



Master's Thesis

The influence of bright and dark logo colours on the perception of cultural and environmental NGOs

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Abstract

This study aimed at answering the questions whether dark or bright logos are more appreciated for cultural or environmental NGOs and whether these hues influence the perception of sincerity and sophistication. Furthermore, the effect on the attitude towards the NGO, the intention to volunteer for the NGO and the intention to donate to the NGO were studied. Participants were confronted with a bright or a dark logo which either belonged to a cultural or an environmental NGO. 253 European participants filled in a questionnaire. The results indicate that dark logos are generally more appreciated for cultural NGOs and lead to a higher perception of sophistication. Contrary, bright logos lead to more sincere associations but are not significantly preferred for environmental NGOs. The type of NGO does not function as a moderator. Sincerity and sophistication partially predict the remaining dependent variables. There was no moderated mediation. Hence, colour can be a powerful tool to influence perceptions, but this effect is limited to perceived sincerity and sophistication as well as partially to the type of NGO.

Keywords: logos; colours; non-governmental organisations; NGOs; sincerity; sophistication; moderated mediation

Introduction

We encounter logos every day. Each ad we see includes the logo of a brand or organisation. We see the huge yellow M from afar and we know we will pass a McDonald's soon. We receive our package, and the amazon logo is printed on it. Logos are an essential part of each company's brand image. They help customers to recognise the brand and they can enhance communication between the firm and stakeholders (Kim & Lim, 2019). Logos are supposed to convey a company's core values and they can promote brand recognition (Kim & Lim, 2019). Since people are confronted with many logos every day, it is important to stand out to be memorized (Hagtvedt, 2011). The colour is one of the most important and salient features of a logo because it increases brand recognition to a large extent (Kim & Lim, 2019). Hence, it is an important step in logo creation to decide for the right hue.

Recent academic literature has investigated the effect of colour on brand identity, logo recognition and associations to a great extent (Labrecque & Milne, 2012; Hynes, 2009). However, little is known about the influence of logo colour on the perception of non-governmental organisations (NGOs). Hence, this study aims at contributing to the existing knowledge of the influence of logos by focusing on a less studied sector. The existing marketing literature on NGOs is reduced to branding in general (Do Paço, Rodrigues & Rodrigues, 2014; Aboramadan, 2018) but lacks more detailed aspects such as research on promotion strategies and logos. Thus, it is important to detect whether the logo colour of an NGO possesses the ability to influence a person's associations with

it. The results can help NGOs to evaluate the importance of the logo and to use certain colours so that they are able to convey their values and positive associations.

Dark and bright colours evoke different associations. For instance, dark colours are rather associated with sophistication whereas bright colours stand for sincerity (Labrecque & Milne, 2012). Thus, it is interesting to investigate to what extent these hues can change or adapt the associations regarding NGOs. In sum, this study tries to cover the gap in research regarding the influence of bright and dark logo colours on the perception of cultural and environmental NGOs. Sophistication is expected to be influenced positively by dark logos which are more appreciated for cultural NGOs. Contrary, it can be expected that the impact of bright colours is influenced via sincerity. Consequently, bright logos are more appreciated for environmental NGOs.

Literature review

Despite a gap in research of the influence of NGO logo colours, there are many scholars who investigated the effects of colour in general. Colours can have beneficial or detrimental influences on the consumer's perception of a brand and purchase decisions (Kim & Lim, 2019). If a chosen colour does not comply with the brand image this can convey a conflicting signal, harming the logo's acceptance. Contrary, the logo colour can influence a company's reputation positively, convey a brand's quality, and increase recognition (Hynes, 2009). Moreover, colours can carry important information such as emotions. That way colours can influence a person's mood or even behaviour (Elliot & Maier, 2014).

Every colour conveys various associations or emotions: red is often related to sexuality, green is associated with relaxation, and pink with femininity (Elliot & Maier, 2014). These findings do not only relate to logos but clothes, products and more (Elliot & Maier, 2014). Colours are ubiquitous and many decisions in daily life are based on colour, especially regarding product choice or clothes (Kim & Lim, 2019). Furthermore, many people judge products or environments based on colour within 90 seconds (Kim & Lim, 2019). These aspects emphasise the huge influence colours can have if applied correctly. The question remains how NGOs are supposed to apply logo colours appropriately in order to convey their core values and obtain a positive image.

Common associations with dark colours

This study focuses on black and brown for the dark condition and yellow and orange for the bright condition because many research articles mainly converge regarding their associations. Academic literature on the effect of colours suggests quite some differences regarding the associations of dark and bright colours. Labrecque and Milne (2012) conducted a study in which participants had to indicate which characteristics they associated with fictitious logos shown in different colours. The participants had to answer questions regarding likeability and familiarity with the logo (Labrecque & Milne, 2012). They discovered that the colour black is associated with sophistication, glamour, power, and dignity. Also, it signals richness, status, and competence (Labrecque & Milne, 2012). Brown is often associated with seriousness and reliability (Labrecque & Milne, 2012).

Madden, Hewett and Roth (2000) found similar associations as Labrecque and Milne (2012). They studied which associations people from different cultures had with ten different colours, among them the ones included in the study. Participants were instructed to indicate how much they liked the colours shown and to evaluate the colours regarding their associations. Madden, Hewett and Roth (2000) summarised that the colours black and brown are both associated with expensiveness and formality which are traits that are closely related to elegance and sophistication.

Aslam (2006) studied cross-cultural perceptions of colours and concluded that dark colours are generally associated with sophistication and value which confirms the findings by Labrecque and Milne (2012). Lim et al. (2020) conducted a study among US-Americans in which they tested the influence of colour on a brand's perception in green advertising. They found that dark colours such as grey are associated with "environmental unfriendliness" (Lim et al., 2020, p. 552). In sum, it can be stated that dark colours mainly symbolise sophistication, dignity, and value.

Common associations with bright colours

Bright colours such as yellow are associated with rather positive features. Yellow expresses sincerity, happiness, and optimism (Labrecque & Milne, 2012). Orange is associated with excitement, and Labrecque and Milne (2012) found a negative relation between sophistication and the colour orange. The study by Madden, Hewett and Roth (2000) presented the result that the colour orange is associated with traits such as cheapness which draws the opposite image to sophistication and glamour. However, orange is associated with happiness. Additionally, in European countries bright colours are more appreciated than dark colours (Madden, Hewett & Roth, 2000). O'Connor (2010)

uncovered that yellow is often associated with trust which resembles the previous findings regarding sincerity. Hynes (2009) studied how logo colour, design and associations can create a consistent corporate image. Hynes' (2009) research stressed the importance of colour for building a corporate image and added the traits energetic, refreshing, and cheerful as associations for the colour yellow. Won and Westland (2018) carried out a study in which they investigated the effect of colour on product design. The authors decided to use a dishwashing liquid product for their study. By conducting interviews and online surveys they concluded that yellow was perceived as environmentally friendly, especially when combined with green or blue (Won & Westland, 2018).

Hence, bright colours are mostly associated with aspects such as sincerity and environmental friendliness. It is interesting to investigate whether the use of dark and bright colours in NGO logos leads to similar associations as for for-profit companies.

Common traits associated with environmental and cultural NGOs

The perception of bright and dark logos might depend on the type of NGO the logo is used for. This study focuses on cultural and environmental NGOs because they show quite some differences regarding their aims and foci which is further discussed in this section.

Generally, the marketing of NGOs differs from conventional marketing a lot because NGOs do not want to sell products but want people to donate time and money to their NGO (Michel & Rieunier, 2012). They need to stick to their image and must focus on their humanitarian causes in advertising (Michel & Rieunier, 2012). Hence, their marketing must be in accordance with their values and their cause. Furthermore, marketing is one of the most important tools for NGOs to recruit volunteers (Bennett & Sargeant, 2005).

There are many environmental NGOs worldwide, some of them are well-known such as Greenpeace or WWF. Their aims are influencing political actions and debates regarding a more sustainable path, drawing attention to environmental issues, expressing their concerns and actual threats regarding biodiversity, wildlife, and pollution (Berny & Rootes, 2018). Environmental NGOs are often perceived as competent due to a huge amount of knowledge they gather through research and experience (Berny & Rootes, 2018). Furthermore, environmental NGOs are associated with activity and power because they get more attention in the media and online compared to earlier decades (Berny & Rootes, 2018) which increases their influence. They are regarded as effective and uncompromising and offer straightforward and honest facts that can influence political and administrative decisions (Mitchell, Mertig & Dunlap, 1991). Nowadays, environmental NGOs have a

younger image due to organisations such as “Fridays for Future” which is a movement initiated by young people (Marquardt, 2020). The fact that adolescents take a stand on the environment who are not yet involved in any economic relations gives this topic an independent and sincere impression.

Cultural NGOs usually aim at improving cultural and educational conditions for people in certain countries. They are associated with expertise and function as a voice for people and countries (Escallón, 2020). Attributes that are commonly associated with culture and arts are sophistication, aesthetics, creativity, and education (Toepler & Wyszomirski, 2012). Hammill (2010) argues about the interrelation of sophistication and culture in much detail. Cultural NGOs contribute to a country’s culture and art scene, focusing on dance, music, heritage, and history (Toepler & Wyszomirski, 2012). It is a professional and innovative sector with a sense of community (Toepler & Wyszomirski, 2012).

Based on the colour associations pointed out earlier and the characteristics of NGOs it is assumed that the hues are appreciated differently for the two types of NGOs. Dark colours are associated with sophistication and competence, whereas orange is negatively related to sophistication (Labrecque & Milne, 2012). Cultural NGOs are perceived as sophisticated and professional. Thus, it can be expected that dark colours are more appreciated for cultural NGOs because culture and dark colours are both associated with sophistication.

Bright colours symbolise sincerity, environmental friendliness, and they tend to be perceived more positively (Madden, Hewett & Roth, 2000). It was shown that sincerity is a trait associated with environmental NGOs as well. Hence, it is likely that bright colours are more appreciated for environmental NGOs. Additionally, dark colours are perceived as environmentally unfriendly (Lim, 2020) which suggests that dark logos might be detrimental for environmental NGOs.

The research about NGO logos is limited. Michel and Rieunier (2012) state that it can harm an NGO if its appearance is too colourful because this is not perceived as appropriate for NGOs. Furthermore, Stafford, Tripp and Bienstock (2004) have shown that the logo image, attractiveness and recognizability can influence an NGO’s perception. This emphasises the importance of a convincing logo for NGOs. Moreover, NGO logos should ideally represent the NGO’s core values (Naddaff, 2004).

Although colour is an international and ubiquitous construct, the perception of colour can vary across cultures (Madden, Hewett & Roth, 2000). There are colours that convey similar traits across cultures such as red which symbolises emotionality, activity, and sharpness (Madden, Hewett & Roth, 2000). However, some associations with colour differ across cultures such as black. In Asian and South American countries people associate formality with it whereas Europeans and Northern-Americans argue that the colour is masculine (Madden, Hewett & Roth, 2000). Those deviations are also shown by Jacobs et al. (1991). The authors studied colour perceptions across several countries. The most striking evidence is the fact that most countries connect grey with inexpensiveness whereas US-Americans think grey is associated with expensiveness and high-quality. Black, however, seems to be perceived as powerful globally (Jacobs et al., 1991). Hence, colour is an international phenomenon, but it can have various associations which might overlap across countries. This factor needs to be kept into account when a study is conducted that focuses on colour perceptions.

The international aspect of this study is increased by the inclusion of European countries. Although it is beyond the scope of this paper to compare several cultures and because the amount of participants from the respective European countries is not sufficient to compare, this paper attempts to get an overview on how Europeans perceive certain logo colours and what they associate with certain types of NGOs. This is important because, mostly, NGOs do not only act within one country but are represented internationally. However, the logo or at least the logo colour remains the same for all countries. There are brands that use different names in different countries such as Unilever's main ice cream brand which is called "Ola" in the Netherlands, "Langnese" in Germany or "Wall's" in the UK (Edelman, 2008). Although the brand name differs, the shape and the logo colours remain the same across countries (Edelman, 2008). Hence, companies and NGOs mostly have one logo that represents them globally which means that it should evoke similar associations in as many countries as possible. Thus, this study attempts to draw a picture of how certain hues are perceived among European recipients to get an idea which colours are predominantly appreciated for certain types of NGOs across Europe.

Research focus

The aim of the present study is to close the gap in NGO logo colour research (e.g. Stride & Lee, 2007; Michel & Rieunier, 2012) and to offer results to organisations that help them to decide for

colours that match their brand identity and core values. Furthermore, the study aims to offer guidelines for NGOs that explain which associations certain logo colours convey on a European level. Apart from the perception of the NGO it will be investigated whether the logo colours and types of NGOs have an influence on one's intention to get involved with the NGO which includes donations and volunteering. Based on the previous review the following research question is formulated.

RQ: What is the influence of bright and dark colours in environmental vs cultural NGO logos on (a) the perception of the NGO and (b) one's intention to get involved with the NGO?

This study focuses on the perception of sophistication for dark colours and sincerity for bright colours because those were common traits for the hues (Labrecque & Milne, 2012) and might be beneficial for the image and perception of cultural, and, respectively, environmental NGOs. Those characteristics convey positive associations and are closely related to traits such as innovation, creativity (sophistication) and honesty, trust (sincerity) as the previous section has shown. Hence, these characteristics are chosen as dependent variables to measure the perception of the NGO. Based on the results of the literature review the following hypotheses are formulated.

H1: Dark logos lead to a more sophisticated perception of the NGO than bright logos.

H2: Bright logos lead to a more sincere perception of the NGO than dark logos.

NGOs are dependent on volunteers and donations (Toepler & Wyszomirski, 2012) which is why it is important to study whether the logo colour of an NGO can influence these variables. Furthermore, the literature review has shown that dark colours fit to cultural NGOs better whereas bright colours convey associations that better fit to the traits of environmental NGOs. This results in the following hypotheses.

H3: The type of NGO will moderate between the logo colour and the a) attitude towards the NGO, b) intention to volunteer and c) intention to donate so that:

H3a: Dark logos lead to a more positive attitude towards the NGO, a higher intention to volunteer and a higher intention to donate, hence are more appreciated, for cultural NGOs than environmental NGOs.

H3b: Bright logos lead to a more positive attitude towards the NGO, a higher intention to volunteer and a higher intention to donate, hence are more appreciated, for environmental NGOs than cultural NGOs.

The perceptions for the NGOs regarding sincerity and sophistication might influence the attitude towards the NGO and one's intention to get involved with the NGO because sincerity and sophistication are desirable traits which might have a positive effect on those variables. Abdullah (2020) conducted a qualitative study in which he confirmed that sincerity is an important factor to increase the likelihood to get involved with an NGO. It is possible that a cultural NGO with a dark logo leads to a higher willingness to donate and volunteer as well as a better attitude towards the NGO when it is perceived as sophisticated. Similarly, environmental NGOs with a bright logo that are perceived as sincere might elicit that effect as well (Labrecque & Milne, 2012). The assumptions result in the following hypotheses.

H4: The moderation effects between the logo colour and the type of NGO on the attitude towards the NGO, the intention to volunteer, the intention to donate will be mediated by sincerity and sophistication so that:

H4a: Sincerity will mediate the previously mentioned relationships on the attitude towards the NGO, the intention to volunteer and intention to donate more strongly for environmental NGOs in comparison with cultural NGOs.

H4b: Sophistication will mediate the previously mentioned relationships on the attitude towards the NGO, the intention to volunteer and the intention to donate more strongly for cultural NGOs in comparison with environmental NGOs.

Methodology

Materials

For the study, one fictitious logo was created which was either bright or dark. The logo for the environmental and the cultural NGO were identical. It was decided to use the same name and the same logo for both types of NGOs to avoid any bias resulting from the name, different shapes, or sizes. Hence, the material for the study consisted of two logos. The types of NGOs were indicated in a short introduction text (see appendix A). The name of the NGO was a fictitious acronym called “CEC” which involves the initial letters of both “culture” and “environment”. The logo is depicted in appendix B. It has a plain font, and the second “C” is mirrored to make the logo more vivid and realistic. The dark logo consists of black and dark brown elements whereas the bright logo featured yellow and orange elements. Those colours were chosen because they occur in logos regularly and they are representative of dark and bright hues (Labrecque & Milne, 2012; Madden, Hewett & Roth, 2000). The questionnaire is depicted in appendix C.

Participants

The questionnaire was filled out by European citizens who were 18 years or older to get results that cover the European population. Participants who did not complete the questionnaire, who indicated an average familiarity with the logo that was above four (= neutral) and those who were not European were excluded from the questionnaire. 173 (68,4%) participants indicated that they were not at all familiar with the NGO which suggests that the logo did not resemble any existing logo. The final sample consisted of 253 participants. Those were split up in the four conditions as follows: 62 participants saw the bright logo of a cultural NGO, 61 people saw the bright logo that belonged to an environmental NGO. The dark logo of a cultural NGO was seen by 64 participants and, finally, the dark logo of an environmental NGO was viewed by 66 people.

The participants' age ranges from 18 to 85 years ($M = 28.38$, $SD = 10.28$). 138 (54,5%) participants were female and 114 (45,1%) were male. One person (0,4%) preferred not to indicate the gender. The educational level is above average. Only 15 (5,9%) participants indicated secondary school as their highest educational level. 9 (3,6%) specified vocational training, 50 (19,8%) finished their A-level. The majority indicated a Bachelor's degree. 121 (47,8%) people picked that option which is almost half of the sample. 58 (23%) participants indicated an even higher university degree such as a Master's or PhD. Most participants were German. 157 (62,1%) indicated German

Table 1. Demographics ($n = 253$)

Variable		Frequency	%
Sex	Female	138	54
	Male	114	45
	Preferred not to say	1	< 1
Education	Secondary School	14	6
	Vocational training	9	4
	A level	50	20
	Bachelor's	121	48
	Master's	48	19
	Diploma	5	2
	PhD	5	2
Nationality	German	157	62
	Portuguese	19	8
	Dutch	15	6
	British	15	6
	Spanish	14	6
	French	4	2
	Greek	4	2
	Austrian	3	1
	Bulgarian	3	1
	Danish	3	1
	Hungarian	3	1
	Belgian	2	1
	Norwegian	2	1
	Swedish	2	1
	Swiss	2	1
	Czech	1	< 1
	Irish	1	< 1
Italian	1	< 1	
Liechtenstein	1	< 1	
Romanian	1	< 1	
	<i>M</i>		<i>SD</i>
Age	28.38		10.28

as their nationality which is two-third of the sample. This is followed by 19 (7,5%) participants from Portugal and each 15 (5,9%) participants from the Netherlands and the United Kingdom. An overview of the demographical data can be found in table 1. Moreover, chi-square analyses suggested that there were no significant differences between the conditions regarding gender ($\chi^2 (6) = 7.15, p = .307$), education ($\chi^2 (18) = 24.47, p = .140$) and nationality ($\chi^2 (57) = 51.83, p = .669$). A 2 (type of NGO: cultural/environmental) \times 2 (logo colour: bright/dark) ANOVA for age resulted in no significant main effect of the conditions ($F (3,249) = .88, p = .451$). Hence, there is an equal distribution concerning the demographics across the conditions.

Experiment design

For the purpose of the study quantitative research was chosen. An online experiment was conducted which was embedded in a 2 (type of NGO: cultural/environmental) \times 2 (logo colour: bright/dark) between-subjects design. Each participant answered questions in an online questionnaire. The questions aimed at finding out how the participants evaluated perceived sincerity and sophistication of the NGO as well as the participants' attitude towards the NGO, intention to volunteer and intention to donate for the NGO. Do Paço, Rodrigues and Rodrigues (2014) state that brand image can influence the intention to donate to an NGO. Since the logo is a part of that branding it is possible that the logo can influence donations as well. Moreover, the intention to volunteer is valuable for NGOs because most people working for an NGO are volunteers and a huge number of volunteers is associated with prestige and a good reputation (Do Paço, Rodrigues & Rodrigues, 2014). Hence, people are likely to volunteer if they think the company is worth their time and represents their values. Finally, the attitude towards the NGO is an important variable because it summarises the participants' opinion about the NGO.

Instrumentation

The measurement of sophistication was based on the traits studied by Aaker (1997). It included four questions on a 7-point semantic differential scale comprising “not glamorous - glamorous”, “pretentious - modest”, “not upper-class - upper-class”, “not charming - charming” ($M = 4.19, SD = .81$). These items only reached an insufficient Cronbach's alpha of .28. After deleting the item “pretentious – modest” the alpha increased from .28 to .54.

Sincerity was based on the study by Aaker (1997) and comprised four items on a 7-point semantic differential scale which were “not down-to-earth - down-to-earth”, “dishonest - honest”, “not wholesome - wholesome”, “not cheerful - cheerful” ($M = 4.40$, $SD = 1.10$). The Cronbach’s alpha for this scale was .83 which is good.

Attitude towards the NGO was measured with the scale by Faircloth (2005) comprising eight questions on a 7-point semantic differential scale. Since one of those questions included “dishonest – honest” this one was omitted because it was already covered in the sincerity scale. The following seven traits remained: “unfair - fair”, “worthless - valuable”, “cruel - kind”, “cowardly - brave”, “indulgent - thrifty”, “uncontemporary - contemporary”, “vain -modest” ($M = 4.66$, $SD = .72$). The Cronbach’s alpha for these questions is acceptable with .75.

The intention to volunteer and the intention to donate were instrumentalised based on the scale by Wheeler (2009). On a slider participants indicated their likelihood to volunteer ($M = 29.94$, $SD = 24.08$) or donate ($M = 21.28$, $SD = 22.08$) for the NGO (0 = very unlikely; 100 = very likely). Additionally, they were asked to indicate on a slider scale how many hours per month in the upcoming three months they would volunteer for the NGO ($M = 7.01$, $SD = 6.89$) and how much money (€) per month in the upcoming three months they would donate to the NGO ($M = 9.11$, $SD = 11.24$). The limitation of three months was chosen because that way the feeling of a long-lasting obligation is weaker, which means that the response can be given more impulsively.

Familiarity was checked with the scale by Faircloth (2005) comprising three questions on a 7-point Likert scale including “unfamiliar - familiar”, “not at all informed - highly informed”, “know nothing at all - know a great deal” ($M = 1.46$, $SD = .79$). This scale reached a reliability of .7 which is marginally acceptable.

Procedure

Participants were recruited via social media as well as the platforms Survey Circle and Prolific. Participants were randomly assigned to one of the four conditions. The language of the questionnaire was English. First, the participants read an introduction in which they were informed that the study focused on the effect of certain stimuli. They read a short and objective description of the NGO so that they knew what kind of NGO they were confronted with and what their key goals were. Furthermore, they saw the logo and they were asked whether they were familiar with it to avoid any bias. Afterwards, they had to answer an open question in which they were asked about

their associations with the logo. This question checked whether the logo conveyed any dominant associations, and it was put first in order to avoid that the participants were influenced by the questions following. Questions about the logo and the perception followed. Those questions aimed at finding out how the participants estimated the logos regarding sincerity, sophistication, the attitude towards the NGO and the intention to get involved with the NGO. Furthermore, there were questions about the participants' demographics. Finally, they saw a text in which the participants were debriefed, and it was clarified that the logos were fictitious. The experiment took approximately seven minutes. As an incentive, one 10€ Amazon voucher was raffled.

Statistical treatment

First, two-way ANOVAS were run for the dependent variables sincerity and sophistication in order to investigate whether there is a significant main effect or an interaction regarding the independent variables. Next, two-way ANOVAs were carried out for the dependent variables attitude towards the NGO, intention to volunteer and intention to volunteer in order to test whether logo colour and type of NGO influence these variables. Finally, moderated mediation analyses were run with the PROCESS tool by Hayes (2018) in order to investigate whether the type of NGO moderates the relationship between logo colour and sincerity and/or sophistication and whether sincerity and sophistication mediate the relationship between logo colour and the remaining dependent variables.

Results

The effect of logo colour on sophistication

The means and standard deviations for sincerity and sophistication are depicted in table 2. Hypothesis 1 stated that dark logos lead to a more sophisticated perception of the NGO than bright logos. A two-way ANOVA with as between-subject factors logo colour (bright/dark) and type of NGO (cultural/environmental) for sophistication showed a significant main effect of logo colour ($F(1,249) = 7.64, p = .006, \eta^2 = .030$). Irrespective of the type of NGO, dark logos cause a more sophisticated perception ($M = 4.27$) than bright logos ($M = 3.91$). Hence, hypothesis 1 was confirmed.

The ANOVA revealed no significant main effect of type of NGO ($F(1,249) = .97, p = .327,$

Table 2. Means and standard deviations (in brackets) for sophistication and sincerity.

	Cultural NGO		Environmental NGO	
	bright logo <i>n</i> = 62 <i>M</i> (<i>SD</i>)	dark logo <i>n</i> = 64 <i>M</i> (<i>SD</i>)	bright logo <i>n</i> = 61 <i>M</i> (<i>SD</i>)	dark logo <i>n</i> = 66 <i>M</i> (<i>SD</i>)
sophistication	3.85 (.97)	4.45 (.97)	3.97 (.99)	4.09 (1.18)
sincerity	4.72 (.97)	4.34 (1.01)	4.55 (1.10)	4.03 (1.19)

$\eta^2 = .004$). Hence, neither cultural nor environmental NGOs are perceived as more sophisticated. Furthermore, the interaction between logo colour and type of NGO turned out to be non-significant ($F(1,249) = 3.42, p = .066, \eta^2 = .014$).

The effect of logo colour on sincerity

The same analysis was conducted in order to test hypothesis 2 which states that bright logos lead to a more sincere perception than dark logos. A two-way ANOVA with as between-subject factors logo colour (bright/dark) and type of NGO (cultural/environmental) for sincerity revealed a significant main effect of logo colour ($F(1,249) = 10.94, p = .001, \eta^2 = .042$). Irrespective of the type of NGO, participants who were confronted with bright logos perceived the NGO to be more sincere ($M = 4.63$) than participants who saw the dark logo ($M = 4.19$). Hence, hypothesis 2 is confirmed.

There was no significant main effect of type of NGO ($F(1,249) = 3.19, p = .075, \eta^2 = .013$) which leads to the conclusion that neither cultural nor environmental NGOs are perceived as more sincere. Moreover, the interaction between logo colour and type of NGO is non-significant ($F(1,249) = .29, p = .592, \eta^2 = .001$).

The effect of logo colour and type of NGO on attitude towards the NGO and one's intention to get involved with the NGO

Means and standard deviations for the attitude towards the NGO and the intention to get involved with the NGO are depicted in table 3. Hypothesis 3 states that dark logos are more appreciated for cultural NGOs than environmental NGOs and, conversely, bright logos are more appreciated for

Table 3. Means and standard deviations (in brackets) for the attitude towards the NGO and the variables concerning the intention to get involved with the NGO.

	Cultural NGO		Environmental NGO	
	bright logo	dark logo	bright logo	dark logo
	<i>n</i> = 62	<i>n</i> = 64	<i>n</i> = 61	<i>n</i> = 66
	<i>M</i> (<i>SD</i>)			
Attitude towards the NGO	4.71 (.68)	4.73 (.69)	4.67 (.73)	4.53 (.77)
Likelihood to volunteer	24.05 (21.25)	36.25 (28.11)	31.38 (22.23)	28.03 (22.90)
Amount of hours	5.39 (5.08)	7.81 (7.47)	7.54 (7.03)	7.27 (7.51)
Likelihood to donate	17.53 (19.66)	26.27 (24.89)	22.52 (21.67)	18.82 (21.15)
Amount of money	7.06 (7.38)	11.02 (14.06)	10.80 (12.67)	7.64 (9.31)

environmental NGOs. Separate two-way ANOVAs were run in order to get reliable results for the variables. The two measurements of the intention to volunteer and to donate were not put together because the likelihood and the hours/amount of money do not measure the variables with the same units. The likelihood is measured by indicating how likely it is a person would volunteer or donate (0 = very unlikely, 100 = very likely). Contrary, the hours are measured in h/month (0 = 0 hours, 40 = 40 hours) and, respectively, the amount of money is measured in €/month (0 = 0€, 100 = 100€). Hence, separate analyses were run.

A two-way ANOVA with as between-subject factors logo colour (bright/dark) and type of NGO (cultural/environmental) for the attitude towards the NGO neither revealed a significant main effect of logo colour ($F(1,249) = .45, p = .503, \eta^2 = .002$) nor the type of NGO ($F(1,249) = 1.65, p = .200, \eta^2 = .007$). Furthermore, the interaction is non-significant ($F(1,249) = .85, p = .358, \eta^2 = .003$).

A two-way ANOVA with as between-subject factors logo colour (bright/dark) and type of NGO (cultural/environmental) for the likelihood to volunteer showed no significant main effect of logo colour ($F(1,249) = 2.19, p = .140, \eta^2 = .009$) nor the type of NGO ($F(1,249) = .02, p = .882, \eta^2 = .000$). However, there is a significant interaction between logo colour and type of NGO

($F(1,249) = 6.74, p = .010, \eta^2 = .026$). To disentangle the significant interaction separate ANOVAs were carried out for cultural and environmental NGOs. The one-way ANOVA for cultural NGOs only with as between-subject factor logo colour (bright/dark) for the likelihood to volunteer showed a significant main effect of logo colour ($F(1,124) = 7.52, p = .007, \eta^2 = .057$). Cultural NGOs with a dark logo resulted in a higher likelihood to volunteer ($M = 36.25, SD = .28.11$) than cultural NGOs with a bright logo ($M = 24.05, SD = 21.25$).

The one-way ANOVA for environmental NGOs only with as between-subject factor logo colour (bright/dark) resulted in a non-significance of the model ($F(1,125) = .70, p = .406, \eta^2 = .006$). Hence, the significant interaction exists because logo colour only showed an effect on cultural NGOs but not on environmental NGOs.

A two-way ANOVA with as between-subject factors logo colour (bright/dark) and type of NGO (cultural/environmental) for the amount of hours a person would volunteer for the NGO revealed no significant main effect of logo colour ($F(1,249) = 1.56, p = .213, \eta^2 = .006$) nor the type of NGO ($F(1,249) = .87, p = .351, \eta^2 = .003$). Moreover, there is no significant interaction ($F(1,249) = 2.43, p = .120, \eta^2 = .010$).

In addition, a two-way ANOVA with as between-subject factors logo colour (bright/dark) and type of NGO (cultural/environmental) for the likelihood to donate resulted in no significant main effect of logo colour ($F(1,249) = .83, p = .363, \eta^2 = .003$) or the type of NGO ($F(1,249) = .20, p = .657, \eta^2 = .001$). Nevertheless, there is a significant interaction between logo colour and type of NGO ($F(1,249) = 5.08, p = .025, \eta^2 = .020$). Again, separate ANOVAs were carried out to disentangle the interaction.

The one-way ANOVA for cultural NGOs with as between-subject factor logo colour (bright/dark) showed a significant main effect of logo colour ($F(1,124) = 4.76, p = .031, \eta^2 = .037$). Cultural NGOs with a dark logo resulted in a higher likelihood to donate ($M = 26.27, SD = 24.89$) than cultural NGOs with a bright logo ($M = 17.53, SD = 19.66$).

The one-way ANOVA for environmental NGOs with as between subject factor logo colour (bright/dark) revealed no significant main effect of logo colour ($F(1,125) = .95, p = .331, \eta^2 = .008$). So the significant interaction results from the fact that logo colour only has an effect on cultural NGO logos.

Finally, a two-way ANOVA with as between-subject factors logo colour (bright/dark) and type of NGO (cultural/environmental) for the amount of money a person would donate to the NGO

showed no significant main effect of logo colour ($F(1,249) = .08, p = .780, \eta^2 = .000$). Furthermore, there was no significant main effect of logo type either ($F(1,249) = .02, p = .898, \eta^2 = .000$). However, the analysis revealed a significant interaction between logo colour and type of NGO ($F(1,249) = 6.42, p = .012, \eta^2 = .025$). Again, further ANOVAs were carried out.

The one-way ANOVA for cultural NGOs with as between-subject factor logo colour (bright/dark) for the amount of money donated revealed a very marginal non-significant main effect ($F(1,124) = 3.87, p = .051, \eta^2 = .030$). Since this p-value can be rounded to .05 which is significant, the analysis is continued. The analysis revealed that cultural NGOs with a dark logo lead to a higher amount of money donated ($M = 11.02, SD = 14.06$) than cultural NGOs with a bright logo ($M = 7.06, SD = 7.38$).

The one-way ANOVA for environmental NGOs with as between-subject factor logo colour (bright/dark) showed no significant main effect ($F(1,125) = 2.60, p = .109, \eta^2 = .020$). Hence, the significant interaction is due to the fact that logo colour only influences the effect on cultural NGOs but not on environmental NGOs. However, this effect is very marginal.

These results suggest that hypotheses 3a and 3b can only be confirmed partially. Even though logo colour and type of NGO do not show a general effect on the variables studied, the results suggest that there is a tendency that dark logos are more appreciated for cultural NGOs than bright logos.

Moderated mediation for sincerity

In the next step it will be analysed whether the moderation effects between the logo colour and the type of NGO on the attitude towards the NGO and the intention to get involved with the NGO will be mediated by sincerity or sophistication. To test the moderated mediation, the PROCESS tool and the 7th model by Hayes (2018) were used. The model is depicted in figure 1 and the results of the moderated mediation for sincerity are depicted in table 4.

The output of Hayes' (2018) PROCESS tool is divided in three parts. The first and the second part are regression models. The first part depicts model 1 which shows whether the independent variable X (logo colour) and the moderator (type of NGO) predict the mediator (sincerity/sophistication). Model 2 reveals whether the independent variable X (logo colour) and the mediator (sincerity/sophistication) predict the dependent variables (attitude towards the NGO/intention to get

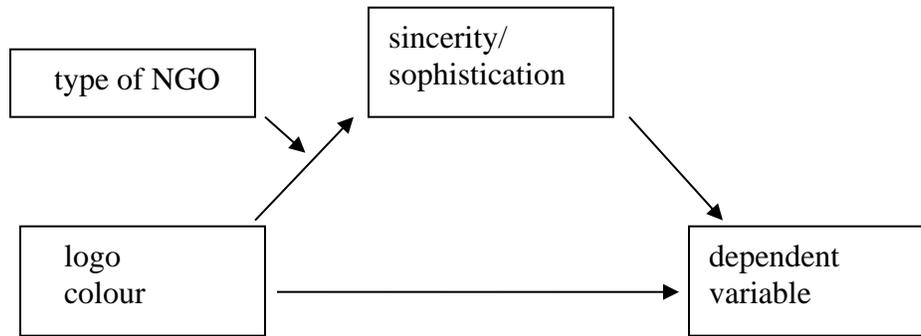


Figure 1. Moderated mediation model

involved with the NGO). The last part concerns the overall moderated mediation model. An overview can be found in table 5.

First, the moderated mediation model was tested for the attitude towards the NGO. The PROCESS analysis revealed an overall significant effect of model 1 ($F(3,249) = 4.87, p = .003$). However, logo colour ($B = -.23, Bse = .43, t = -.54, p = .592$) and type of NGO ($B = -.02, Bse = .43, t = -.06, p = .956$) do not predict sincerity. Also, there is no interaction effect between logo colour and type of NGO ($B = -.14, Bse = .27, t = -.54, p = .592$). Model 1 shows the same results for all moderated mediation analyses for sincerity which is why it will not be repeated in the following. Model 2 turned out to be significant as well ($F(2,250) = 75.15, p < .001$). The analysis revealed a significant effect of sincerity on the attitude towards the NGO ($B = .41, Bse = .03, t = 12.23, p < .001$). This means that if sincerity increases with one on the scale used, the attitude towards the NGO increases with .41, given that all other variables are kept constant. Contrary, logo colour is not a predictor of the attitude towards the NGO ($B = .12, Bse = .07, t = 1.66, p = .099$) even though that result is rather marginal. However, the moderated mediation model was not supported because the index of moderated mediation is not significant ($index = -.06, SE = .11, 95\% CI [-.28; .16]$). Since zero is within the confidence interval this suggests that there is no moderated mediation effect.

However, for cultural NGOs there is a significant negative indirect effect of logo colour on the attitude towards the NGO through sincerity ($effect = -.15, SE = .07, 95\% CI [-.30; -.01]$). The same result can be found for environmental NGOs which means that environmental NGOs trigger an in-

Table 4. Moderated mediation results for sincerity.

Direct and total effects of sincerity				
Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Attitude towards the NGO	.41	.03	12.23	< .001
Likelihood to volunteer	5.48	1.37	4.00	< .001
Amount of hours	.80	.40	1.99	.048
Likelihood to donate	6.34	1.23	5.13	< .001
Amount of money donated	1.97	.65	3.04	.003
Results for the index of moderated mediation				
	Index	<i>SE</i>	LL 95% CI	UL 99% CI
Attitude towards the NGO	-.06	.11	-.28	.16
Likelihood to volunteer	-.79	1.57	-4.31	1.95
Amount of hours	-.12	.27	-.79	.32
Likelihood to donate	-.92	1.80	-4.82	2.29
Amount of money donated	-.29	.59	-1.75	.66

Notes: Sample size = 253; number of bootstrap resample = 5000; LL = lower limit; UL = upper limit; CI = confidence interval

Table 5. Different parts of the moderated mediation analysis

What does it measure?	
Model 1	Are the logo colour and the type of NGO predictors of sincerity/sophistication?
Model 2	Are the logo colour and sincerity/sophistication predictors of the dependent variables?
Moderated mediation	Is there an overall moderated mediation? Is there an indirect effect of the type of NGO?

direct effect of logo colour on the attitude towards the NGO through sincerity ($effect = -.21, SE = .08, 95\% CI [-.39; -.05]$).

Next, the same analysis was carried out for the likelihood to volunteer. Model 2 is significant ($F(2,250) = 9.13, p < .001$). Again, sincerity is a significant predictor of the likelihood to volunteer ($B = 5.48, Bse = 1.37, t = 4.00, p < .001$) which means that if sincerity goes up with one on the scale used, the likelihood to volunteer goes up with 5.48, given that all other variables are kept constant. Furthermore, logo colour is a significant predictor of the likelihood to volunteer as well ($B = 6.86, Bse = 3.00, t = 2.29, p = .023$). Logo colour is a dichotomous variable and an increase of one implies that the logo is dark according to the coding. The result suggests that if logo colour goes up with one on the scale used, the likelihood to volunteer increases with 6.86, given that all other variables are kept constant. Hence, when the logo is dark the likelihood to volunteer increases compared to when the logo is bright. Furthermore, the moderated mediation model was not supported ($index = -.79, SE = 1.57, 95\% CI [-4.31; 1.95]$). Moreover, cultural NGOs have a significant indirect negative effect of logo colour on the likelihood to volunteer through sincerity ($effect = -2.05, SE = 1.02, 95\% CI [-4.23; -.19]$) and so do environmental NGOs ($effect = -2.84, SE = 1.36, 95\% CI [-5.94; -.60]$).

Additionally, the analysis was carried out for the amount of hours a person would volunteer for the NGO per month in the upcoming three months. Model 2 is not significant ($F(2,250) = 2.76, p = .065$). Nonetheless, sincerity is a significant predictor of the amount of hours a person would volunteer for the NGO ($B = .80, Bse = .40, t = 1.99, p = .048$) whereas logo colour does not predict the amount of hours a person would volunteer ($B = 1.44, Bse = .88, t = 1.64, p = .102$). This finding indicates that if the score on sincerity increases by one on the scale used, the amount of hours increases by .80, given that all other variables are kept constant. The index of moderated mediation, however, proves that there is no moderated mediation for the hours a person would volunteer for the NGO ($index = -.12, SE = .27, 95\% CI [-.79; .32]$). Neither cultural ($effect = -.30, SE = .20, 95\% CI [-.71; .05]$) nor environmental NGOs ($effect = -.41, SE = .29, 95\% CI [-1.09; .03]$) have significant indirect effects.

In the next step, the moderated mediation is tested for the intention to donate to the NGO. Model 2 for the likelihood to donate is highly significant ($F(2,250) = 13.61, p < .001$). Logo colour is marginally significant ($B = 5.32, Bse = .271, t = 1.97, p = .050$). Hence, if the logo is dark, the

likelihood to donate increases with 5.32, given that all other variables are kept constant. Furthermore, sincerity is a highly significant predictor of the likelihood to donate ($B = 6.34$, $Bse = 1.23$, $t = 5.13$, $p < .001$). If sincerity goes up by one on the scale used, the likelihood to donate increases with 6.34, given that all other variables are kept constant. Nevertheless, the index of moderated mediation shows that there is no moderated mediation effect ($index = -.92$, $SE = 1.80$, 95% $CI [-4.82; 2.29]$). However, there is a significant indirect effect of cultural NGOs for logo colour on the likelihood to donate through sincerity ($effect = -2.37$, $SE = 1.18$, 95% $CI [-4.85; -.24]$). Environmental NGOs also show a significant indirect effect of logo colour on the likelihood to donate through sincerity ($effect = -3.29$, $SE = 1.61$, 95% $CI [-6.92; -.55]$). Hence, even though there is no moderated mediation, there is an indirect effect of the type of NGO.

The moderated mediation analysis for the amount of money a person would donate to the NGO showed a significant main effect of model 2 ($F(2,250) = 4.65$, $p = .010$). Sincerity is a significant predictor of the amount of money a person would donate to the NGO ($B = 1.97$, $Bse = .65$, $t = 3.04$, $p = .003$) which means that if sincerity increases with one on the scale used, the amount of money a person would donate to the NGO goes up with 1.97, given that all other variables are kept constant. Logo colour is not a significant predictor of the amount of money donated ($B = 1.27$, $Bse = 1.42$, $t = .89$, $p = .374$). The index confirms that there is no moderated mediation ($index = -.29$, $SE = .59$, 95% $CI [-1.75; .66]$). Both the cultural NGO ($effect = -.74$, $SE = .40$, 95% $CI [-1.60; -.05]$) and the environmental NGO ($effect = -1.02$, $SE = .59$, 95% $CI [-2.48; -.16]$) have a significant indirect effect of logo colour on the amount of money through sincerity.

Although the results suggest that there is no moderated mediation and, hence, hypothesis 4a cannot be confirmed, cultural as well as environmental NGOs have significant indirect effects of logo colour on some of the variables through sincerity, and sincerity predicts all variables positively.

Moderated mediation for sophistication

Next, the same analysis were carried out for sophistication. The results of the moderated mediation for sophistication are depicted in table 6. Model 1 of the moderated mediation analysis for the attitude towards the NGO showed a significance ($F(3,249) = 4.01$, $p = .008$). However, only logo colour is a significant predictor of sophistication ($B = 1.08$, $Bse = .41$, $t = 2.63$, $p = .009$) whereas type of NGO is no significant predictor of sophistication ($B = .59$, $Bse = .41$, $t = 1.43$, $p = .154$). Also, the interaction is marginally non-significant ($B = -.48$, $Bse = .26$, $t = -1.85$, $p = .066$). The

significant effect of logo colour means that if logo colour goes up with one on the scale used and, hence, has a dark colour, sophistication increases with 1.08, given that all other variables are kept constant. Again, model 1 will not be repeated for the following analyses.

Model 2 is significant ($F(2,250) = 3.51, p = .031$). Furthermore, logo colour does not predict the attitude towards the NGO ($B = -.10, Bse = .09, t = -1.12, p = .264$) but sophistication does predict the variable ($B = .11, Bse = .04, t = 2.56, p = .011$). Hence, if sophistication increases with one on the scale used, the attitude towards the NGO goes up with .11, given that all other variables

Table 6. Moderated mediation results for sophistication.

Direct and total effects of sophistication				
Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Attitude towards the NGO	.11	.04	2.56	.011
Likelihood to volunteer	2.68	1.46	1.84	.067
Amount of hours	.62	.42	1.48	.140
Likelihood to donate	2.49	1.34	1.86	.064
Amount of money donated	1.41	.68	2.07	.039
Results for the index of moderated mediation				
	Index	<i>SE</i>	LL 95% CI	UL 99% CI
Attitude towards the NGO	-.05	-.04	-.14	.00
Likelihood to volunteer	-1.29	1.06	-3.94	.17
Amount of hours	-.30	.28	-.97	.12
Likelihood to donate	-1.20	1.02	-3.71	.10
Amount of money donated	-.68	.63	-2.25	-.09.

Notes: Sample size = 253; number of bootstrap resample = 5000; LL = lower limit; UL = upper limit; CI = confidence interval

are kept constant. The index of moderated mediation excludes the possibility of a moderated mediation effect although this insignificance is marginal ($index = -.53, SE = .04, 95\% CI [-.14; .00]$). Furthermore, there is a significant indirect effect for cultural NGOs of logo colour on the attitude towards the NGO through sophistication ($effect = .07, SE = .04, 95\% CI [.01; .15]$) but not for the environmental NGO ($effect = .01, SE = .02, 95\% CI [-.03; .07]$).

Following, the moderated mediation was tested for the intention to volunteer and sophistication. Model 2 for the likelihood to volunteer is non-significant ($F(2,250) = 2.76, p = .065$) and neither logo colour ($B = 3.44, Bse = 3.05, t = 1.13, p = .261$) nor sophistication ($B = 2.68, Bse = 1.46, t = 1.84, p = .067$) predict the likelihood to volunteer significantly. A lack of a moderated mediation effect is confirmed by the index of moderated mediation ($index = -1.29, SE = 1.06, 95\% CI [-3.94; .17]$). However, cultural NGOs resulted in a marginally significant indirect effect of logo colour on the likelihood to volunteer through sophistication ($effect = 1.60, SE = 1.00, 95\% CI [.00; 3.98]$). A significance cannot be found for environmental NGOs ($effect = .32, SE = .61, 95\% CI [-.77; 1.69]$).

For the amount of hours a person would volunteer for the NGO the moderated mediation analysis showed no significance for model 2 ($F(2,250) = 1.88, p = .154$). This is supported by the fact that logo colour ($B = .86, Bse = .88, t = .99, p = .326$) and sophistication ($B = .62, Bse = .42, t = 1.48, p = .140$) are not significant predictors of the amount of hours a person would volunteer for the NGO. The index of moderated mediation is non-significant as well ($index = -.30, SE = .28, 95\% CI [-.97; .12]$). Furthermore, neither cultural ($effect = .37, SE = .29, 95\% CI [-.12; 1.00]$) nor environmental NGOs ($effect = .07, SE = .15, 95\% CI [-.18; .45]$) show an indirect effect of logo colour on the amount of hours through sophistication.

Finally, the moderated mediation is carried out for the intention to donate. Model 2 for the likelihood to donate is insignificant ($F(2,250) = 2.13, p = .121$). Neither logo colour ($B = 1.59, Bse = 2.81, t = .57, p = .572$) nor sophistication ($B = 2.49, Bse = 1.34, t = 1.86, p = .064$) are significant predictors of the likelihood to donate. The index of moderated mediation is also non-significant ($index = -1.20, SE = 1.02, 95\% CI [-3.71; .10]$). However, the cultural NGO reveals an indirect effect of logo colour on the likelihood to donate through sophistication ($effect = 1.49, SE = .90, 95\% CI = .07; 3.56$) but, again, the environmental NGO does not ($effect = .30, SE = .52, 95\% CI [-.84; 1.30]$).

Furthermore, the moderated mediation for the amount of money a person would donate to the NGO showed no significant effect of model 2 ($F(2,250) = 2.18, p = .115$). However, sophistication is a significant predictor of the amount of money a person would donate ($B = 1.41, Bse = .68, t = 2.07, p = .039$). Thus, if sophistication increases with one on the scale used, the amount of money a person would donate to the NGO increases with 1.41, given that all other variables are kept constant. Contrary, logo colour is not a significant predictor of the amount of money ($B = -.12, Bse = 1.43, t = -.09, p = .932$). The index of moderated mediation is non-significant ($index = -.68, SE = .63, 95\% CI [-2.25; .09]$). There is no significant indirect effect of either cultural NGOs ($effect = .84, SE = .58, 95\% CI [-.01; 2.25]$) or environmental NGOs ($effect = .17, SE = .31, 95\% CI [-.49; .83]$). To conclude, it can be stated that there is no moderated mediation effect at all and hypotheses 4a and 4b are not confirmed.

Open question on logo associations

The participants were asked to indicate their perceptions of the logo in an open question. This question revealed that 60 people associated the logo with the word CEO which is a high job position. This association might have been evoked because the second C was mirrored. This could have led to a resemblance with the word CEO. In the open question there were no associations that were dominantly named for any condition. Generally, many participants described the logo as “friendly” or “warm” in the bright conditions and “professional” or “serious” in the dark conditions, but the type of NGOs did not lead to any dominant associations independently. This means that the logo did not elicit any salient traits that could have influenced the questions following.

Discussion

The study’s aim was to investigate whether the colour of an NGO logo can influence the perception of an NGO and the intention to get involved with it and whether the type of NGO leads to varying patterns. The underlying question of this study cannot be easily answered because the study uncovered complex relations between logo colour and the type of NGO. Both variables showed to be important aspects that can influence the perception of the NGO, however, this influence was limited which will be discussed further.

The effect of logo colour on sophistication and sincerity

In the literature review it was argued that colour can have a powerful influence on daily aspects such as mood and behaviour (Elliot & Maier, 2014) but also on corporate aspects such as visual identity and product design (Kim & Lim, 2019). The present study confirmed the power of colour to a large but limited extent. Labrecque and Milne (2012) suggested that bright colours such as yellow increase sincerity and that dark colours such as black promote sophistication. This was also supported by Aslam (2016) and O'Connor (2010). The results of the present study led to the conclusion that bright logos indeed lead to a more sincere perception of the NGO because bright logos reached a higher average score on the sincerity scale. As predicted by the literature, dark colours lead to a more sophisticated perception of the NGO as well. Furthermore, Labrecque and Milne (2012) found a negative relation between orange and sophistication. The present study confirms that a logo including the colour orange is perceived as less sophisticated than dark logos. Hence, hypotheses 1 and 2 were confirmed. It can be stated that it is beneficial to use bright colours if an NGO wants to highlight its sincerity. However, if an NGO wants to focus more on sophistication the inclusion of darker colours is necessary.

The effect of logo colour and type of NGO on the attitude towards the NGO and one's intention to get involved with the NGO

In the literature review it was argued that dark colours are more appreciated for cultural NGOs and bright logos for environmental NGOs because of the traits associated with them. The analysis of Mitchell, Mertig and Dunlap (1991) and Marquardt (2020) revealed that environmental NGOs are perceived as rather honest and trustful which led to the assumption that environmental NGOs are perceived as more sincere than cultural NGOs. Cultural NGOs, on the other hand, were expected to increase sophistication because Toepler and Wyszomirski (2012) as well as Hammill (2010) stressed the connection between culture and sophistication. This analysis resulted in the hypothesis that dark logos are more appreciated for cultural NGOs and bright logos for environmental NGOs.

However, the analysis did not reveal a consistent result. There was no significant result at all for the attitude towards the NGO which means that neither the logo colour nor the type of NGO influences the attitude differently. A possible explanation might be that the attitude towards an NGO can also be influenced by the design of a logo instead of the colours or type of NGO because Hynes (2009) stressed the importance of logo design. For the likelihood to volunteer, amount of

hours, likelihood to donate and amount of money donated, no effect of logo colour or type of NGO was found either. However, there was a significant interaction for the likelihood to volunteer, likelihood to donate and amount of money donated which resulted in the fact that cultural NGOs with a dark logo led to an increase of those variables compared to cultural NGOs with a bright logo. Although this does not fully support hypotheses 3a or 3b it is an interesting finding because it hints at the possibility that dark logos are more appreciated for cultural NGOs than bright logos in general because dark cultural NGO logos increase the score on three of five scales as opposed to bright logos. This confirms the statement by Kim and Lim (2019) that colour can influence perceptions positively. However, such an effect was not found for environmental NGOs with bright logos. Hence, the analysis does not support the assumption that environmental NGOs should rather use bright logos than dark logos. Simultaneously, the results contradict the statement by Michel and Rieunier (2012) that an NGO logo should not be too colourful because this study shows that dark and bright colours are equally appreciated. It is possible that two bright colours are not colourful enough and that there is only a difference when the logo in question comprises three or more colours. Furthermore, Madden, Hewett and Roth (2000) claimed that bright colours are more appreciated amongst Europeans which cannot be confirmed based on this study. However, this deviation might be caused by the fact that the present study mainly has German participants, and a more balanced European sample was lacking.

The finding by Lim et al. (2020) that dark colours are considered environmentally unfriendly cannot be confirmed. There is no result that substantiates that bright logos are preferred for environmental NGOs. However, in the open question some participants in the dark environmental NGO condition wrote statements such as “looks not like a NGO focussing on environment issues” (participant 247). Nevertheless, the rejection of dark colours for environmental NGOs is not mirrored in the analyses and one participant even indicated “environmentally-friendly” (participant 202), so it seems like this perception differs between participants. This might be a consequence of including several nationalities in the study. The divergence to the finding by Lim et al. (2020) might also result from the fact that the sample of that study included US-Americans (Lim et al., 2020) whereas this study focused on Europeans. Furthermore, they mainly found this effect for the colour grey which was not included in the present study.

Won and Westland (2018) stated that colours like yellow were perceived as environmentally friendly. This discrepancy might exist due to the fact that Won and Westland (2018) found the

effect of yellow as environmentally friendly especially in connection with the colours green and blue. Furthermore, they investigated the effect of colour on product design and not on logo perception. Since these components deviate from the stimuli used in this study that might be a possible explanation why bright colours were not identified as more appreciated for environmental NGOs.

The fact that hypotheses 3a and 3b could not be fully confirmed might be attributed to the circumstance that people in Europe might evaluate the appropriateness of various colours for certain types of NGOs differently because there can be cross-cultural deviations (Madden, Hewett & Roth, 2000). However, whether this is the case must be addressed in future research.

Moderated mediation

Contradictory to the hypotheses made no moderated mediation could be found. This means that the type of NGO cannot be identified as a moderator of the relationship between logo colour and sincerity or sophistication and the relationship between logo colour and the attitude towards the NGO, the intention to volunteer, the intention to donate were not mediated by sincerity or sophistication. Nevertheless, some interesting findings resulted from the moderated mediation analyses. First, logo colour predicts sophistication positively which means that dark logos lead to a higher perception of sophistication than bright logos which was also suggested by Labrecque and Milne (2012) and Aslam (2006). This pattern was found throughout the analyses which means that dark colours influence the perception of sophistication strongly.

Besides, cultural NGOs showed a significant indirect effect of logo colour on all dependent variables analysed except for the amount of hours a person would volunteer through sincerity and also for sophistication with the exception of amount of hours a person would volunteer and the amount of money a person would donate. However, in connection with sincerity this effect was always negative whereas it was positive in connection with sophistication. This suggests that logo colour rather has a positive effect on the mentioned variables through sophistication when the NGO in question is a cultural one which confirms the assumptions made based on the findings by Labrecque and Milne (2012) and Toepler and Wyszomirski (2012). This effect was different for environmental NGOs because there was no indirect effect found for any dependent variables in connection with sophistication. Contrary, for sincerity there was a negative indirect effect of logo colour on all variables analysed apart from the likelihood to donate money which means that environmental NGOs decrease the effect of logo colour through sincerity on those variables. Furthermore, these

findings showed that logo colour only influences the variables through sophistication for cultural NGOs which implies that environmental NGOs have a weaker influence.

Besides, logo colour predicts the likelihood to volunteer and the likelihood to donate positively which implies that dark logos increase the likelihood to volunteer and donate. This matches with the statement by Michel and Rieunier (2012) that less colourful NGO logos are appreciated. Sincerity turned out to be a positive predictor of all variables analysed. This means that the more the NGO is perceived to be sincere the better the perception of the NGO and the intention to get involved with it. This confirms the findings by Abdullah (2020) who studied the powerful influence of sincerity on the intention to get involved with an NGO. Indeed, people are more willing to get involved if they think the NGO is sincere. Hence, sincerity is a trait that can be very influential when it is associated with an NGO.

Conversely, sophistication only predicts the attitude towards the NGO and the amount of money a person would donate to the NGO. These results show that even though sophistication can influence some variables positively, sincerity is more powerful. This can also be traced back to the findings by Abdullah (2020). The fact that there was no literature available that dealt specifically with the importance of sophistication for NGOs but only literature that dealt with the impact of sincerity on NGOs (Abdullah, 2020) implies that this trait might be more important for NGOs. However, the present study pointed out that this can vary for different types of NGOs. This analysis suggests that sincerity is a more important trait that an NGO should try to convey. Sincerity might be important to people because nowadays people are often confronted with fake news online and in the media (Lee, 2019).

The results imply that hypotheses 4a and 4b were not confirmed. This might be the case because the types of NGOs were only indicated in the beginning, and it is possible that some participants forgot what type they were confronted with. However, it is also possible that there is simply no effect of these variables. To conclude, the results of the moderated mediation analysis suggest that individual variables do have certain effects on the attitude towards the NGO and the intention to get involved with the NGO. However, the type of NGO does not moderate the relationship between logo colour and sincerity or sophistication, and sincerity and sophistication did not function as mediators.

A returning pattern found in this paper was that cultural NGOs indeed lead to a better and a more sophisticated impression when connected with a dark logo. Also, the logo colour does not seem to

influence the perception of environmental NGOs. Additionally, bright logos are perceived as more sincere.

Practical implications for NGOs

The results of the present study can be of help for cultural or environmental NGOs that either want to revise their visual identity or who found a new NGO and try to establish a corporate identity. This study implies for those NGOs that it is advisable to carefully consider the logo colour. Not only is it important for cultural and environmental NGOs to adapt the colours to the traits they want to convey but for all types of NGOs because this study showed that there are indeed differences between the certain types. If an NGO wants to be perceived as sincere the use of bright colours is advisable. If an NGO wants to convey sophistication it is necessary to implement darker colours. However, this study also suggests that logo colour and type of NGO separately do not have such a big influence on the attitude towards the NGO or the intention to get involved with the NGO because there were no significant main effects of logo colour or type of NGO for these variables. Conversely, logo colour alone has a big influence on sincerity and sophistication. However, combined the two independent variables have the biggest influence. Hence, NGOs must be aware that they need to adapt the hues to their type of NGO. That way it is possible to reach certain associations and increase desired outcomes such as the likelihood to donate. This result was most striking for cultural NGOs.

This study is important for NGOs because it shows that colours can be a powerful tool, but it can also backfire if applied wrongly. This result was also found by Hynes (2009) since she stated that colours can be powerful if their application is in line with the organisation's identity. The fact that cultural NGOs with a bright logo are evaluated worse than cultural NGOs with dark logos confirms this finding. Cultural NGOs should not use too many bright colours in their logo. Hence, it is important for NGOs to study the meaning and most common associations of colours. According to the results of this study, logo colour does not influence the perception of an environmental NGO as strongly as the perception of cultural NGOs which means that environmental NGOs can use darker colours without decreasing positive outcomes. Furthermore, it is necessary to mention that associations can vary between cultures as pointed out by Madden, Hewett and Roth (2000) who focused on different colour associations across cultures. The present results are only valid for Europeans, especially Germans, who are confronted with an NGO logo.

The finding that bright colours should be used to increase sincerity was made throughout the literature (Labrecque & Milne, 2012; O'Connor, 2010). Hence, it can be confirmed that bright colours do indeed promote sincerity. Furthermore, sincerity is a positive predictor of all dependent variables used in this study which means that sincerity can be named a desirable association for most NGOs.

Limitations and future research

There are several limitations to this study. First, 62% of the participants were German which means that the nationalities are not equally distributed, and it cannot be concluded that the results display an image for all European countries. Contrary, the results can primarily be applied to Germans. Hence, in future research it is necessary to achieve a more balanced sample or concentrate on two different cultures to increase the inter-cultural aspect of this paper and get interesting results that compare two cultures. In the present study a comparison between two cultures was not possible due to a lack of a sample size big enough to compare two countries. It must be mentioned that there cannot only be different perceptions between countries from different continents. It is also likely that there are differences within countries of the same continent as pointed out by Madden, Hewett and Roth (2000). Hence, in future studies it is advisable to concentrate on less countries in order to be able to compare those countries appropriately.

Furthermore, the average educational level is very high. Approximately 70% of the participants have a university degree. This distribution does not mirror reality. The same can be stated for age. The average age is 28 which is very young. Hence, these limitations reinforce the advice for future research given before which states that a more representative sample is necessary. The sample must be balanced regarding nationality, gender, educational level, and age.

Moreover, the open question suggested that some participants associated the logo with the word CEO. Although it was confirmed that the logo was not similar to any other (NGO) logo and a CEO does not have anything to do with culture or the environment it is advisable to exclude this similarity in the future.

Besides, the low alpha of the sophistication scale is a limitation. Even though one item had already been deleted, the alpha was still only .54. This is rather insufficient which means that the sophistication scale is not reliable enough. Thus, in future research a more reliable scale for sophistication should be used.

Furthermore, this study only investigated the effect of bright and dark hues, and these hues were limited to yellow/orange and black/brown. Hence, it is not possible to generalise the results for all dark and bright colours such as white, dark blue and further colours. For instance, Labrecque and Milne (2012) found associations such as competence and efficiency for the colour blue. Berny and Rootes (2018) implied that those traits can be related to environmental NGOs which means it is possible that blue might be a favourable logo colour for environmental NGOs as well. Hence, in future research more colours must be included, plus, it is necessary to investigate different colour patterns such as a mixture of dark and bright colours or different hues of a certain colour such as light green, mint green and dark green. Won and Westland (2018) showed in their study that different shades of green can convey different associations. This research area still has a lot of potential which should be used in the future. The same can be stated for the types of NGOs. This study only covered environmental and cultural NGOs. However, there are many other types of NGOs such as human rights, educational or child protection NGOs. Furthermore, there is the distinction between generalist and specialist NGOs. Generalist NGOs focus on many activities whereas specialist NGOs have a few main foci (Lorente-Ayala, Vila-Lopez & Kuster-Boluda, 2020). Hence, studying the effect of logo colour on different types of NGOs may unveil some interesting results.

Moreover, it should not be neglected that other factors such as the NGO's reputation can influence the perception of the NGO as well. Mews and Boenigk (2013), for instance, concluded in their study that people are more likely to donate blood if the organisation in question has a good reputation. Furthermore, De Quevedo-Puente and Pérez-Cornejo (2020) state that a good reputation of a non-profit organisation increases the likelihood to donate money and the amount of money donated. Hence, it might be interesting to carry out a similar study with the logo of existing NGOs and to additionally check for the influence of its reputation.

Besides, a possible limitation of this study might be that the only indication whether the participants were confronted with a cultural or environmental NGO was a short text prior to the logo. It is possible that some participants did not read the text carefully and, hence, were not influenced by the type of NGO. In future studies this should be checked with an additional question at the end of the study asking which type of NGO the participant was confronted with. That way participants who were inattentive can easily be excluded.

Additionally, the currency of the amount of money participants would donate to the NGO was Euro. However, not all European countries use the Euro such as Great Britain. Hence, it is possible

that participants from countries that use another currency cannot estimate the value of the Euro correctly and, hence, distorted the variable amount of money donated to a certain extent. This fact emphasises the need for a more focused study.

Detached from the limitations there is an aspect that might be interesting for future research. It should be elaborated on the question why dark logos are more appreciated for cultural NGOs, but bright logos are not more appreciated for environmental NGOs because this contradicts the literature. It could be interesting to conduct a qualitative study in which the reasons for those preferences are investigated. That way it is possible to get more detailed insights and specific explanations which might help NGOs to better estimate what people expect from and associate with certain types of NGOs.

Generally, the topic of this paper still offers many possibilities for future research. More detailed and generalisable studies might offer a thorough knowledge concerning the power of colours regarding certain types of NGOs.

Conclusion

This paper attempted to offer insights on the influence of logo colours on the perception of cultural and environmental NGOs. The research question asked what influence bright and dark colours in environmental and cultural NGO logos have on the perception of the NGO and one's intention to get involved with the NGO. This question can be answered by stating that the logo colour is not an insignificant factor when it comes to the perception of an NGO. It has the power to influence the perceptions of sincerity and sophistication but not the overall attitude towards the NGO. Hence, there is a limited effect. In general, the logo colour is a more powerful influencer of perception than the type of NGO because the type of NGO did not lead to any significant results. The effect on the intention to get involved with the NGO is only apparent when the logo colour and type of NGO interact. Even then, the intention to get involved only increases for cultural NGOs with dark logos, but there was no difference found for environmental NGOs.

To conclude, it can be stated that colour is a factor that should be carefully considered in an NGO's decision how to create their logo. If applied well, colour can influence the perception of an NGO positively and convey certain traits that might be desired by an NGO.

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Appendices

A. Introduction texts to the NGOs

Cultural NGO:

Below you see the logo of the cultural NGO "CEC". It is a small international NGO that aims at promoting arts education and cultural activities in society.

Environmental NGO:

Below you see the logo of the environmental NGO "CEC". It is a small international NGO that aims at establishing environmentally friendly policies and maintaining biodiversity as well as reducing pollution.

B. The logos



Bright logo



Dark logo

C. The questionnaire

Start of Block: Introduction

Q1 Dear participant,

thank you for participating in this study. The participation is voluntary and we need your consent if you want to participate. Please take your time to read the following information carefully. In case something is unclear or you wish further information please contact dana.gossens@student.ru.nl

This research project is part of a Master's thesis in the programme "International Business Communication" at Radboud University Nijmegen. The completion of the questionnaire takes approximately 7-10 minutes.

In this project I want to research how people evaluate various stimuli. In order to do so, I ask you kindly to look at a logo and to answer questions about it. You can withdraw participation at any time without giving reasons. The data is anonymous and cannot be traced back to you. The data is only used as part of this study and will be applied for data sets and the Master's thesis.

Thank you for helping me with my Master's thesis!

I agree to participate in this study and confirm that I am 18 years or older.

- I agree - Questionnaire is continued (1)
- I do not agree - Questionnaire is terminated (2)

End of Block: Introduction

Start of Block: Robot check

Q42 Before you continue with the questionnaire please complete the captcha below

End of Block: Robot check

Start of Block: European?

Q43 Are you European?

- Yes (1)
- No (2)

End of Block: European?

Start of Block: Block 17

Q44 For prolific users: Please indicate your ID.

If you do not use Prolific, you can skip this question.

End of Block: Block 17

Start of Block: Instruction

Q50 You are going to see a short text and a logo. Please read the text carefully and take a close look at the logo. Afterwards, there will be some questions. There is no right or wrong. Please answer the questions attentively.

End of Block: Instruction

Start of Block: B_C

Q41 Below you see the logo of the cultural NGO "CEC". It is a small international NGO that aims at promoting arts education and cultural activities in society.

End of Block: B_C

Start of Block: B_E

Q39 Below you see the logo of the environmental NGO "CEC". It is a small international NGO that aims at establishing environmentally friendly policies and maintaining biodiversity as well as reducing pollution.

End of Block: B_E

Start of Block: D_C

Q42 Below you see the logo of the cultural NGO "CEC". It is a small international NGO that aims at promoting arts education and cultural activities in society.

End of Block: D_C

Start of Block: D_E

Q44 Below you see the logo of the environmental NGO "CEC". It is a small international NGO that aims at establishing environmentally friendly policies and maintaining biodiversity as well as reducing pollution.

End of Block: D_E

Start of Block: Associations

Q8 What associations came to your mind when you looked at the logo?

End of Block: Associations

Start of Block: Familiarity

Q3 Please indicate how familiar you are with the logo and the NGO.

Q4 How familiar are you with the logo?

- unfamiliar (1)
 - 2 (2)
 - 3 (3)
 - neutral (4)
 - 5 (5)
 - 6 (6)
 - familiar (7)
-

Q5 How well-informed are you about the NGO?

- not at all informed (1)
 - 2 (2)
 - 3 (3)
 - neutral (4)
 - 5 (5)
 - 6 (6)
 - highly-informed (7)
-

Q6 How much do you know about the NGO?

- nothing at all (1)
- 2 (2)
- 3 (3)
- neutral (4)
- 5 (5)
- 6 (6)
- a great deal (7)

End of Block: Familiarity

Start of Block: Sincerity

Q9 Please indicate how you estimate the following traits with regard to the NGO based on the logo shown.

Q10 I think the NGO is ...

- not down-to earth (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - down-to-earth (7)
-

Q11 I think the NGO is ...

- dishonest (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - honest (7)
-

Q12 I think the NGO is ...

- not wholesome (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - wholesome (7)
-

Q13 I think the NGO is ...

- not cheerful (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- cheerful (7)

End of Block: Sincerity

Start of Block: Sophistication

Q13 Please indicate how you estimate the following traits with regard to the NGO based on the logo shown.

Q14 I think the NGO is...

- not glamorous (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - glamorous (7)
-

Q15 I think the NGO is ...

- pretentious (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - modest (7)
-

Q16 I think the NGO is...

- not upper-class (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - upper-class (7)
-

Q17 I think the NGO is...

- not charming (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- charming (7)

End of Block: Sophistication

Start of Block: Att_NGO

Q26 Please indicate how you estimate the following traits with regard to the NGO based on the logo shown.

Q27 I think the NGO is ...

- unfair (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - fair (7)
-

Q28 I think the NGO is...

- worthless (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - valuable (7)
-

Q29 I think the NGO is...

- cruel (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - kind (7)
-

Q34 Attention check: Regardless of your perception please indicate funny

- not funny (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - funny (7)
-

Q30 I think the NGO is...

- cowardly (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - brave (7)
-

Q31 I think the NGO is...

- indulgent (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - thrifty (7)
-

Q32 I think the NGO is...

- not contemporary (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)
 - contemporary (7)
-

Q33 I think the NGO is...

- vain (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- modest (7)

End of Block: Att_NGO

Start of Block: Int_vol

Q18 Please indicate the likelihood you would volunteer for the NGO. There are several ways of volunteering such as helping the NGO with its organizational communication (e.g. social media, website), helping on-site, or offering your skills (e.g. photography, teaching) for free.

Q19 How likely is it that you would volunteer for the NGO? (0 = very unlikely, 100 = very likely)

0 10 20 30 40 50 60 70 80 90 100

likelihood ()



Q21 How many hours would you volunteer for the NGO per month in the upcoming three months?

0 5 10 15 20 25 30 35 40

How many hours/ month? ()



End of Block: Int_vol

Start of Block: Int_don

Q22 Please indicate the likelihood you would donate to the NGO.

Q23 How likely is it that you would donate for the NGO? (0 = very unlikely, 100 = very likely)
0 10 20 30 40 50 60 70 80 90 100

likelihood ()



Q25 How much money (€) would you donate to the NGO per month in the upcoming three months?

0 10 20 30 40 50 60 70 80 90 100

How much money/month? ()



End of Block: Int_don

Start of Block: Demographics



Q45 Please indicate your age

Q46 Please indicate your gender

- Male (1)
 - Female (2)
 - Prefer not to say (3)
-

Q47 Please indicate your highest level of education

- Secondary school (1)
 - Vocational training (2)
 - A-levels (3)
 - Bachelor (4)
 - Master (5)
 - Diploma (6)
 - PhD (7)
 - None of the above (8)
-



Q50 Please indicate your nationality

▼ Afghanistan (1) ... Zimbabwe (1357)

End of Block: Demographics

Start of Block: Conc

Q35 Thank you for participating in this study!

The logo and the NGO are fictitious and were created for the purpose of this study.

Declaration of fraud and plagiarism

I, Dana Gossens (s1055024), declare that the assessed Master's thesis on "The influence of bright and dark logo colours on the perception of cultural and environmental NGOs" is entirely original and was written exclusively by myself. I have indicated explicitly and in detail where all the information and ideas derived from other sources can be found. The research data presented in this thesis were collected by myself using the methods described in this thesis.

I declare that I am aware of and know what is in the Faculty Guidelines on how to avoid plagiarism, and the Rules and Regulations for the Master Communication and Information Studies. I declare that I only submitted texts written in my own words, and that I adhered to the guidelines regarding appropriate citing, paraphrasing, and quoting, in accordance with current APA conventions. I declare that I did not submit texts I have already submitted elsewhere in the context of examinations for other courses or modules.

Place and date: Geldern, 05.08.2021

Name: Dana Gossens

Signature: 