

Does Personality Impact Resisting Persuasion?

The Effects of Personality on Resisting Persuasion, With the Moderating Role of
Susceptibility to Authority



Violet Herlaar

Snr 2034813

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Communication and Information Sciences

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School of Humanities and Digital Sciences

Tilburg University, Tilburg

Supervisor: ir. M.A. Conijn

Second Reader: E.A.J. Croes

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Abstract

The threatening nature of persuasive messages can lead to undesirable defensive responses (Hendriks & Janssen, 2018). This is also called resistance (Knowles & Linn, 2004). To reduce resistance and increase persuasiveness, marketers adopt many persuasion strategies. It has been found that the effectiveness of these strategies depends on personality. However, no studies have examined the effects of personality on resistance to persuasion. The aim of this study is therefore to research the impact of personality on resistance and whether susceptibility to authority has a moderating role on this relationship in the field of sexual health communication. In addition, research is also conducted into the effects of two different authorities on resistance and the impact of personality on the use of resistance strategies. Participants were randomly assigned to one of the two conditions in which a persuasive sexual health message on Instagram by either a government agency or a commercial company was presented. The results were based on 62 participants and showed that 1) openness nor agreeableness significantly impact resistance to persuasion, 2) susceptibility did not moderate this relationship, except for individuals that scored low on susceptibility to authority, 3) the two authorities did not significantly differ in resistance score, 4) the two personality traits do not predict the use of resistance strategies. The overall results were inconsistent with previous studies and indicate that sexual health messages might appear to raise less resistance than general persuasive messages. It may also be important to take susceptibility to authority into account when predicting resistance to persuasion.

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Introduction

It is widely acknowledged that social networking sites (hereafter referred to as SNS) could play a role in decision-making (Power & Philips-Wren, 2011). Consumers see SNS as a decision-support tool in a way that they feel the need to use social media for peer input in decision-making. Besides this, it is also demonstrated that individuals use SNS as sources to obtain information about companies, brands, products and services (Bilal, Ahmed & Shehzad, 2014). Companies and brands take advantage of this opportunity to share and coordinate information to the recipient.

The great potential of SNS has also been recognized in health communication. Public health authorities use SNS to spread persuasive health messages (Laranjo et al., 2015). A common topic in health communication is sexual health among young adults. Each year, thousands of Dutch people get Sexually Transmitted Diseases (STD) and over 800 people get infected with the Human Immunodeficiency Virus (HIV) (De Graaf, 2017). Because SNS impacts decision-making, public health authorities use SNS to send persuasive messages among individuals to effectively influence condom use (O'Donnel & Willoughby, 2017).

Persuasive messages in sexual health communication are likely to get dismissed because individuals tend to feel as if their attitudes and beliefs are on attack (Zuwerink Jacks & Cameron, 2003). This is also called resistance to persuasion. Resistance is a phenomenon that is defined as “*the ability to withstand a persuasive attack*” (Knowles & Linn, 2004, p.4). One reason why people are motivated to resist persuasion is that they do not want to be influenced. Another reason to resist persuasion is when individuals are exposed to a message that is inconsistent with their current behavior (Dillard, Meczkowski & Yang, 2018). This study examines the resistance to persuasive messages in sexual health communication.

To ensure that as few individuals as possible resist persuasive messages, public health authorities use Cialdini's (1987) six principles of influence. The principles explain the

effectiveness of persuasive messages in the way they are structured (Cialdini, 1987). This study focuses on one of the six influences of social influence, namely authority (Cialdini, 1987). Authority implies the tendency to comply more with a request made by those who are in position of authority than those who are not. To respond to this, public health authorities widely use credible, knowledgeable experts to persuade their target audience (Cialdini, 1993). This study will explore the effects of two different authorities promoting a sexual health message because it has been found that these authorities influence persuasiveness; a commercial company and a government agency (Kim & Shin, 2018).

Previous research suggests that the effectiveness of Cialdini's (1993) persuasive strategies depends on many differences in personality. A study by Halko and Kientz (2010) has shown that the Big Five Personality (hereafter referred to as BFP) traits have different impacts on the effectiveness of persuasive messages. The BFP traits are widely used as a descriptive model of personality. Each trait features specific characteristics in which people can score high or low. On the basis of this, a person's personality can be determined. It has been found that agreeableness and openness are connected to Cialdini's (1987) principle of authority. Oyibo and colleagues (2017) found that people low in the personality trait of openness are more susceptible to the authority in the message because they are less independent-minded (Oyibo et al., 2017). They also found that people high on agreeableness are also more susceptible to the authority because they are more willing to listen and help others. Susceptibility can be explained as a tendency to be affected by something. In this case it implies that people low in openness and high in agreeableness tend to be more susceptible to authority.

Much of the research up to now is focused on personality and persuasion. However, the cognitive response approach suggests that individuals' responses to persuasive messages will distinguish whether someone accepts the message, resulting in persuasion or rejects the

message, resulting in resistance (Zuwerink Jacks & Cameron, 2003). Surprisingly, the effects of personality on resistance have not been closely examined. Thus, a systematic understanding of how personality contributes to resistance is still lacking. This study seeks to obtain data which will help to address this research gap. Therefore, the aim of this research is to determine to what extent the two personality traits openness and agreeableness predict resistance to persuasion, and the effects of susceptibility to authority on this relationship in the field of sexual health communication. This results in the following research questions:

RQ1: To what extent do the personality traits openness and agreeableness predict resistance to persuasion?

RQ2: Is the relationship between the personality traits openness and agreeableness and resistance to persuasion moderated by susceptibility to authority?

Individuals can use numerous different strategies to resist persuasive messages. To examine resistance to persuasive messages, Fransen, Smit, and Verlegh (2015) established a framework in which these strategies can be categorized in four main categories *avoidance strategies*, *contesting strategies*, *biased processing strategies* and *empowerment strategies*. This thesis intends to determine the extent to which openness and agreeableness predict resistance and whether openness and agreeableness predict each resistance strategy individually. To our knowledge, this is the first study using the framework by Fransen, Smit, and Verlegh (2015). Hence, the following research question is more explorative:

RQ3: How may the relationship between personality and resisting persuasion predict the type of resistance strategy?

Theoretical Framework

Persuasion and resistance

Individuals are continuously confronted with persuasive messages in which advertisers attempt to change attitudes and behaviors (Fransen et al., 2015). However, attitudes and behaviors are not easily changed because individuals attain a state in which they aspire to maintain their current state and reduce behavioral or attitudinal change (Knowles & Linn, 2004). This is also called resistance (Knowles & Linn, 2004). There are three motives that can cause resistance. First, the reactance theory (Brehm, 1989) suggests that individuals strive for independence and autonomy and sense psychological reactance when their freedom is threatened (Dillard & Shen, 2005). Reactance can be explained as a motivational state in which individuals are motivated to reestablish their freedom when it is threatened with elimination (Brehm, 2013). The second motive is reluctance to change and can be explained as a motivational state in which people tend to hold on to their existing beliefs and attitudes (Fransen et al., 2015). Reluctance to change is caused by the need to stay the same and the unwillingness to change. The last motive is concerns of deception. Individuals tend to see their own beliefs as true and correct and do not want to be misled (Petty & Cacioppo, 1979). Concerns of deception are caused by the need to hold onto current attitudes and opinions because people tend to see these as correct.

The importance of resistance and its motives have been shown in health communication as well. Because persuasive messages are applied to change healthy behavior, individuals tend to experience it as a threat to their freedom, which results in resistance to persuasion (Fransen et al., 2013). The threatening nature of health messages can arouse a state in which people rely even more on their existing beliefs and attitudes, which leads to undesirable defensive responses (Hendriks & Janssen, 2018). This is also caused by the concern that they are being misled.

Personality and persuasion

Because attitudes and behaviors are not easily changed, marketers employ different strategies to persuade their target audience. One way to do this is personalization. Research has shown that personalizing persuasive messages to the unique features of the recipient is an effective way to increase persuasiveness (Hirsh & Van Bodenhausen, 2012). The BFP traits by Costa and McCrae (1992) can be used for this. The BFP traits demonstrate that personality can be categorized in five basic dimensions and these dimensions can be used to effectively personalize persuasive messages: *Openness*, *Conscientiousness*, *Extraversion*, *Agreeableness* and *Neuroticism* (Costa & McCrae, 1992). The traits are defined as follows; *Openness* features characteristics such as imagination and insight. Those high in this trait tend to be curious, adventurous and creative. *Conscientiousness* features characteristics such as thoughtfulness, goal-oriented and self-disciplined. Those high in this trait tend to plan ahead and think about how their behavior affects others. *Extraversion* is the tendency to be social, talkative and assertive. People high in this trait are outgoing and seek excitement in social situations. *Agreeableness* features characteristics such as altruism, affection and complaint. Those high in this trait tend to be more cooperative and friendly to others. *Neuroticism* is the tendency of a person to be emotionally unstable, sad and moody. People high in this trait tend to experience insecurity, irritability and anxiety (Loehlin, McCrae, Costa & John, 1998).

Little research has been done in the field of personality traits and resistance to persuasion. Most of the studies in the field focus specifically on persuasion and indicate that personality impacts the persuasiveness of a message (Halko & Kientz, 2010; Hirsh et al., 2012; Oyibo et al., 2017). For example, one study found that all BFP traits could be indicators of susceptibility to social influence (Oyibo et al., 2017). Another study indicated that all BFP traits could be used to target on specific traits to increase message impact (Hirsh et al., 2012). A last study found that the all BFP traits could be used to achieve more success

when designing persuasive technologies (Halko & Kientz, 2010). Together, these studies indicate that the BFP traits could be used to improve the effectiveness of persuasive messages. However, as mentioned before, reactions to persuasive messages can be split up into accepting the message (which results in persuasion) or rejecting the message (which results in resistance) (Zuwerink Jacks & Cameron, 2003). It cannot be said with certainty that the results from studies examining the impact of personality on persuasion could be generalized to its effect on resistance to persuasion. Accordingly, it is hoped that this research will contribute to a deeper understanding of the relationship between the BFP traits openness and agreeableness and resistance to persuasion.

The aforementioned studies on personality and persuasion reported corresponding results for each of the five personality traits. To be specific, Oyibo et al. (2017) found that the personality trait agreeableness is related to each social influence strategy. This could be explained by the fact that individuals high in agreeableness are more persuaded when the message contains some association with family and community because agreeable individuals value communities and interpersonal conformity (Hirsh et al., 2012). Another study by Anagnostopoulou et al. (2017) found similar results that indicate that individuals high in agreeableness are easier to persuade than individuals low in agreeableness.

Individuals high in openness on the other hand, tend to be less susceptible to social proof and social comparison than individuals high in openness (Oyibo et al., 2017). They also tend to be more persuaded by messages that include creativity and intellectual stimulation because they tend to be more imaginative and adventurous (Hirsh et al., 2012). Anagnostopoulou and colleagues (2017) found no significant relationships between persuasive strategies and the personality trait openness. This indicates that open individuals are more difficult to persuade. However, none of the studies have specifically focused on the resistance to persuasive messages. It is therefore important to examine if the two personality traits openness and

agreeableness play the same role in resistance to persuasive messages. The following hypotheses are based on the previous literature on personality and persuasion:

H1a: Individuals higher in openness show more resistance to persuasion compared to individuals lower in openness.

H1b: Individuals lower in agreeableness show more resistance to persuasion compared to individuals higher in agreeableness.

Cialdini's Principles of Influence

As mentioned before, public health authorities use different strategies to change attitudes and behaviors. Research has shown that people tend to behave in automatic behavior patterns when responding to things people counter in real life (Cialdini, 1987). To influence these automatic behavior patterns, public health authorities widely apply Cialdini's (1987) six principles of social influence to change attitudes and behaviors; *reciprocation*, *scarcity*, *authority*, *social proof*, *liking* and *commitment and consistency*. The principles can be described as follows. *Reciprocation* explains the obligation to reciprocate when someone does a favor. *Scarcity* is the tendency to assign more value to what is rare and scarce, because it seems to be more valuable. *Authority* implies the tendency to comply more with a request made by those who are in position of perceived authority than those who are not. People that are susceptible to authority can be deceived in this sense because people like to think that someone is a legitimate authority because of its appearance. *Social proof* is a principle which clarifies that what we like and enjoy is enhanced when others like it too. *Liking* explains that people are more likely to do business with those they like than those they don't like. *Commitment and consistency* is the last principle and implies that people want to be

consistently committed to behavior in accordance with what they have said earlier to be seen as reliable. (Cialdini, 1993). The current study specifically focuses on the authority principle.

Authority

The few studies in the field show that the effectiveness of these persuasive strategies could depend on the BFP traits (Ciocarlan, Masthoff & Oren, 2019; Oyibo, Orji & Vassileva, 2017). To be specific, different studies found a relationship between agreeableness and openness and susceptibility to Cialdini's principle authority. Oyibo et al. (2017) found that individuals high in openness tend to be less susceptible to authority because they are more independent-minded and individuals high in agreeableness are more susceptible to authority because they are more willing to listen and help others. In a similar study, Ciocarlan and colleagues (2019) found a negative correlation between openness and authority, and a positive correlation between agreeableness and authority. Susceptible individuals tend to be more affected by messages that contains an authority (e.g., knowledgeable expert, well-known brand). These findings provide evidence that Cialdini's principles of influence might influence the relationship of personality on resistance to persuasion. It is therefore hypothesized that:

H2a: Susceptibility to authority has a moderating effect on the relationship between the BFP trait openness and resistance to persuasion in a way that peoples high in openness (compared to low in openness) show more resistance when they are susceptible to the authority.

H2b: Susceptibility to authority has a moderating effect on the relationship between the BFP trait agreeableness and resistance to persuasion in a way that people low in agreeableness (compared to people high in agreeableness) show more resistance when they are susceptible to authority.

Type of authority.

To test the moderating role of susceptibility to authority, the current study will analyze the effects of two different authorities because it has been found that persuasiveness depends on the type of authority. A previous study by Kim and Shin (2018) indicated that some authorities are perceived more favorably and reliable than others. To be specific, the authors demonstrated that sexual health messages sponsored by a commercial company raise more resistance than sexual health messages sponsored by a government agency (Kim & Shin, 2018). A logical reason for this may be the Persuasion Knowledge Model (Friestad & Wright, 1994). This model explains that individuals are more likely to resist a persuasive message when they have knowledge about how the persuasive message tries to influence them. Messages sponsored by a commercial company are more likely to get dismissed because consumers rely on their persuasion knowledge to attribute the motives of the authority. The main motive of a commercial company is to sell. Because a government agency is a nonprofit corporation, it is less likely that persuasion knowledge gets activated (Kim & Shin, 2018). In addition, based on the aforementioned findings it could be expected that susceptibility to authority will have a moderating role on the relationship between type of authority and resistance to persuasion. It could therefore be hypothesized that:

H3: A government agency induces less resistance compared to a commercial company.

H4: Susceptibility to authority has a moderating role on the relationship between type of authority and resistance to persuasion.

Resistance Strategies

In resisting a persuasive message, individuals attain a state in which they aspire to maintain their current state and reduce behavioral change. The aforementioned motives for

resistance (i.e., threat to freedom, reluctance to change, and concerns of deception) are predictors of the type of strategies individuals use to resist persuasion (Fransen et al., 2015). These strategies are presented by Fransen et al. (2015) in a framework that categorizes types of resistance: *avoidance strategies*, *contesting strategies*, *biased processing strategies* and *empowerment strategies*. An overview of the framework is presented in Table 1. The first category is avoidance strategies and could be related to all resistance motives because people tend to avoid advertisements only when they have experienced resistance before. An example is *mechanical avoidance* and explains that individuals tend to avoid the advertisement by simply zapping or swiping away. The second category is contesting strategies might be related to threats to freedom and concerns of deception because individuals do not want to be misled and therefore contest the content, the source and the strategies used. The relationship could also be explained by the Persuasion Knowledge Model (Friestad & Wright, 1994). A subcategory is *contesting the strategies used*, which imply that detection of persuasion tactics leads to resistance. The third category is biased processing strategies and is related to reluctance to change because when individuals adopt a biased processing strategy, they have the desire to stay the same. An example is *reducing impact* and implies that individuals tend to distort their current attitude by actively avoiding other attitudes. The last category is empowerment strategies and could be related to reluctance to change and threats to freedom because individuals tend to strengthen existing attitudes to reduce their vulnerability toward persuasive attempts. An example is *attitude bolstering* and implies the tendency to generate thought that supports one's existing beliefs and attitudes.

Table 1

Resistance strategies by Fransen et al. (2015)

Avoidance strategies

| | |
|-------------------------------------|---|
| Physical avoidance | Avoiding by not looking at something or leaving the room |
| Mechanical avoidance | Avoiding by swiping away, zapping |
| Cognitive avoidance | Avoiding by not paying attention |
| Contesting strategies | |
| Contesting the content | Counter arguing the arguments in the message |
| Contesting the source | Doubting the credibility and trustworthiness of the source |
| Contesting the strategies used | Knowledge about persuasion tactics leads to resistance |
| Biased processing strategies | |
| Weighting attributed | People tend to add more weight to information that is consistent with their attitudes |
| Reducing impact | People tend to base their overall evaluation on one particular aspect |
| Optimism bias | People tend to think that negative things are less likely to happen to them |
| Empowerment strategies | |
| Attitude bolstering | People generate thoughts or arguments that support their attitudes |
| Social validation | People tend to seek validation from significant others |
| Self-assertions | People tend to believe that no one can change their attitudes and beliefs |

Up to now, relatively little research has investigated personality as a predictor of the use of resistance strategies people apply to resist against change and how this resistance may hinder persuasion. Thus, no specific hypotheses were created that indicated the expected resistance strategies, rather exploratory research is conducted into how openness and agreeableness predict the use of resistance strategies. Figure 1 presents the conceptualization of the current study.

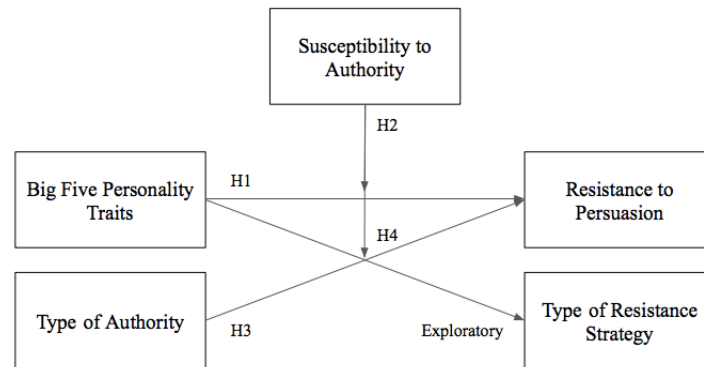


Figure 1. Conceptual model

Method

Design

To investigate the relationship between personality and resistance to persuasion and whether susceptibility to authority has a moderating effect on this relationship, a between-subject experiment was conducted. The independent variables in this experiment were personality (agreeableness and openness), and type of authority (government agency vs. commercial company). Resistance strategies and resistance in general were the dependent variables. Susceptibility to authority was expected to be the moderating variable on the relationship between personality and resistance to persuasion.

The participants were exposed to one of the two conditions. In the first condition, participants were exposed to a sexual health message by a government agency. In the second condition, participants were exposed to a sexual health message by a commercial company. After exposure, the participants filled in an online questionnaire that measured to what extent the message induces resistance.

This study was part of a larger experiment in which other conditions were used. However, these conditions were not analyzed in this study.

Participants

A total of 240 students were recruited via convenience sampling from the two researchers' personal network to participate in the study. The total number of participants was 70, of which 62 participants remained after cleaning the data. 29 participants were randomly assigned to condition 1 (Durex) and 33 participants were randomly assigned to condition 2 (GGD). The data ($n = 62$) contained 17 males (27.4%) with a mean age of $M = 26.00$, $SD = 4.52$ and 45 females (72.6%) with a mean age of $M = 25.00$, $SD = 6.05$. The overall mean age was 25.25 ($SD = 5.68$).

Materials

As mentioned before, public health authorities use SNS to send persuasive messages among individuals to effectively influence condom use. Instagram was used to show the sexual health message among the participants. Instagram is a SNS which allows users to share photos and videos with their followers or publicly.

The current study manipulated the Instagram message in a way that each condition presented an Instagram message with a different authority; a government agency and a commercial company. For the government agency, the Municipal Health Service (GGD) was chosen. The GGD is an organization which is dedicated to securing the health and well-being of the Dutch population. For the commercial company, we chose Durex. Durex is a big international condom manufacturer. The company is known for its creative and funny advertisements, which are also spread on Instagram.

Stimuli.

The Instagram messages in this study were manipulated in a way that it looks like an original Instagram feed on a mobile phone. Both Instagram messages contained the same elements as original Instagram messages, such as a profile picture, profile name, caption, number of likes and a time stamp. These elements were the same in both conditions to ensure that no other

factors could affect the outcomes. The manipulated Instagram messages are presented in Figure 2.

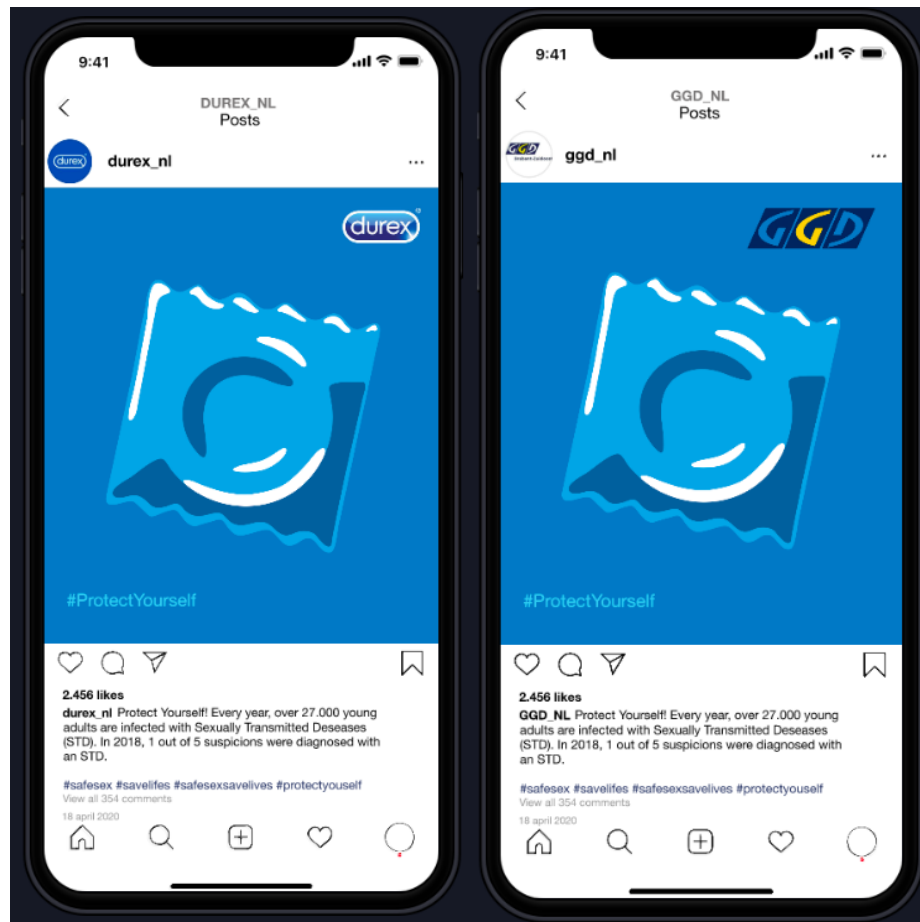


Figure 2. Manipulated Instagram Messages

Pretest.

To determine the effectiveness of the stimuli, a pretest was conducted. A small sample of ten participants was asked to fill in some questions regarding the look and feel of the Instagram message. To be specific, participants first got to see one of the two manipulated Instagram messages. After they have read the full message, they clicked on an arrow to go to the next page. A multiple-choice question was used to ask participants what healthy behavior is advertised in the Instagram message. Another multiple-choice question was used to ask what brand advertised the healthy behavior. Last, an open question was used to ask which object was depicted in the message.

The results of the pretest indicated that all participants fully understood the message because they have completed the questionnaire correctly. Thus, there was no need to improve the stimulus in the questionnaire.

Design of questionnaire.

The software tool Qualtrics was used to design and distribute the questionnaire. Qualtrics can be used on computers, tablets and smartphones. The link sent to open the questionnaire could be used on all these devices. After all data was collected, the data was exported to be analyzed. The full questionnaire extracted from Qualtrics can be found in appendix E.

Measures

Personality Traits.

The personality traits openness and agreeableness were measured using the Integrative Big Five Trait Taxonomy (IBFTT) of John, Naumann, and Soto (2008). The IBFTT uses a 5-point Likert scale, ranging from *disagree strongly* (1) to *agree strongly* (5). Only the two scales to measure openness and agreeableness were used. Openness was represented by ten items of which two were negatively stated. The reliability for the openness scale was considered low ($\alpha = .50$). Removing one or more items had no effect on the reliability of the scale. Agreeableness was represented by nine items of which four were negatively stated. The reliability of the agreeableness scale was considered sufficient ($\alpha = .75$). The negatively stated items were recoded so that a high score on all items represents a high score on the personality traits. The mean scores, standard deviations and example items are presented in Table 2. Both scales can be found in Appendix A.

Table 2

Means, standard deviations and example items for the openness and agreeableness scales

| Scale | α | M | SD | Example Item |
|---------------|----------|------|------|---|
| Openness | .50 | 3.53 | 0.47 | <i>'I see myself as someone who likes to reflect, play with ideas'</i> |
| Agreeableness | .75 | 3.54 | 0.52 | <i>'I see myself as someone who is helpful and unselfish with others'</i> |

Resistance Strategies.

Resistance to the sexual health message was measured using Fransen, ter Hoeven and Verlegh's (2013) 27-item Strategies to Resist Advertising scale (SRAS). The scale uses a five-point Likert scale ranging from *very unlikely* (1) to *very likely* (5). The scale includes items to measure the following strategies; three items for physical avoidance, two items for cognitive avoidance, three items for contesting the content, two items for contesting the source, four items for contesting the strategies, two items for attitude bolstering, two items for social validation, three items for self-assertion, three items for message derogation and three items for distraction (Fransen et al., 2013). In addition, the SRAS was created in 2013, but in 2015 Fransen et al. found four more strategies to resist persuasion. Items to measure the four new strategies did not yet exist. The current study has added the four new strategies to the SRAS and items to measure these strategies were based on explanations and examples by Fransen et al. (2015). The following items were added; two items for mechanical avoidance, two items for weighted attributed, two items for reducing impact and three items for optimism bias. Next to this, the scales for message derogation and distraction were excluded because these were not mentioned in the resistance strategies framework by Fransen et al. in 2015. It must be noted that the authors of the SRAS used different names for each scale (Fransen et al., 2013). The original names for each scale can be found in Appendix B.

To calculate resistance to the sexual health message in general, a mean score of all 12 resistance strategies was calculated ($M = 2.95$, $SD = .50$). The overall reliability of this scale was good ($\alpha = .81$). In addition, this study also calculated the mean scores per resistance strategy. All scales were considered reliable ($\alpha > .60$) except for cognitive avoidance, reducing impact, and attitude bolstering. The scores and the example items are presented in Table 3.

Table 3

Means, standard deviations and example items for the SRAS

| Strategy | α | M | SD | Example Item |
|--------------------------------|----------|------|------|--|
| Physical Avoidance | .66 | 2.76 | 0.74 | <i>'I ignore the ad'</i> |
| Mechanical Avoidance* | .71 | 3.44 | 0.90 | <i>'I swipe away'</i> |
| Cognitive Avoidance | .58 | 3.11 | 0.76 | <i>'I pay more attention to information that supports my own opinion about the ad'</i> |
| Contesting the Content | .77 | 2.77 | 0.84 | <i>'I look for flaws in the ads argumentation'</i> |
| Contesting the Source | .61 | 2.02 | 0.74 | <i>'I think unfavorably about the brand that made the ad'</i> |
| Contesting the Strategies used | .63 | 3.07 | 0.72 | <i>'I remind myself of the fact that the ad tries to sell me something'</i> |
| Weighted Attributed* | .79 | 3.48 | 0.83 | <i>'I am committed to the message in the ad because I trust the source'</i> |
| Reducing Impact* | .53 | 2.90 | 0.75 | <i>'I adjust my opinion when I dislike one particular aspect in the ad'</i> |
| Optimism Bias* | .90 | 3.15 | 1.09 | <i>'I think about reasons why the threats in the ad do not apply to me personally'</i> |
| Attitude Bolstering | .58 | 3.27 | 0.79 | <i>'I think about facts that support my own opinion about the advertised product'</i> |
| Social Validation | .74 | 2.29 | 0.92 | <i>'I think about people who do not like the ad'</i> |

| | | | | |
|-----------------|-----|------|------|--|
| Self-assertions | .78 | 3.07 | 0.81 | <i>'I think about how strongly committed I am to my own'</i> |
|-----------------|-----|------|------|--|

* Scale was added later and items to measure the scale were not validated

Susceptibility to Authority.

To measure the moderating effect of susceptibility to authority, the 6-item scale from the Susceptibility to Persuasion Strategies (STPS) by Kaptein, De Ruyter, Markopoulos, and Aarts (2012) was used. The STPS used a 7-point Likert scale, ranging from *completely disagree* (1) to *completely agree* (7). All items were randomly presented to the participant. Example items are *'I always follow advice from experts'* and *'I am more inclined to listen to an authority figure than a peer'*. The reliability of the susceptibility to authority scale was $\alpha = .44$, with $M = 3.35$, $SD = 0.44$. Because the reliability was quite low, one item was deleted (*'I am more likely to do something if told, than when asked'*) which resulted in $\alpha = .59$. The complete scale can be found in Appendix C.

Demographics.

The part about demographics consisted of two items; gender and age. Gender was measured using three items: male, female and rather not say. Age was measured as an open question. The mean age was 25.25 ($SD = 5.68$).

The questionnaire that was designed for this study was presented in English.

Procedure

A link was sent via the researchers' social networking sites, so the participants could carry out the experiment online and in their own time. In the invitation to fill in the questionnaire, participants were asked to use their mobile phone. Participants were first asked to read the informed consent which explained how long the experiment would take, how the researchers processed the data, the anonymity and confidentiality of the data, and the risks of

participating in the study. This consent form is provided in Appendix D. Those who did not agree to this were immediately sent to the end of the questionnaire. Participants that did agree could start the questionnaire.

Each participant was randomly assigned to one of the two conditions (Instagram message by the government agency GGD vs. Instagram message by the commercial company Durex). The participants were told to take as much time as needed to read and analyze the Instagram message. They could click to the next page where the questionnaire started. This consisted of four parts. First, the participants were asked to indicate how they feel about the Instagram message using the statements from the Strategies to Resist Advertising Scale. Second, susceptibility to authority was evaluated using the statements of the Susceptibility to Authority scale. Third, the nineteen statements regarding openness and agreeableness were presented and participants were asked to indicate to what extent they agree with each statement. Last, demographic questions were presented about gender and age. The experiment was closed by showing a debriefing form in which the purpose of the study was explained and thanking the participant for their contribution to the study. They were also asked if they would like to receive more information regarding the experiment or the final study. An overview of the questionnaire is represented in Appendix E. The experiment took approximately 10 minutes to complete.

Analyses

First, a simple linear regression analysis was conducted to test the main effect of both openness and agreeableness of resistance to persuasion. Second, a multiple regression analysis was conducted to test the main effects of personality on resistance to persuasion and the moderating effect of susceptibility to authority on this relationship. Third, a t-test and a multiple regression was conducted to test the effect of the type of authority on resistance and the moderating effect of susceptibility to authority on this relationship. Last, twenty-four

linear regressions were conducted to test whether personality predicts each resistance strategy. In order to carry out the statistical analyses, the program Statistical Package for the Social Sciences (SPSS) was used.

Results

Personality and resistance

To investigate whether the personality traits openness and agreeableness predict resistance to persuasion, a regression model was built with the mean score on openness or agreeableness as the predictor and the mean score of resistance as the dependent variable. All assumptions were met and are described in Appendix F.

Openness.

The regression model with openness as the predictor was not significant ($R^2 = .017$, $F(1, 60) = 1.01$, $p = .319$). Openness is not a significant predictor of resistance to persuasive messages ($\beta = .13$, $t(60) = 1.00$, $p = .319$). The results are presented in Table 4.

Table 4

Openness and resistance regression model

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 2.468 | .483 | | 5.109 | .000 |
| MeanOpen | .137 | .136 | .129 | 1.004 | .319 |

Agreeableness.

The regression analysis with agreeableness as the predictor showed a non-significant relationship between agreeableness and resistance $F(1, 60) = 1.048$, $p = .310$. with an R^2 of .017. The regression analysis showed that resistance score cannot be predicted by agreeableness score ($\beta = -.131$, $t(60) = -1.024$, $p = .310$). The results are presented in Table 5.

Table 5

Agreeableness and resistance regression model

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 3.289 | .343 | | 9.618 | .000 |
| MeanAgree | -.098 | .096 | -.131 | -1.024 | .310 |

To conclude, the personality traits openness and agreeableness do not predict resistance to the persuasive message. There is no relationship between individuals high or low on the scale of openness or agreeableness and their resistance toward persuasive messages in the current study. Hypothesis H1a and H1b are therefore rejected.

The moderation of susceptibility to authority**Openness.**

A multiple linear regression analysis was conducted to evaluate the moderating effect of susceptibility to authority on the relationship between openness and resistance to persuasion. The basic three predictor model was first briefly analyzed before looking into the interactions and the moderation effect. In this model, three independent variables were used; mean openness score, mean susceptibility to authority score and type of authority. The dependent variable was the mean resistance score. All assumptions were accepted and are fully described in appendix F.

The three predictor model was not significant in explaining the variance in the data $F(3, 58) = .386, p = .763, R^2 = .02$. Participants predicted resistance score is equal to $2.575 + .151$ (Openness) - $.043$ (SuscAuth) - $.015$ (TypeAuth), where type of authority is dummy coded as 0 = GGD, 1 = Durex. The basic descriptive statistics and regression coefficients are presented in Table 6.

Table 6

Descriptive statistics multiple linear regression

| Variable | TypeAuth | SuscAuth | Openness | Resistance | <i>b</i> | β |
|-----------|----------|----------|----------|------------|----------|---------|
| Openness | .183 | .188 | 1.000 | .129 | .15 | .14 |
| SuscAuth | .080 | 1.000 | .188 | -.027 | -.04 | -.05 |
| TypeAuth | 1.000 | .080 | .183 | .003 | -.02 | -.02 |
| Mean | | 3.35 | 3.53 | 2.95 | | |
| <i>SD</i> | | .44 | .47 | .50 | $R^2 =$ | .019 |

To determine whether there was an interaction effect between openness and susceptibility to authority on resistance score, centered variables were computed to ensure there were no multicollinearity problems with the interaction term. The analysis revealed a significant interaction effect between openness and susceptibility to authority on resistance ($\beta = -.263$, $t(60) = -2.06$, $p = .043$). This interaction effect implies to individuals with low susceptibility to authority. Thus, for individuals with a low susceptibility to authority score implies that the higher the openness score, the higher the resistance score. The interaction effect is shown in Figure 3.

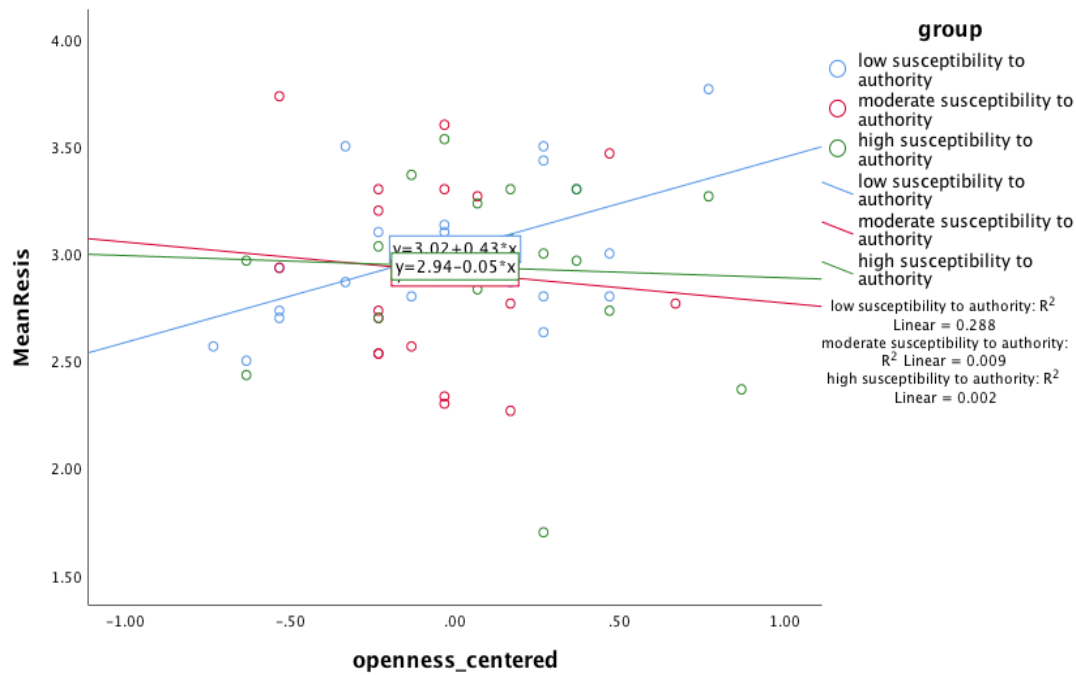


Figure 3. Interaction effect between openness score and resistance score grouped by susceptibility to authority

A Hayes' PROCESS macro moderation analysis was performed to further analyze the interaction effect between susceptibility to authority and openness score on resistance score. The overall model with the two predictors was not significant $F(3, 58) = 1.83, p = .152, R^2 = .086$. Surprisingly, for individuals that have scored low on the susceptibility to authority scale, there is a relationship between openness and resistance ($b = .17, t(58), p = .042$). For low susceptibility to authority, every point on the openness scale increases .17 on the resistance scale. Thus, for individuals that are little susceptible to authority, openness is a significant predictor of resistance. In this case, the higher someone scores on the openness scale, will eventually lead to more resistance to persuasive messages. For moderate susceptibility to authority, this relationship is not significant ($b = .15, t(58), p = .279$). For high susceptibility to authority this relation is also not significant ($b = -.149, t(58), p = .454$). When an individual has a susceptibility to authority score lower than 3.05, openness and resistance are significantly related to one another $t(58) = 2.00, p = .05, b = .32$. As

susceptibility to authority decreases, the relationship between openness and resistance becomes more positive with the lowest susceptibility to authority (2.4), $b = .64$, $t(58) = 2.33$, $p = .02$.

To conclude, openness score did only affect resistance score when people scored low on the susceptibility to authority scale. Hypothesis H2a was therefore partially supported.

Agreeableness.

A similar multiple linear regression analysis was performed with agreeableness as the predictor. The descriptive statistics and the regression coefficients are presented in Table 7. All assumptions were met. A full overview of the assumptions is presented in appendix F.

Table 7

Descriptive statistics multiple linear regression

| Variable | TypeAuth | SuscAuth | Agreeable | Resistance | b | β |
|-----------|----------|----------|-----------|------------|---------|---------|
| Agreeable | -.085 | .273 | 1.000 | .129 | .14 | -.10 |
| SuscAuth | .080 | 1.000 | .273 | -.027 | -.14 | .01 |
| TypeAuth | 1.000 | .080 | -.085 | .003 | -.01 | -.01 |
| Mean | | 3.35 | 3.54 | 2.95 | | |
| SD | | .44 | .52 | .50 | $R^2 =$ | .017 |

Again, the three-predictor model was analyzed first before looking into interactions and moderation effects. The model, with agreeableness score, susceptibility score and type of authority as the three predictors and resistance score as the dependent variable was not significant in explaining the variance in the data $F(3, 58) = .341$, $p = .796$, $R^2 = .017$.

A second analysis was performed to discover an interaction effect between agreeableness and susceptibility to authority on resistance score. The interaction effect between agreeableness score and susceptibility to authority score is shown in Figure 4. This

effect was not significant ($\beta = -.20$, $t(60) = -1.58$, $p = .321$). Hypothesis H2b was therefore rejected.

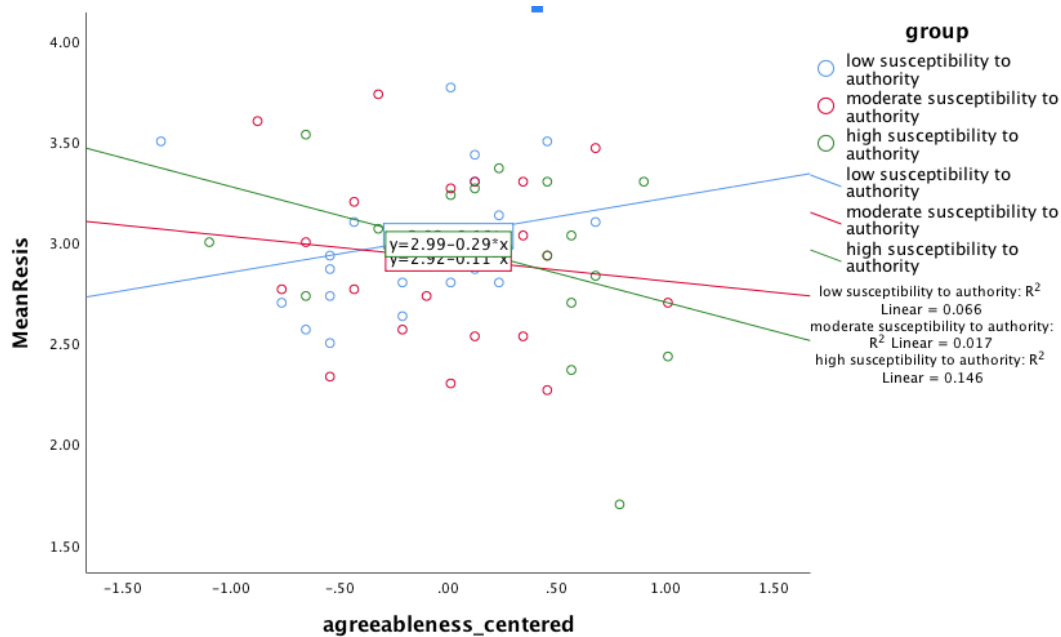


Figure 4. Interaction effect between agreeableness score and resistance score grouped by susceptibility to authority

Type of Authority

To test whether a commercial company (Durex) induces more resistance than a government agency (GGD), an independent samples t -test was performed. The resistance score was about the same in both conditions. The mean resistance score in the Durex condition was 2.95 ($SD = 0.44$). The mean resistance score in the GGD condition was 2.95 ($SD = 0.34$). Hence, no significant effect has been found ($Mdif = .982$, $t(60) = -.022$, $p = .982$, $BCa\ 95\% CI [-.20, .19]$). In addition, no significant interaction effect was found between type of authority and susceptibility to authority score on resistance ($\beta = -.239$, $t(60) = -1.278$, $p = .644$). Because there was no relationship, the moderating role of susceptibility to authority was not further analyzed. Hypotheses H3 and H4 were therefore rejected.

Resistance Strategies

Finally, twenty-four single linear regression analyses were calculated to answer the third explorative research question: '*How may the relationship between personality and resisting persuasion predict the type of resistance strategy?*'.

Openness and Resistance Strategies.

Twelve simple regression analyses were built with the mean score of openness as the predictor. The mean score of each resistance strategy scale was used as a dependent variable. No significant effect was found between openness and most of the resistance strategies (p 's > .05), except for physical avoidance ($R^2 = .08$, $F(1, 60) = 5.20$, $p = .026$) and attitude bolstering ($R^2 = .13$, $F(1, 60) = 8.83$, $p = .004$). Every point increase on the openness scale decreases physical avoidance with .28 and increases attitude bolstering with .36 on a 5-point scale. All results are shown in Table 8.

Agreeableness and Resistance Strategies.

The other twelve regression analyses were built with the mean score of agreeableness as the predictor. The mean score of each resistance strategy scale were used as the dependent variable. Again, no significant effects were found between agreeableness and most of the resistance strategies, except for weighted attributed ($R^2 = .07$, $F(1, 60) = 4.34$, $p = .041$) and optimism bias ($R^2 = .07$, $F(1, 60) = 4.58$, $p = .036$). Every point increase on the agreeableness scale increases weighted attributed with .26 and decreases optimism bias with .27. Thus, individuals that have a higher score on the agreeableness scale tend to add more weight to information that is consistent with their current attitude (weighted attributed) but are also less inclined to think that negative things could happen to them (optimism bias). An overview of all twenty-four single linear regression analyses is presented in Table 8.

Table 8

R-square and p-value for all regression analyses for openness or agreeableness on each resistance strategy

| | Openness | | Agreeableness | |
|---------------------------|----------|--------|---------------|-------|
| | R^2 | p | R^2 | p |
| Physical Avoidance | .08 | .026* | .02 | .873 |
| Mechanical Avoidance | .00 | .872 | .00 | .973 |
| Cognitive Avoidance | .00 | .860 | .00 | .856 |
| Contesting the Content | .01 | .429 | .02 | .313 |
| Contesting the Source | .00 | .744 | .15 | .250 |
| Contesting the Strategies | .16 | .222 | .39 | .764 |
| Weighted Attributed | .01 | .481 | .07 | .041* |
| Reducing impact | .11 | .377 | .02 | .312 |
| Optimism Bias | .01 | .571 | .07 | .036* |
| Attitude Bolstering | .13 | .004** | .01 | .558 |
| Social Validation | .01 | .939 | .06 | .633 |
| Self-Assertion | .14 | .279 | .01 | .452 |

* p -value < .05, ** p -value < .01

In conclusion, four significant relationships were found, two with openness and two with agreeableness. However, because of the multiple comparisons, these conclusions should be interpreted with care. It cannot be said with certainty that the effects found actually

indicate that openness and agreeableness have an effect on the resistance strategies because it may be a coincidence in this case. To protect from this type of error, a Bonferroni correction was conducted (Armstrong, 2014). The new significance level was .05 divided by the number of comparisons (24) ($\alpha_{\text{altered}} = .05 / 24 = .002$). Because no p-values were below .002, no correlations were statistically significant.

Discussion

The current study aimed to examine to what extent the two personality traits openness and agreeableness predict resistance to persuasion, the added value of susceptibility to authority on this relationship and the use of resistance strategies in the field of sexual health communication. Four hypotheses were tested using a between-subject design in which participants were randomly assigned to one of the two conditions. In each condition a persuasive sexual health message on Instagram by either a government agency or a commercial company was presented. The tests revealed that openness nor agreeableness impact resistance to persuasion. Susceptibility to authority did not moderate this relationship, except for individuals that scored low on the susceptibility to authority scale. Other results showed that the type of authority does not impact resistance score, nor does susceptibility to authority has a moderating effect on this relationship. Finally, the two personality traits do not predict the use of resistance strategies.

In the theoretical framework it was described that existing studies focused specifically on personality and persuasion. Very little was found in the literature on the question of personality and resisting persuasion. The few studies in the field of personality and persuasion indicated that individuals higher in openness are more difficult to persuade than individuals lower in openness. This also applied to individuals lower in agreeableness compared to individuals higher in agreeableness (Anagnostopoulou et al., 2017; Hirsh et al., 2012; Oyibo et al., 2017). However, the findings of the current study do not support this. This

study demonstrated no significant effects between the two personality traits and resistance to persuasion. The inconsistency for openness may be due to the low reliability of the openness scale ($\alpha = .50$). The low score was unexpected because the Integrative Big Five Trait Taxonomy is widely used in scientific research (John et al., 2008). However, fairly difficult English words were used in the scale and since the majority of the respondents were Dutch, the low alpha may be due to misunderstanding the statements. Since this difference has not been found elsewhere, it is probably not due to the IBFTT scale. Future research may consider translating the scale into the respondents' mother tongue. There is, however, another possible explanation. On average the openness score ($M = 3.53$) and agreeableness score ($M = 3.55$) were fairly high. For both openness and agreeableness, only three participants scored lower than three on a 5-point scale. It could be the case that there was too little spread in the data to indicate a difference in resistance score. Future studies may consider a larger sample size so it becomes more likely that participants with a low score will also be included. This will positively affect the ecological validity.

Previous research demonstrated that Cialdini's (1993) principle authority could have a moderating effect on the relationship between the personality traits and resistance to persuasion (Ciocarlan et al., 2019; Oyibo et al., 2017). Contrary to the expectations, there were no significant effects. There was, however, one unexpected interaction effect which indicated that a high openness score did only affect resistance score when people scored low on the susceptibility to authority scale. A first possible explanation for the inconsistent effect might be that this study measured resistance instead of persuasion and used a different method compared to previous work. Previous studies used the Susceptibility to Persuasion Strategies (STPS) scale by Kaptein et al. (2012) to measure persuasion. The current study used the Strategies to Resist Advertising Scale (SRAS) by Fransen et al. (2013) to measure resistance to persuasion. Because of this, two factors must be taken into account. The first

factor is that the STPS measures persuasion, while the SRAS measures resistance. It cannot be said with certainty that a low persuasion score always results in resistance. This might explain the contradiction with previous findings. A second factor that could be related to the inconsistent result might be that, to our knowledge, this is one of the first studies using the SRAS. To be specific, the average SRAS score was used to calculate the main resistance score. However, there is no scientific evidence that this scale actually measures resistance, or that a combination of all resistance strategies scores can form overall resistance. This was also evident from the low reliability of the physical avoidance, cognitive avoidance, contesting the source, contesting the strategies, reducing impact and attitude bolstering scales (α 's = .53 - .66). A second explanation for the inconsistent effect might be that previous studies did not focus specifically on sexual health messages but on more general messages. Future studies should further investigate the effects of sexual health messages on resistance to persuasion.

With respect to the third and fourth hypothesis, it was found that a commercial company does not induce more resistance than a government agency and that susceptibility to authority does not have a moderating role on this relationship. This differs from the findings presented by Kim and Shin (2018). It seems possible that the participants see Durex just as reliable as the government agency GGD because Durex is a globally appreciated brand. Other studies also found that participants considered marketing communications by Durex highly reliable (Guan, 2019).

In addition, this study exploratively researched the impact of openness and agreeableness on the use of each specific resistance strategy. Four significant effects were found. Openness predicts physical avoidance and attitude bolstering, while agreeableness predicts weighted attributed and optimism bias. However, because of multiple comparisons, the Bonferroni correction was conducted, which resulted in no significant effects.

Limitations & Future Work

In addition to the aforementioned explanations, some limitations have been found that may have contributed to the insignificant results. A first limitation is that persuasion, and thus resistance to persuasion, often happens unconsciously (Ham, Midden & Beute, 2009). It thus seems possible that the respondents' task to indicate whether they felt resistance towards the persuasive message was quite challenging. This may have resulted in the inconsistent outcomes. In future investigations, it could be effective to measure resistance before and after exposure to a persuasive message. The resistance scores before exposure could be used as a control variable.

A second limitation is that, as mentioned before, the SRAS have not been used before to measure resistance because the scale is not formally published yet. Besides, because the resistance strategies scales were incomplete, four items were added. The main resistance score was calculated as the average SRAS score and this score was used for each analysis. This impedes the reliability of the findings. Therefore, future research is needed to validate Fransen and colleagues' Strategies to Resist Advertising scale.

Thirdly, the two messages in this study contained exactly the same text and photo, except for the logo. This is also called one-size-fits-all messages. However, research has shown that fully personalized persuasive messages are more effective. For example, agreeable individuals are more susceptible to messages that contain some association with family and community, while open individuals are more persuaded by messages that include creativity and intellectual stimulation (Hirsh et al., 2012). Future research might examine resistance to fully personalized persuasive messages compared to one-size-fits-all persuasive messages.

Implications

In spite of its limitations, the current study certainly adds to the understanding of resistance to persuasive messages. Very little was found in the literature on the question of personality as a predictor of resistance to persuasion. The results of the current study have been found to be inconsistent with current studies and thus important questions about the nature of resistance and the way it was measured are raised. It seems that measuring resistance using the SRAS could not be generalized to measuring persuasion using the STPS. In addition, the outcomes suggest that sexual health messages might appear to raise less resistance to persuasion than general persuasive messages. Thus, in the field of sexual health communication it might be the case that one-size-fits-all messages have less effect. In addition, based on the knowledge obtained from this study, susceptibility to authority could play an important role in predicting resistance. When promoting sexual health messages, the recipients' susceptibility to authority in the message should be considered carefully. Hence, this study contributes to the development of knowledge of the relationship between personality and resistance to persuasion. However, additional studies will be needed to conduct further research into this field.

Conclusion

This thesis has provided a deeper insight into personality and resisting persuasion, the moderating role of susceptibility to authority, the effects of type of authority on resistance and the impact of personality on the use of resistance strategies. The findings lead to the conclusion that openness and agreeableness are not predictors of resistance to persuasion. In addition, the relationship between openness or agreeableness and resistance to persuasion is not moderated by susceptibility to authority. An exception applies to individuals that are low susceptible to authority, indicating that using an authority in persuasive messages could reduce resistance. Lastly, it appeared to be that the personality traits openness and

agreeableness did not predict any of the twelve resistance strategies. In general, it seems that the effects of personality on resistance could not be generalized to the effects of personality on persuasion. However, conducting more research into finding ways to measure resistance is strongly recommended to obtain further knowledge in reducing defensive responses and increasing the persuasiveness of sexual health messages.

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Appendices

Appendix A - Integrative Big Five Trait Taxonomy and Scoring

Please indicate the extent to which you agree or disagree with the statement.

I see myself as someone who ...

1. ... tends to find fault with others
2. ... is original, comes up with new ideas
3. ... is helpful and unselfish with others
4. ... is curious about many different things
5. ... starts quarrels with others
6. ... is ingenious, a deep thinker
7. ... has forgiving nature
8. ... has an active imagination
9. ... is generally trusting
10. ... is inventive
11. ... can be cold and aloof
12. ... values artistic, aesthetic experiences
13. ... is considerate and kind to almost everyone
14. ... prefers work that is routine
15. ... is sometimes rude to others
16. ... likes to reflect, play with ideas
17. ... has few artistic interests
18. ... likes to cooperate with others
19. ... is sophisticated in art, music, or literature

BFI scale scoring: items labeled with 'R' should be reversed.

Agreeableness (9 items): 1R, 3, 5R, 7, 9, 11R, 13, 15R, 18

Openness (10 items): 2, 4, 6, 8, 10, 12, 14R, 16, 17R, 19

Appendix B - Scale to Measure Resistance Strategies

Ranging from very unlikely to very likely.

Physical Avoidance (Avoidance)

1. I don't look at the message.
2. I ignore the message.
3. I avoid the message.

Mechanical Avoidance*

1. I scroll over the message.
2. I swipe away.

Cognitive Avoidance (Selective Exposure)

1. I pay more attention to information that supports my opinion about the message.
2. I put less value on information that is not in congruence with my own opinion about the message.

Contesting the Content (Counterarguing)

1. I think of arguments that challenge the message.
2. I look for flaws in the messages' argumentation.
3. I think of the ways I disagree with the presented message.

Contesting the Source (Source Derogation)

1. I have negative thoughts about the brand in the message.
2. I think unfavorably about the brand that made the message.

Contesting the Strategies in The Message (Invoking Persuasion Knowledge)

1. I think about how the message tries to persuade me.
2. I remind myself of the fact that the message tries to sell me something.
3. I think about the techniques that are used in the message to influence me.
4. I think about the intentions of the brand that created the message.

Weighted Attributed*

1. I like the message more because I like the source of the message.
2. I am committed to the information in the message because I trust the source.

Reducing Impact*

1. I adjust my opinion when I dislike one particular aspect in the message.
2. I base the overall evaluation of the message on one particular aspect.

Optimism Bias*

1. I think that negative things, such as catching an STD, are less likely to happen to me than to others.
2. I think about reasons why the threats in the message do not apply to me personally.
3. I think about reasons why I am at less risk than others in getting an STD.

Attitude Bolstering

1. I think about the arguments I have for my opinion about the message.
2. I think about facts that support my own opinion about the message.

Social Validation

1. I think about people who do not like the message.
2. I think about other people who also do not want to be influenced by this message.

Self-assertions (Assertions of Confidence)

1. I remind myself that I am certain about my opinion regarding the message.
2. I think of the fact that what I think is usually right.
3. I think about how strongly committed I am to my own opinions.

Excluded items

Message Derogation

1. I think about how exaggerated the message is.

2. I think about how misleading the message is.
3. I think about how manipulative the message is.

Distraction

1. I think about things that are unrelated to the message.
2. I distract myself from the message.
3. I concentrate on other things to distract myself from the message.

Note: Items marked with * were added.

Appendix C - Items Used to Measure Susceptibility to Authority

1. I always follow advice from experts.
2. When a professor tells me something, I tend to believe it is true.
3. I am very inclined to listen to authority figures.
4. I always obey directions from my superiors.
5. I am more inclined to listen to an authority figure than a peer.
6. I am more likely to do something if told, than when asked.

Appendix D - Informed Consent

Dear participant,

Thank you for your interest in our study!

In this study, we aim to identify people's response to persuasion in Instagram messages. During the experiment, we will show you an Instagram post after which you will be asked questions about that specific post. The study takes only 5-10 minutes to complete.

Please note that all your data will be processed and stored anonymously. Only the researchers will have access to the data, which will be used to write two Master theses. Data will be removed after both researchers have graduated. Your participation in this research is voluntary. You are allowed to stop your participation at any time without giving a reason. Any questions you may find objectionable, you are not required to answer. There are no 'right' or 'wrong' answers to the questions: we are only interested in your opinion.

This study has been approved by the research Ethics and Data Management Committee of TSHD. If you have any remarks or complaints regarding this research, you may also contact the "Research Ethics and Data Management Committee" of Tilburg School of Humanities and Digital Sciences.

If you have any questions about this study, please email the researchers Sarah Smits and/or Violet Herlaar before continuing with this study.

If you have no questions and still wish to participate in this study, please click next.

By agreeing to the terms you are giving consent and you agree to have read the information regarding the study. You have had the opportunity to ask questions about this research

project, and the questions you had are answered satisfactorily.

You are aware that your participation is completely voluntary and that you are free to withdraw from the study at any time without an explanation and with no penalty. You agree that your anonymized data will be used for two master theses and will be stored until both students have graduated.

☐ I consent

☐ I do not consent

Appendix E - Full Questionnaire

INFO

Please fully view and read the Instagram message below. You will have to answer some questions regarding the message.

POST 1

| | Very unlikely (1) | Unlikely (2) | Neutral (3) | Likely (4) | Very Likely (5) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I don't like the message. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I would ignore the message. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I would avoid the message. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I would scroll over the message. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I would swipe away. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I pay more attention to information that supports my opinion about the message. (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I put less value on information that is not in congruence with my own opinions about the message. (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think of arguments that challenge the message. (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I look for flaws in the message's argumentation. (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think of the way I disagree with the presented message. (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

SRAS1 Please indicate to what extent you feel the same as the following statements regarding the Instagram message you just saw

SRAS2 Please indicate to what extent you feel the same as the following statements regarding the Instagram message you just saw.

| | Very unlikely (1) | Unlikely (2) | Neutral (3) | Likely (4) | Very Likely (5) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I have negative thoughts about the brand in the message. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think unfavorably about the brand that made the message. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about how the message tries to persuade me. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I remind myself of the fact that the message tries to sell me something. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about the techniques that are used in the message to influence me. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about the intentions of the brand that created the message. (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I like the message more because I like the source of the message. (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am committed to the message because I trust the source. (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I adjust my opinion when I dislike one particular aspect in the message. (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I base the overall evaluation of the ad on one particular aspect. (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | Very unlikely (1) | Unlikely (2) | Neutral (3) | Likely (4) | Very Likely (5) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I think that negative things, such as getting an STD, are less likely to happen to | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| me than to others. (1) | | | | | |
| I think about reasons why the threats in the message do not apply to me personally. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about reasons why I am at less risk than other in getting an STD. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about the arguments I have for my opinion about the message. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about facts that support my own opinion about the message. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about people who do not like the message. (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about other people who also not want to be influenced by this message. (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I remind myself that I am certain about my opinion regarding the message. (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think of the fact that what I think is usually right. (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I think about how strongly committed I am to my own opinion. (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

SRAS3 Please indicate to what extent you feel the same as the following statements regarding the Instagram message you just saw.

STPS Please indicate to what extent you agree with the following statements.

| | Completely disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Completely agree (5) |
|---|----------------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| I always follow advice from experts. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When a professor tells me something, I tend to believe it is true. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am very inclined to listen to authority figures. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I always obey directions from my superiors. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am more inclined to listen to an authority figure than a peer. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am more likely to do something if told, than when asked. (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

IBFTT Please indicate the extent to which you agree or disagree with the following statements.

I see myself as someone who ...

| | Disagree strongly (1) | Disagree (2) | Neutral (3) | Agree (4) | Agree strongly (5) |
|--|-----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ... tends to find fault with others (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is original, comes up with new ideas (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is helpful and unselfish with others (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is curious about many different things (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... starts quarrels with others (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is ingenious, a deep thinker (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... has forgiving nature (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... has an active imagination (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is generally trusting (9) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is inventive (10) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... can be cold and aloof (11) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... values artistic, aesthetic experiences (12) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is considerate and kind to almost everyone (13) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... prefers work that is routine (14) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is sometimes rude to others (15) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... likes to reflect, play with ideas (16) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... has few artistic interests (17) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... likes to cooperate with others (18) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ... is sophisticated in art, music, or literature (19) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

AGE What is your age (in years)?

GENDER I identify myself as ...

- ☐ Male (1)
- ☐ Female (2)
- ☐ I'd rather not say (3)

Which_brand? Which brand posted the message?

- ☐ GGD (1)
- ☐ Durex (2)
- ☐ Don't know (3)

Page Break

DEBRIEF

Thank you for participating in our experiment. In this study, we wanted to see whether your personality impacts resisting persuasive Instagram messages and whether the type of authority in the message had an influence on this relationship. You were exposed to either one of the two conditions; a persuasive message by a government agency (GGD) or a persuasive message by a commercial company (Durex). The Instagram messages in this experiment were not real but were designed based on real Instagram messages. The sources did not actually post these pictures.

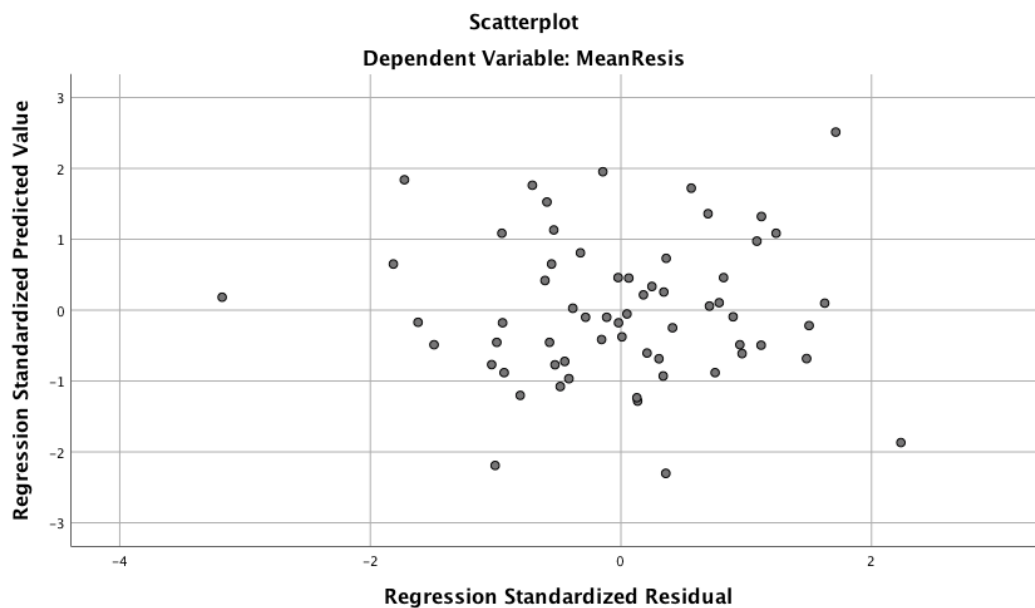
If you have any questions or comments, feel free to contact the researchers.

Because others may be participating in this study in the future, we ask that you do not discuss the details of this study with your friends and family.

Made this survey and need respondents? Click this link to receive credits for SurveySwap.io, the largest free survey exchange community --> <https://surveyswap.io/sr/duRUgOhnFrqko3at>

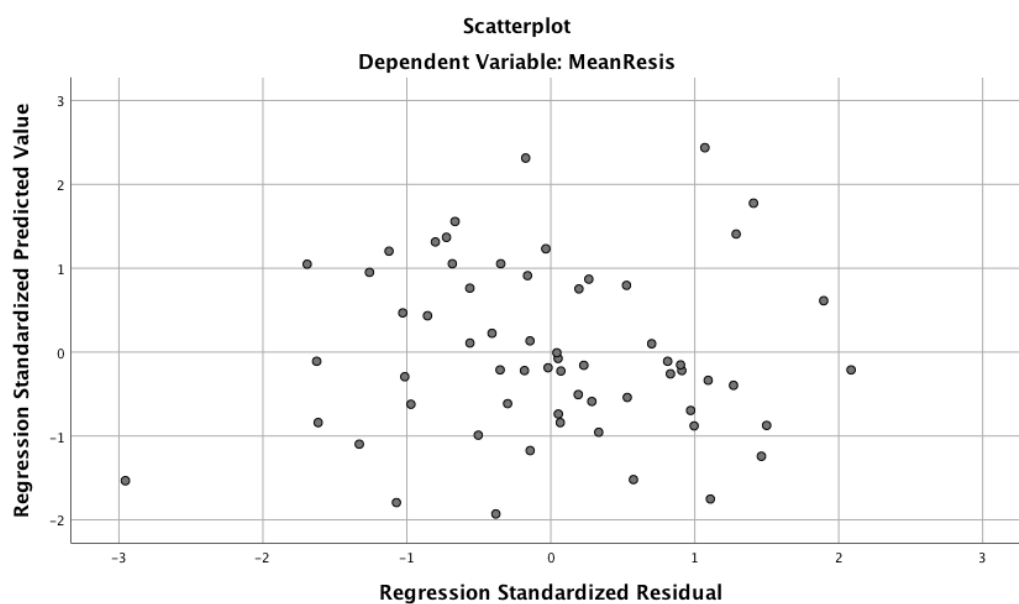
Appendix F – Assumption Check Multiple Linear Regression

Assumptions openness as a predictor of resistance



The scatterplot of the predicted values and the residuals showed a random pattern of dots, so heteroscedasticity and linearity were assumed. The distribution of the residuals showed normal distribution (z-score skewness = -1.38, z-score kurtosis = 1.77).

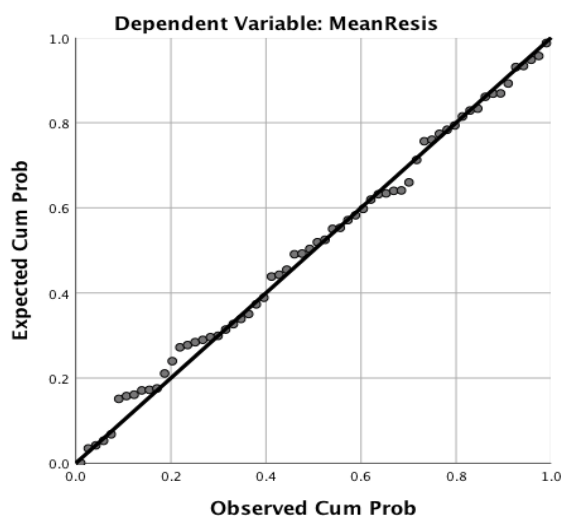
Assumptions agreeableness as a predictor of resistance



The scatterplot of standardized predicted values versus standardized residuals, showed that the data met the assumptions of homogeneity of variance and linearity and the residuals were approximately normally distributed (z-score skewness = -1.65, z-score kurtosis = .46).

Assumption check moderation effect of susceptibility to authority on the relationship between openness and resistance

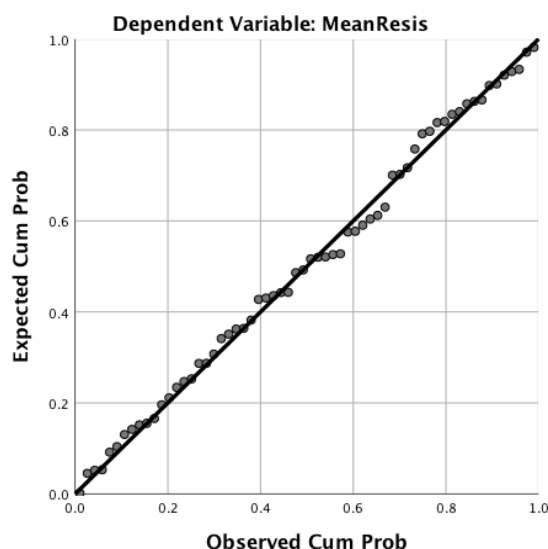
Based on the correlations, there were no high correlations between the independent variables/predictors (all r 's < .19) which means there is no concern for multicollinearity. To test the independence of the errors, a Durbin Watson score was calculated. The score was 1.63 which indicates that errors are uncorrelated. The largest Cook's distance in the dataset was .14, which indicates there is no cause for concern. An analysis of standard residuals was carried out on the data to identify any outliers, which indicated that there were only two outliers. These participants were not removed from the dataset. Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (Openness, Tolerance = .94, VIF = 1.07; SuscAuth, Tolerance = .96, VIF = 1.04; TypeAuth, Tolerance = .96, VIF = 1.04).



The P-P plot of regression standardized residuals indicated that the data contained approximately normally distributed errors. This was also the case for the histogram of standardized residuals, as it showed a normal bell curve. The scatterplots of standardized residuals showed a random cloud of dots. This indicates that the assumptions of homogeneity of variance and linearity were met. To conclude, all assumptions were met. This means that generalization to the population was accepted.

Assumption check moderation effect of susceptibility to authority on the relationship between agreeableness and resistance

Based on the correlations, there were no high correlations between the independent variables/predictors ($r < .28$) which means there is no concern for multicollinearity. A Durbin Watson score was calculated to test the independence of errors. The score of 1.70 indicated that errors are uncorrelated. The largest Cook's distance in the dataset was .21 which indicates there was no cause for concern. There was also no concern for multicollinearity in the data (Agreeableness, Tolerance = .91, VIF = 1.09; SuscAuth, Tolerance = .91, VIF = 1.09; TypeAuth, Tolerance = .98, VIF = 1.02).



The P-P plot of regression standardized residuals indicated that the data contained approximately normally distributed errors. The assumptions of homogeneity of variance and linearity were met because the scatterplot of the standardized residuals showed a random cloud of dots. To conclude, all assumptions were met. This means that the data is generalized to the population.