

## Article

# Comparing Preferences towards Multiracial Advertising in Sweden and the US-Exploration through Eye-Tracking

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Received: 31 August 2020; Accepted: 10 November 2020; Published: 18 November 2020



**Abstract:** This article examined and compared the US-born and Swedish-born college students' preferences towards monoracial or multiracial advertisement. We showed four fashion advertisements, tracked their eye movements with a stationary eye-tracker, and asked questions through survey and debriefing to understand how students see and perceive advertisements with and without racial diversity. We found that both Swedish and American students exhibited higher preference in monoracial advertisements. We also found that Swedish and American students' preferences towards advertisements were quite similar, but there were some variations in the reported level of attractiveness of the advertisements, reaction times, and dwell time between the Swedish and American students. Even though we did not find any statistically significant results from the eye-tracking data due to the limited sample size, the results point to interesting trends and tendencies that need to be addressed in further studies.

**Keywords:** racial preference; multicultural advertisement; Sweden; US; eye-tracking

## 1. Introduction

Globalization creates an increasingly economically, socially, and culturally independent world (Sobol et al. 2018). Migration is accelerating globalization and transnationalism, even in Sweden. Today, 19% of approximately 10 million residents in Sweden are first-generation immigrants born outside of Sweden, and 9% are non-Swedish citizens. Sweden's racial and ethnic composition has changed in a relatively short time as a result of immigration. Among the 19% of first generation immigrants, around 35% are of Asian and the Middle Eastern origin, which is the largest non-white/European group in Sweden. People of African origin make up about 10% of the population and those of Latin American origin account for 6% (Statistics Sweden 2019).

Hall (1997) argued the importance of representations of race, ethnicity, and gender as they produce and communicate cultural meanings in the given context. Therefore, many scholars have argued that advertising should mirror the sociocultural composition of a nation (Peruta and Powers 2017; Tukachinsky et al. 2015). With the presence of the internet, the marketing field is globalized and consumers around the world are inevitably exposed to different cultures and racial and ethnic groups (Sobol et al. 2018). However, sensitivity to culture, race, and ethnicity, together with other social categories, such as religion or gender, differ greatly according to the national context. As consumers

and markets grow internationally, it is becoming increasingly challenging to embrace racial and ethnic diversity that fits all contexts and consumers.

Portrayals in advertisements are seen to reflect reigning socio-cultural norms and values, which allow consumers to identify with the message and inherently also with the brand. In the US, and other countries with a history of racial diversity (such as South Africa), attention has been paid to the media's role within issues of race and ethnicity, and a significant amount of research has been conducted on ethnic and racial representation in advertisements (e.g., [Dixon et al. 2019](#)). Analysis on representation, whiteness, and nonwhiteness in Swedish films, literature, and news are fairly well documented (e.g., [Brune 2002](#); [Gokieli 2017](#); [Karlsson 2014](#); [Khosravi 2009](#)). However, studies looking at how representation of nonwhite minorities are perceived by Swedish audiences are nonexistent to the authors' knowledge. Swedish researchers have started to problematize the advertisement industry for the lack of racial and ethnic representation ([Ulver et al. 2019](#); [Åkestam 2017](#)). More research is needed to capture how Swedish audiences perceive racial and ethnic advertisements.

Understanding representation as an arena where cultural norms are communicated, how are the same advertisements perceived across contexts? How are monoracial-monoethnic and multiracial-multiethnic advertisements perceived by college students in the US and Sweden? Based on an eye-tracking experiment (N = 50) conducted among predominantly white college students in Rochester, New York, and Malmö, Sweden, this article fills the research gap that exists on international migration and ethnic relations and in marketing. The experiment tested college students' preference of monoracial or multiracial advertisements in Sweden and US and compared whether there was a difference in the way white college students in two different multiracial contexts saw the same advertisement. In addition, this study contributes toward the research by conducting a mixed experimental design by fusing an eye-tracking method and a self-administered survey.

### 1.1. Why Compare Sweden and the US?

Studies have shown that ethnicity is more salient in an ethnically mixed than uniform society (e.g., [Hesapci et al. 2016](#)). The United States offers an appropriate context to study racial and ethnic effects in advertising due to its long history of diversity in the population as well as awareness towards the diversity. The U.S. is a country established through immigration ([National Academies of Sciences, Engineering, and Medicine, and Committee on Population 2015](#)). Sweden, on the other hand, has historically been a country of emigration, which became a country of immigration after the World War. Sweden also provides a unique context where society is ethnically mixed ([Swedish Migration Agency](#)). The country has experienced changes in the racial and ethnic landscape of the population the past 50 years. Sweden is still predominantly a white European country, however the growth of the non-European population since the 1980s, especially Middle Easterners, is evident ([Migrationsverket 2019](#)). While the U.S. has an integrated assimilation policy and the melting pot as an ideal, Sweden has incorporated multicultural policy respecting cultural differences. Sociological research points to how race matters in Sweden and how attitudinal patterns are very similar to the US population (e.g., [Osanami Törngren 2016](#); [Törngren 2019](#)).

Studies in the U.S. and Sweden have shown how prior interracial contact affect biased processing of racial ingroup and outgroups. Exposure to racial out-group members can decrease both explicit and implicit bias (e.g., [Pettigrew et al. 2011](#)). The so-called contact hypothesis has been tested within the field of sociology, psychology, and intercultural communication ([Allport 1979](#)). However, how interracial exposure affects the perception and prediction of multiracial and multiethnic faces has not been tested and investigated enough (e.g., [Freeman et al. 2016](#)). For the Swedish participants, we assumed, from the patterns of migration the past two decades, that exposure to racial and ethnic diversity came at a later age, especially for those who did not grow up in urban areas ([Osanami Törngren 2016](#)).

Through the contextual differences between the US and Sweden, we drew two hypotheses:

**Hypothesis 1 (H1).** *Swedish students will exhibit a higher preference for monocultural advertisements than American students.*

**Hypothesis 2 (H2).** *Swedish and American students with higher prior interracial exposure will exhibit a higher preference for multicultural advertisement.*

Previous studies utilizing eye-trackers already have established that people tend to look at the faces in the picture presented. Research has shown that eye movements tend to utilize patterns of looking for faces, rather than equally distributing dwell time all over the face (Chuk et al. 2017). Eye-tracking research has long established that the eyes tend to garner the most fixations as well as the nose and mouth (Luria and Strauss 2013; Walker-Smith et al. 1977; Yarbus 1967). Moreover, some evidence of culturally biased looking has been found before (Blais et al. 2008; Hayward et al. 2013; Kelly et al. 2011; Rodger et al. 2010). Therefore, with this study, we hoped to see different preferences of advertisements and patterns of eye-fixations among Swedish and American students.

### 1.2. Representation and Attitudes towards Advertisements

Social and cultural representation of different population groups are theorized and analyzed extensively. Representation is about making sense of the world, and how these are communicated within society psychologically and through objects (Aspinall 2015; Hall 1997). Mass media is one of the communication platform where images shown conform to dominant cultural norms and promote particular categories of people, voices, values, and bodies (Edström 2018). Consuming images and messages associated with racial/ethnic groups in the media contributes to activation and application of racial/ethnic cognitions (Mastro 2017). Media has the potential to promote or to call into question stereotypical views of social groups based on race, ethnicity, and gender, therefore efforts have been made for education addressing the media's role in stereotyping (Scharrer and Ramasubramanian 2015). There is a need for an inclusive marketing strategy that benefits both minority and majority ethnic consumers and society at large (Peñaloza 2018).

Media representations of racial/ethnic groups are important to consider because they affect and form public attitudes and maintenance of groups, especially when direct contact with diverse racial and ethnic groups are lacking (Mastro 2015; Mastro and Kopacz 2006; Tukachinsky et al. 2015). Scholars also have argued how exposure to a mediated out-group member can increase in-group favoritism. For example, empirical evidence from the US indicates that viewing stereotypical characterizations of racial/ethnic minority groups among white audiences promotes harmful perceptions about Black people in society and unfavorable views on diversity-related policy issues, such as affirmative action and policing (Fujioka 1999). Conversely, viewing positive depictions can produce more constructive and sympathetic views about diverse groups, as well as more favorable policies (Maree and Jordaan 2016; Mastro and Kopacz 2006; Punyanunt-Carter 2008).

Attitudes towards racially and ethnically diverse advertisements and how the portrayal of such diversity is perceived by the viewers are also crucial points of discussion. The results from previous studies have been mixed, for example, in the US, varying results showing positive and negative reactions to the portrayal of Black-White interracial couples in commercials have been reported (Bhat et al. 2018; Lienemann and Stopp 2013). Racially diverse ads contribute to more positive consumer attitudes among minority groups, and the minority group responds positively to spokespersons with the same ethnic background rather than majority groups, while mixed results have been found among white consumers (e.g., Becerra et al. 2016; Yoo 2020; Rößner et al. 2017).

## 2. Materials and Methods

Data were gathered in Rochester, U.S., and Malmö, Sweden. Rochester and Malmö are comparable as these are two cities that have become a major center for immigration. Rochester's about 210,000 residents consist of around 40% white, 40% black, 17% Latinos, and 3% Asians. Malmö has

a population of around 300,000, where one third of the population were born outside of Sweden. Both cities have a young population, the average age being 31 and 38, respectively. Both cities have transformed from being an industrial city to a service and knowledge-centered city. The total number of participants were 54, however we eliminated participants not born in the US/Sweden. The data analyzed in this article consisted of 50 (23 from the US and 27 from Sweden) responses from participants. More female students are represented than male students in both countries (US: 16 female and 8 male, Sweden: 16 female and 11 male). The age of respondents in the US varied from 18 to 26 and the Swedish respondents from 20 to 45. The respondents were all enrolled in an educational program at Rochester Institute of Technology or Malmö University. In Rochester, respondents were recruited in author 2's classes, while in Malmö respondents were recruited at the university library. We are aware of the limitation of the number of respondents and the bias of the sample due to the different recruitment processes.

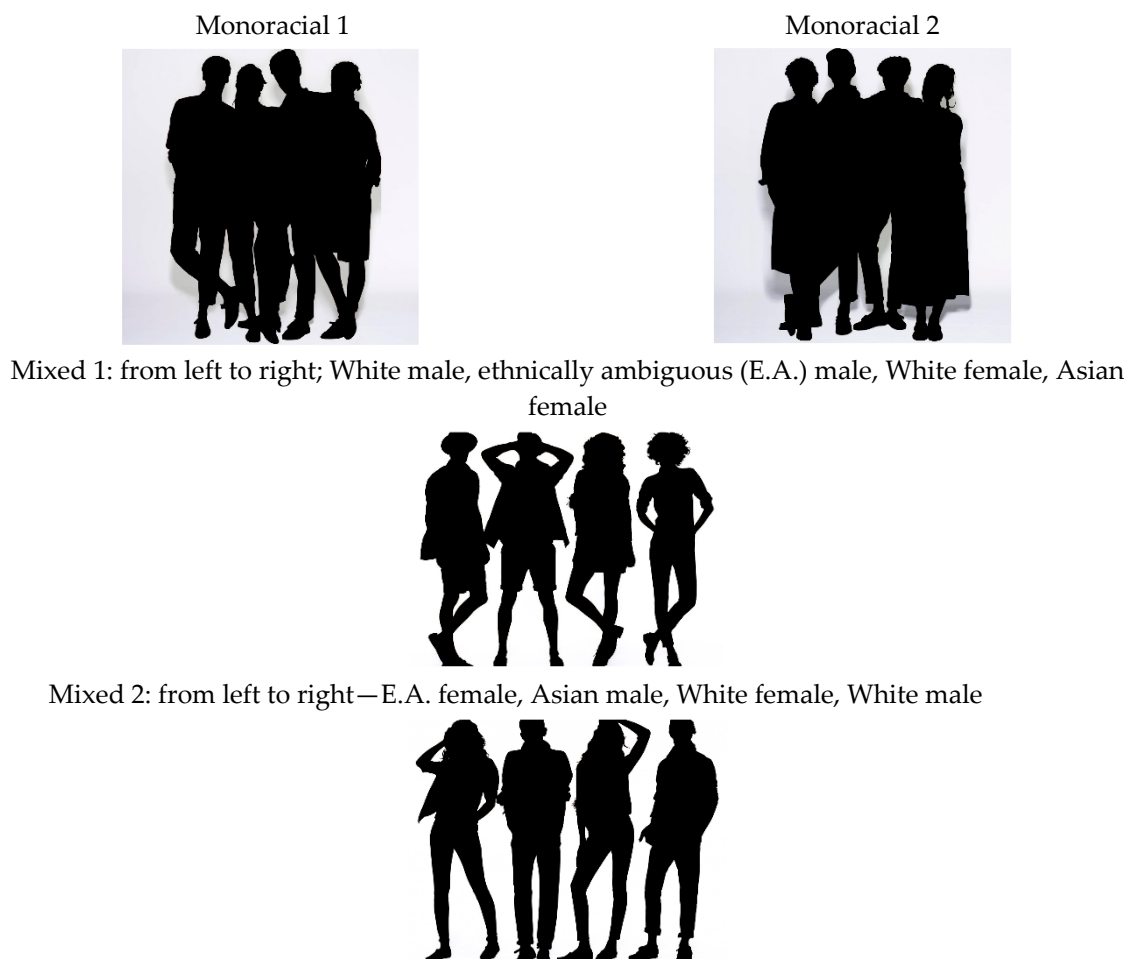
In the US, we used a 60 Hz Tobii Pro Nano eye-tracker (Tobii Technology, Falls Church, VA, USA) with a 24-inch widescreen monitor with a resolution of  $800 \times 600$  pixels. The screen size was  $34.5 \text{ cm} \times 19.5 \text{ cm}$ . In Sweden, data were collected with the Tobii 4C at 90 Hz on a 22-inch ( $53 \times 50 \text{ cm}$ ,  $1680 \times 1050$  pixels) monitor. Data were collected in windowless rooms in order to standardize the lighting for all participants. The participants viewed the stimuli from a distance of 65 cm. Stimuli were presented with PsychoPy (v. 3.0.3) and data recorded with the Titta toolbox (Niehorster et al. 2020). The average accuracy of the recordings was 0.53 degrees (SD = 0.25) for the Swedish participants and 0.51 degrees (SD = 0.25) for the US participants.

The four fashion advertisements were chosen for the experiment and pretested through a panel prior to the experiment. The four chosen advertisements were taken from an existing clothing company's campaign from 2014. Each ad showed 4 models and in 2 of the ads all 4 models were subjectively defined by the authors of the paper as Caucasian/white (hereafter referred to as monoracial ad), while the other two advertisements included one ethnically ambiguous (E.A.) model, one Asian model, and two Caucasian/white model (hereafter referred to as mixed ad). Below is a simulated version of the monoracial and mixed advertisement (Figure 1).

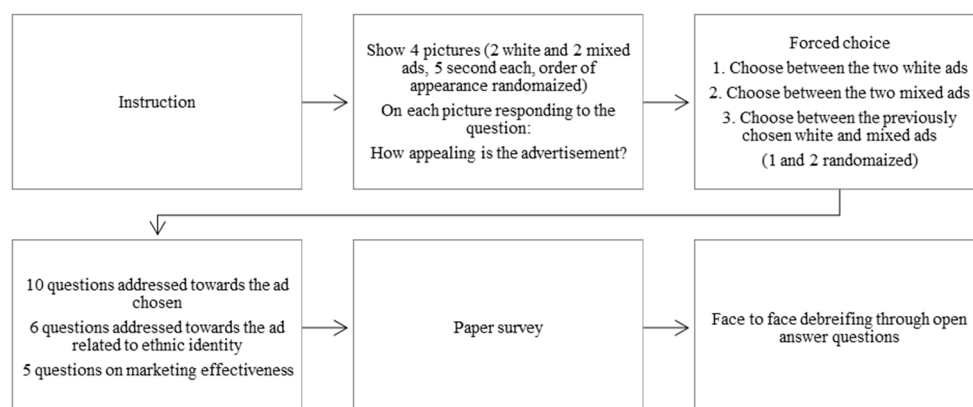
Three rooms were set up in parallel for the eye-tracking experiment. Students were placed in the eye-tracker room, together with one researcher, after they signed the consent form (Author 2, 3, and 4 were responsible for each room). On the computer screen the following instruction was shown:

In the next few slides, you will see 4 different ads for a retail store's Spring collection. Please look at each image carefully.

The experiment advanced via mouse clicks. Each picture was shown for 5 s. After seeing the four pictures, three forced choice questions followed: Two monoracial ads appeared on one screen and respondents were asked to choose the one they prefer the most. Then, two mixed ads were shown and respondents were asked to choose the one they preferred. These two tasks were randomized. As the last forced choice task, the monoracial and mixed ads that the students chose previously appeared on the screen again and respondents were asked to make a choice which one they prefer. After the final choice between the monoracial and mixed ads were made, series of marketing related questions were asked. These included attitudes towards the ads, emotional messages that students receive from the ads and attitudes effectiveness. In total 21 marketing related questions were asked. After answering these questions students left the room and received a survey in a paper form. They were left alone in a room to answer the survey. The survey contained questions based on social influence, social identity, and social distance theories (see Appendix A for the complete list of survey questions). After answering the survey, students went out of the room to another room, in order to take part in the face-to-face debriefing. Debriefing was conducted by two researchers (1st and the 2nd author). Below, Figure 2 summarizes the whole process of experiment.



**Figure 1.** Simulated picture: monoracial ad and mixed ad.



**Figure 2.** Data collection procedure.

### 3. Results

#### 3.1. General Descriptive Results

Descriptive statistics in Table 1 below show response to the item ‘how appealing is the following advertisement?’ (1–7 scale, 4 being neutral), categorized into three preferences. Although it is not possible to conclude the statistical conclusiveness of the result, these descriptive statistics inferred a

tendency among Swedish students to exhibit a higher preference for monocultural advertisements than the American students.

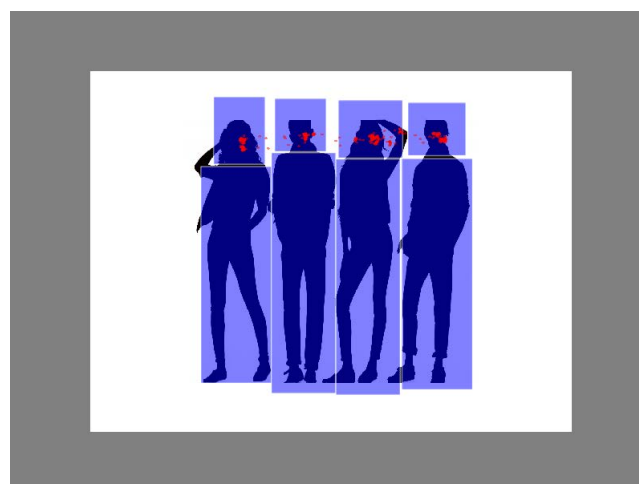
**Table 1.** Preference of advertisements.

Advertisement	Country	Not Appealing	Neutral	Appealing	Total
Monoracial 1	US	6	5	12	23
	Sweden	10	9	8	27
Monoracial 2	US	9	6	8	23
	Sweden	11	9	7	27
Mixed 1	US	7	6	10	23
	Sweden	14	10	3	27
Mixed 2	US	6	4	13	23
	Sweden	15	8	4	27

In the first forced choice question, where respondents were asked to make a choice between the two monoracial and two mixed advertisements, both Swedish and US respondents chose Mixed 2 (14 and 17 for US and Sweden, respectively) and Monoracial 1 (14 and 15 for US and Sweden, respectively) as more preferable. In the final forced choice question, where the respondents were asked to make a choice between the monoracial and mixed advertisements that they had chosen previously, more respondents chose monoracial (14 for the US and 18 for Sweden). These forced choice results show that Swedish and US students, in the end, both showed a preference for monoracial advertisements. What differed between the two samples was the reaction times to the forced choice questions. Swedish respondents took on average a shorter time than the US respondents to choose between the two monoracial ads (average of 5.6 s for Sweden and 7.1 s for US) and to make a final choice between the monoracial and mixed ads (4.0 s for Sweden and 5.6 s for US). The reaction time for mixed advertisement was about the same (6.6 for Sweden and 6.4 for US).

### 3.2. Eye-Tracking Data

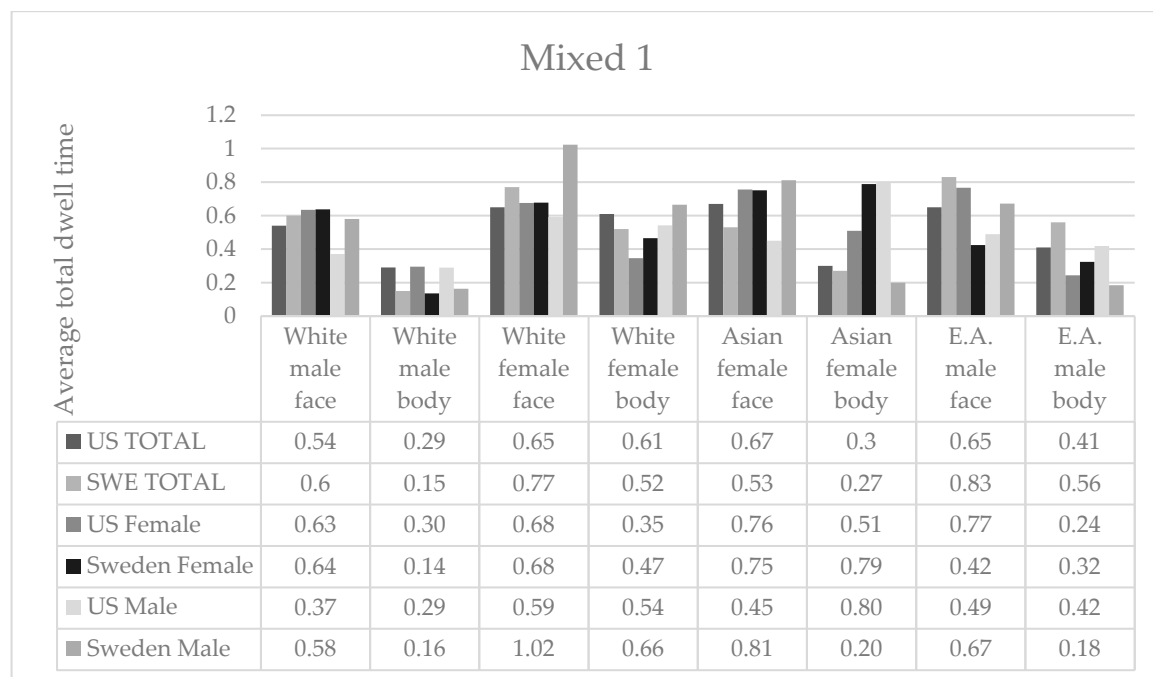
In this experiment, we put areas of interests (AOIs) over the facial region and the rest of the body of each person in a stimulus. Below Figure 3 shows the AOIs (blue rectangles) with red dots showing where the respondent's gaze was directed. Dwell time was defined as the total duration (total number of samples) participants looked inside a certain AOI.



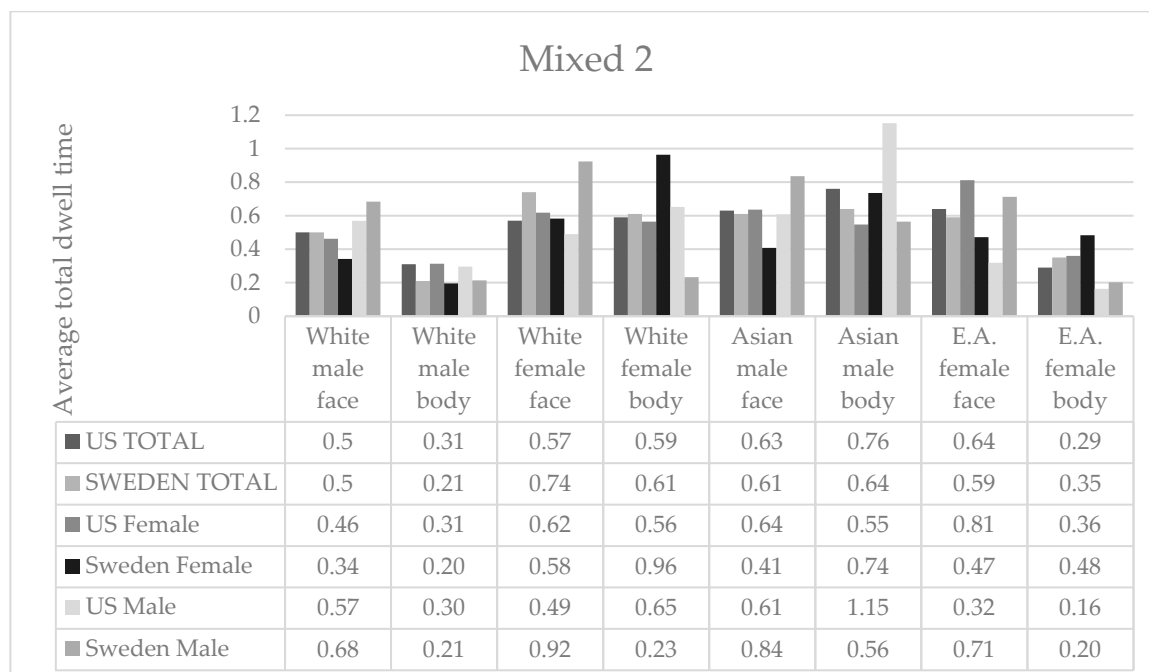
**Figure 3.** An example of eye-movement data (red dots) recorded from a Swedish participant. Areas of interests (AOIs) are represented by the blue rectangles.



Students' eye movements showed a tendency to be attracted to faces compared to the body, as shown in the illustration above (in average around 50% of the dwell time are spent on faces), however we found no statistical significance. Figures 4 and 5 show the average total dwell time (in seconds) that participants spent looking at faces and body parts of male and female persons of white, Asian, and ethnically ambiguous (from here on E.A.) origin.



**Figure 4.** Average total dwell times (s): Mixed 1.



**Figure 5.** Average total dwell times (s): Mixed 2.

Both US and Swedish students' dwell time was slightly longer for the non-White models' faces. There was a clear difference between the US and Swedish students in the dwell time for the non-White

models' faces and depending on the gender of the face. Among the Swedish students, we also saw slightly longer dwell time on the non-White male face, compared to the female face. Moreover, non-White male faces recorded longer dwell time compared to non-White female faces (e.g., E.A. male face's duration mean being 0.83, compared to E.A. female face duration mean being 0.59). The opposite results were observed for the white model's face, in that the female face received longer mean dwell time. Among the US students the longer dwell time means for the white female face compared to the white male face was observable, however the gender differences in the mean were not evidently observable for the non-White faces. These differences in the length of time taken between the US and Swedish students while looking at the male and female and white and non-White faces are interesting points and are gateways to future research.

Some differences were observed between the US and Swedish respondents' total dwell time depending on the reported gender, but the differences observed give a varying and inconsistent picture. For example, in the Mixed 1 advertisement, Swedish male students (1.02), compared to the US male students (0.59), spent more time looking at white female face. Swedish female students and US male students looked at the Asian female body equally (0.79 and 0.80), and much longer than the Swedish male and US female students (0.5 and 0.2). US female students, on average, showed longer dwell time on EA male faces (0.77) compared to Swedish female students (0.42). For Mixed 2, a similar pattern could be observed for Swedish respondents' dwell time on the White female face. Swedish male students showed longer average dwell time on the White female face (0.92) compared to the US male respondents (0.49), and Swedish female students spent more time looking at the White female body (0.96) compared to the US female students (0.56). While the average dwell time on the Asian male face was similar for US females and males (0.64 and 0.61), Swedish female students spent less time looking at the Asian male face (0.41) compared to Swedish male students (0.84). US male students spent longer time looking at Asian male body (1.15) compared to Swedish male students (0.56). US female and Swedish male students spent more time in average looking at EA female face (0.81 and 0.71) compared to Swedish female and US male respondents (0.47 and 0.32).

Total dwell times were further analyzed with linear mixed effects models using R (v. 3.6.1) and the lme4 package (v. 1.1.21) using participants as random effects with random intercepts. The country where data were collected (Sweden/US) and gender were used as independent variables. The following question was addressed: is there a difference in how much participants look at faces (m0: all faces/m1: only white faces/m2: only Asian faces/m3: only E. A. faces) depending on country of origin and gender? Figure 6 shows the output of the all linear mixed effect models (m0–m3). As can be seen, the differences were very small and nonsignificant for the country of origin. For gender, male respondents showed shorter dwell time on faces for all faces and white faces, but not on Asian and E.A. faces.

Predictors	dwelltime			dwelltime			dwelltime			dwelltime		
	Estimates	CI	p	Estimates	CI	p	Estimates	CI	p	Estimates	CI	p
(Intercept)	0.64	0.56 – 0.71	<b>&lt;0.001</b>	0.65	0.57 – 0.73	<b>&lt;0.001</b>	0.58	0.44 – 0.72	<b>&lt;0.001</b>	0.55	0.41 – 0.69	<b>&lt;0.001</b>
country [US]	-0.00	-0.06 – 0.05	0.866	-0.01	-0.07 – 0.06	0.812	-0.00	-0.17 – 0.16	0.957	0.06	-0.09 – 0.22	0.425
gender [male]	-0.07	-0.12 – -0.02	<b>0.004</b>	-0.13	-0.19 – -0.07	<b>&lt;0.001</b>	0.15	-0.01 – 0.31	0.066	0.04	-0.12 – 0.20	0.608
<b>Random Effects</b>												
$\sigma^2$	0.14			0.14			0.18			0.17		
$\tau_{00}$	0.04 <sub>pid</sub>			0.03 <sub>pid</sub>			0.01 <sub>pid</sub>			0.01 <sub>pid</sub>		
ICC	0.20			0.20			0.03			0.04		
N	33 <sub>pid</sub>			33 <sub>pid</sub>			33 <sub>pid</sub>			33 <sub>pid</sub>		
Observations	864			648			108			108		
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	0.007 / 0.205			0.024 / 0.217			0.030 / 0.059			0.008 / 0.046		

**Figure 6.** Output from the linear mixed effects model from the models m0–m3 (left to right). *p*-values for statistically significant results are marked with bold font.



### 3.3. Survey Results

The paper survey asked 21 survey items including social influence, social identity, and social distance theories. Pearson's R was calculated for all items including eye-tracking data; the Figure 7 below only shows the variables that had significant correlations.

Correlations							
		Which country are you born in?	I have negative images of immigrants.	I am involved in activities with people from other ethnic groups.	The less you notice racial and ethnic diversity, the better it is.	Mix 1	Mix 2
Which country are you born in?	Pearson Correlation	1	.369**	-.082	-.093	-.278	-.342*
	Sig. (2-tailed)		.008	.577	.520	.051	.015
	N	50	50	49	50	50	50
I have negative images of immigrants.	Pearson Correlation	.369**	1	-.198	.047	-.208	-.369**
	Sig. (2-tailed)	.008		.172	.745	.148	.008
	N	50	50	49	50	50	50
I am involved in activities with people from other ethnic groups.	Pearson Correlation	-.082	-.198	1	-.165	-.027	-.333*
	Sig. (2-tailed)	.577	.172		.258	.855	.019
	N	49	49	49	49	49	49
The less you notice racial and ethnic diversity, the better it is.	Pearson Correlation	-.093	.047	-.165	1	.281*	.135
	Sig. (2-tailed)	.520	.745	.258		.048	.352
	N	50	50	49	50	50	50
Mix 1	Pearson Correlation	-.278	-.208	-.027	.281*	1	.480**
	Sig. (2-tailed)	.051	.148	.855	.048		.000
	N	50	50	49	50	50	50
Mix 2	Pearson Correlation	-.342*	-.369**	-.333*	.135	.480**	1
	Sig. (2-tailed)	.015	.008	.019	.352	.000	
	N	50	50	49	50	50	50

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Figure 7. Pearson's R correlation.

Age and the gender of the respondents did not show any statistically significant correlations, and therefore are not visible in the Figure below. Although as previously mentioned, no significant results were found between the dwell time on AOI and the survey results, the survey items themselves showed some statistically significant results. For example, the relation between country of origin (US vs Sweden) and negative images of immigrants had a strong positive correlation,  $r = .369$ ,  $n = 50$ ,  $p < 0.05$ . Here, 13.6% of the variance was shared between 'I have negative images of immigrants' and country of origin. The positive relationship as well indicates this result was found for Swedish participants. Country of origin was found to be negatively correlated with the preference of the second mix ad,  $r = -.342$ ,  $N = 50$ ,  $p < 0.05$ . This means that respondents from Sweden were more likely to rate the Mixed 2 ad lower, although a small amount of the variance was reported as 11.69%.

Preferential rating of the second mixed ad was also found to have three additional significant correlations with 'I have negative images of immigrants', ( $r = -.369$ ,  $N = 50$ ,  $p < 0.05$ ), 'I am involved in activities with people from other ethnic groups' ( $r = -.333$ ,  $N = 50$ ,  $p < 0.05$ ), and Mix 1 ( $r = .480$ ,  $N = 50$ ,  $p < 0.05$ ). Those participants with less negative images of immigrants surprisingly found the second Mixed ad to be less favorable, with 14% of the variance shared. This result was mirrored by the negative correlation found between shared activities with people from other ethnic groups and Mixed 2 ad, however only 11% of the variance was shared. Unsurprisingly, 23% of the variance was shared between positive ratings of the first and second Mixed ad.

### 3.4. Responses to the Open Questions

The respondents were asked two open questions in a face-to-face debriefing after completing the eye-tracking experiment and the paper survey. The two questions were addressed in relation to the choice of the most attractive advertisement the respondents made:

- Why did you choose this ad and why not the other ad?
- What did you like about the most in this ad that you chose?

The responses were coded according to the five broad recurring themes: body type, gender, diversity, ethnicity/culture, and race/skin color. The detailed counts of the responses are summarized in the table below (Table 2).

**Table 2.** Counts on common expression to the open questions.

Topic		US	Sweden
Body type	Noticing body types in the ads shown	2	9
	Diversity in body types should be represented in ads	1	3
Gender	Noticing gender in ads shown	3	12
	Not noticing gender in ads shown	0	4
	Diversity in gender representation is positive	1	0
Diversity	Noticing diversity in the ads shown	3	4
	No diversity in the ads shown	1	2
	Promoting diversity	7	18
	You should not force diversity in ads	3	9
	Don't care about diversity	1	3
	Lack of diversity in the ads in general	5	4
	Acceptance/openness towards diversity	0	6
	What about other types of diversity than ethnic diversity?	0	1
Ethnicity/culture	Lack of ethnic differences in ads shown	3	6
	Noticing ethnic diversity in the ads shown	2	3
	Did not focus on the ethnicity of the models in the ads shown	5	8
	Noticing different cultures in the ads shown	0	2
	Ethnic quota in the ads	0	1
Race/skin color	Not noticing racial differences of the models in the ads shown	5	0
	Not noticing racial diversity in the ads shown	4	0
	White models were presented in the ads shown	1	3
	Different skin color in the ads shown	0	2
	Light and dark-skinned models in the ads shown	0	6
	Did not look at the race of the models in the ads	1	1
	Racial diversity is positive	1	1

The differences in the pattern of responses between the US and Swedish students are interesting. The striking differences were in Swedish students' attention on the body types and gender represented in the ads compared to US students. Many Swedish respondents expressed the idea that diversity should be promoted, while at the same time many explicitly said that diversity should not be forced.

Another noticeable difference was the vocabulary used and the different levels of focus that US and Swedish students used when there was a reference to ethnic and racial diversity in the ads. While US participants mentioned many times that the racial diversity was not noticed, Swedish students gave specific accounts of the white models and skin color of the models. These differences are interesting, bearing in mind that the population in both countries are considered to hold high level of color-blind ideas (e.g., [Bonilla-Silva 2010](#); [Törnngren 2019](#)). Especially in the Swedish context, there has been a belief that talking about race is a taboo, however these accounts made by the participants of this study shows how Swedes see and categorize people in terms of skin color.

#### 4. Conclusions

We found that both Swedish and American students exhibited higher preference in monocultural advertisements (Hypothesis 1). Mixed results were found when analyzing whether Swedish and American students with higher prior interracial exposure exhibited higher preference in multicultural advertisement (Hypothesis 2). The mixed results may be due to the limitation of the sample. Some interesting results that deserve attention are, for example, a larger number of Swedish respondents reporting mixed advertisement to be not appealing, Swedish respondents' faster reaction time to forced choice questions, and the differences in the mean dwell time between the US and Swedish respondents on different faces and gender. Qualitative results also point to different ways of addressing race, ethnicity, and diversity in Sweden and the US. These are all only based on descriptive analysis, however, they would be interesting to pay further attention to.

In this study, we could not find a statistically significant correlation between the eye-tracking data, ad preference, and attitudes reported on the survey. In eye-tracking research, it is important to refine the hypothesis and match it carefully with the research design. Except for the limitation of the representativeness of the sample and the sample size, we assumed several reasons lay behind this nonsignificant result. First was the noncontrolled nature of the advertisement. We chose existing fashion ads, which contributed to the ads being believable, however with any real ads, there are various components that draw people's attention, which were difficult to control for. For example, it was evident that a pair of blue pants one of the female models was wearing (white 2 on the very left) received attention and many respondents mentioned this in the debriefing process. Other aspects of the picture that drew visual attention were related to the postures of the models and hairstyles. Ideally, we should have chosen four identical pictures with only the faces of models differing. Moreover, the number of pictures shown were too small to be able to control for the effects of the mentioned aspects of the pictures. Even though gender did not correlate with the ad preferences and attitudes reported on the survey, we noted gender differences in dwell time on different AOIs, which should be examined further in coming studies.

This study was the first study of a larger project, and we are aware that there are clear limitations to the conclusions that we can draw due to the study design including the sample size. The descriptive results concerning dwell time show tendencies that needs to be addressed in further studies. We hope that this article serves as a first step and an inspiration for other researchers to explore the potential of utilizing eye-tracking methods in their field.

**Author Contributions:** Conceptualization, E.M. and S.O.T.; methodology and data collection E.M., S.O.T., C.A., S.U., and M.N.; software, M.N.; validation and formal analysis, S.O.T., C.A., and M.N.; resources, E.M., S.O.T., and M.N.; writing—original draft preparation, S.O.T. and E.M.; writing—review and editing, S.O.T., E.M., and C.A.; project administration and funding acquisition, E.M. and S.O.T. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research was funded by RIT Global Education Grant and Swedish Research Council for Sustainable Development, FORMAS.

**Acknowledgments:** The authors would like to thank Akika Tanaka for preparing the visual illustrations of the advertisements used in this article.

**Conflicts of Interest:** The authors declare no conflict of interest.

#### Appendix A. Paper Survey Items

*Scale: Strongly Disagree (1)–Strongly Agree (7)*

My country has the capacity to accept more immigrants.

My country is open to racial and ethnic diversity.

My country should accept less immigrants.

Racial and ethnic diversity is positive.

I have negative images of immigrants.

I am aware that people of immigrant background face discrimination and racism in my country.  
 The less you notice racial and ethnic diversity, the better it is.  
 I understand why immigrants demand their rights in my country.  
 It is accepted in my country that people of different racial and ethnic background mix.  
 People who are important to me think that I should be open toward racial and ethnic diversity.  
 People who influence my behavior encourage me to be open toward racial and ethnic diversity.  
 Being more open toward racially and ethnically diverse advertisement would enhance my change to meet members who have common beliefs.  
 Individuals who belief in being open culturally diverse advertisements keep close ties with each other.  
 I have spent time trying to find out more about my own culture such as its history, traditions, and customs.  
 I am active in organizations or social groups that include mostly members of my own ethnic group.  
 I have a clear sense of my cultural background and what it means for me.  
 I like meeting and getting to know people from ethnic groups other than my own.  
 I sometimes feel it would be better if different ethnic groups didn't try to mix together.  
 I often spend time with people from ethnic groups other than my own.  
 I understand pretty well that my ethnic group membership gives more privilege to me in my country.  
 I have a lot of pride in my ethnic group and its accomplishments.  
 I don't try to become friends with people from other ethnic groups.  
 I participate in cultural practices of my own group, such as special food, music, or customs.  
 I am involved in activities with people from other ethnic groups.  
 I feel a strong attachment towards my own ethnic group.  
 I enjoy being around people from ethnic groups other than my own.  
 I can imagine having a long-term relationship with persons from ethnic groups other than my own.  
 I often invite people from ethnic groups to other than my own.  
 Growing up, I spent my time mostly with persons from ethnic groups other than my own.  
 I would react negatively if someone in my family choose to have a long-term relationship with persons from ethnic groups other than my own.

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