting previous research which concludes that people consider a person with a low fWHR as rather trustworthy compared to people with a high fWHR.

Stirrat and Perrett (2010) already concluded that there are inconsistencies in research on perceived trustworthiness measures retrieved from a face. This research will therefore add to this statement. Adding that information in this area is scarce, it can be stated that further research in this field is needed before broad conclusions can be taken. This research however already gave a start by indicating that there are moderation roles for 'age' and 'nationality', which should be taken into account in further research.

5.3 Limitations

There are some implications with this research that potentially hinder with the generalization of the results to other datasets. First, respondents were familiar with the fact that the effect of the face of a consultant was studied. This could perhaps lead to respondents being more focused on the consultants' faces rather than as they would normally do. However, respondents did not know the effect of which specific facial feature (the fWHR) was studied, so they could not specifically focus on that.

Furthermore, the questionnaire only showed respondents one picture of the consultants which was made from the front. Results could have been different when multiple pictures from different angles were shown, or more ideally, a video from the consultant's face was shown. It is also arguable whether responses would be different when respondents met the consultant in person, rather than by just a picture. The latter is however not possible, due to the manipulation of the faces.

The second question introduced the respondents a scenario. This scenario influences one's choices, so it is arguable whether the effects would be the same when a different scenario was used. Also the fact that only two consultants' photos were used in this research makes this research dependent on those two pictures. If other pictures or different scenarios were used, the effects may have been different.

Lastly, one's choice is also influenced by his/her risk averse or risk seeking behavior. This research did not measure respondents' aversion to risk and therefore did not take this factor into account. People with a high-risk aversion could reject the riskier solution anyways despite the face of the consultant involved.

5.4 Contributions

Further research could assess the validity of this research by performing similar research, but by changing the scenario and photos involved. Via this way could be assessed whether responses show the same or different patterns. Also, it is interesting to research why results were contradicting with the hypotheses. The fWHR is positively associated with a perceived achievement and successfulness, but negatively associated with trust. This research assumed that trust is more important than perceived successfulness when deciding which consultant to hire. It is therefore interesting to research which competence people put higher value at.

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