| A Work Project, presented as part of the requirements for the Award of a Masters Degree in Management from the NOVA – School of Business and Economics. |
|---|
| ARE CELEBRITIES MEDIATORS FOR NEGATIVE SPILLOVER? AN EMPIRICAL STUDY. |
| David Maximilian Hassler #761 |
| A Project carried out on the Marketing Field Lab – Children Consumer Behavior, under the supervision of Luisa Agante |
| January 6 th , 2012 |

Booklet II: Appendix

6. Appendix

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6.2 Surveys¹

6.2.1 Pretests

6.2.1.1 Pretest 1

Celebrities George Clooney

Now, imagine the American actor George Clooney is advertising a coffee brand and a watch brand.

Please check the number which best describes your feelings towards the celebrity.

| likeable | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|------------------|
| very unlikeable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | very likeable |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| pleasant | | | | | | | | |
| very unpleasant | 0 | 0 | 0 | 0 | 0 | D | 0 | very pleasant |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

Figure 1: Example of Pretest 1, Credibility of George Clooney

¹ All surveys were designed and performed with SurveyGizmo (<u>www.surveygizmo.com</u>). The following Figures are Screenshots

| very disagreeable | 1 | 0 | 3 | 9 | 5 5 | 6 | 0 7 | very agreeable |
|----------------------|------|---|---------------|-------------|--------------|--------------|-----------|-------------------|
| | 1 | 2 | 3 | 4 | 5 | | | |
| knowledgeable | | | | | | | | |
| no knowledgeable | - 10 | 0 | 0 | 0 | 0 | 0 | 0 | knowledgeable |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| qualified | | | | | | | | |
| not qualified | 0 | 0 | 0 | 0 | 0 | 0 | 0 | qualified |
| 4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| trustworthy | | | | | | | | |
| not trustworthy | 0 | D | 0 | D | 0 | 0 | D | trustworthy |
| , | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| believable | | | | | | | | |
| not believable | 0 | 0 | 0 | 0 | 0 | 0 | D | believable |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| If you have never | | | on, check the | following b | ox and conti | inue without | answering | the items. |

Figure 2: Continuing: Example of Pretest 1, Credibility of George Clooney

Figures 1 and 2 illustrate parts of the survey of Pretest 1. Participants were shown a picture of the celebrity, in this case George Clooney, and were asked to evaluate their feelings toward him taking into account two possible brand categories. Participants had to fill out these scales for each of the four celebrities (Cristiano

Ronaldo, Katy Perry, George Clooney and Roger Federer. The scales represent the 7 items to measure credibility of the celebrity endorser.

Measures:

Credibility (Attractiveness, Expertise, Trustworthiness) of the celebrities was measured with 7 items on 7-point semantic differential scales (3 items on Attractiveness: very likeable/very unlikeable, very pleasant/very unpleasant and very agreeable/very disagreeable; 2 items on Expertise: knowledgeable/not knowledgeable and qualified/not qualified; 2 items on Trustworthiness: trustworthy/not trustworthy and believable/not believable) used in prior studies of Tripp et al. (1994) and Till and Shimp (1998). Higher numbers on a scale represent a more positive evaluation of the credibility and a participant's evaluation of credibility is composed of the average of the seven scales measuring this variable.

Results

| Response ID CR_ | CREDIBILITY_AVG KP_C | REDIBILITY_AVG GC_C | REDIBILITY_AVG RF_C | REDIBILITY_AVG |
|-----------------|----------------------|---------------------|---------------------|----------------|
| 1 | 5,71 | 4,57 | 6,43 | 5,57 |
| 2 | 3,29 | 5,29 | 6,14 | 4,57 |
| 3 | 4,43 | 2,00 | 6,00 | 4,57 |
| 4 | 3,43 | 6,43 | 6,57 | 5,86 |
| 5 | 4,00 | 3,43 | 4,86 | 4,00 |
| 6 | 3,00 | 5,00 | 5,86 | 5,00 |
| 7 | 4,43 | 5,00 | 6,29 | N/A* |
| 8 | 2,86 | 2,57 | 5,71 | 4,29 |
| 9 | 2,14 | 5,00 | 5,57 | N/A* |
| 10 | 3,71 | 5,00 | 6,71 | 7,00 |
| 11 | 2,57 | 3,14 | 5,43 | 6,14 |
| 12 | 5,71 | 6,14 | 7,00 | 7,00 |
| 13 | 4,43 | 6,00 | 7,00 | 6,14 |
| 14 | 4,43 | 3,57 | 7,00 | 6,00 |
| 15 | 2,29 | 4,57 | 6,29 | 5,57 |
| 16 | 2,57 | 3,57 | 3,14 | 4,00 |
| 17 | 3,71 | 3,86 | 5,57 | 5,43 |
| 18 | 4,71 | 3,86 | 5,29 | 4,86 |
| 19 | 4,14 | 5,29 | 6,00 | 6,86 |
| 20 | 4,57 | 4,29 | 5,86 | 6,00 |
| Mean | 3,81 | 4,43 | 5,94 | 5,49 |

 $^{{}^{*}}$ Respondent was not familiar with Roger Federer

Figure 3: Evaluation of Credibility

20 University students evaluated the credibility for each of the four celebrities, Cristiano Ronaldo (CR CREDIBILITY AVG), Katy Perry (KP CREDIBILITY AVG), George Clooney

(GC_CREDIBILITY_AVG) and Roger Federer (RF_CREDIBILITY_AVG) (see Fig. 3). The average evaluation of each respondent represents the mean of the 7 items measuring credibility.

Keeping in mind the scales are from one to seven, George Clooney (mean=5.94) and Roger Federer (mean=5.49) were perceived as exceptionally credible celebrities. Roger Federer was chosen for the experiment.

6.2.1.2 Pretest 2

Roger's Endorsements Roger Federer Roger Federer (born August 8th, 1981) is a Swiss professional tennis player who held the ATP no. 1 position for a record 237 consecutive weeks, and 285 weeks overall. As of October 2011, he is ranked world no. 4 by the ATP. Federer has won a men's record 16 Grand Slam singles titles. He is one of seven male players to capture the career Grand Slam and one of three to do so on three different surfaces (clay, grass and hard courts). Many sports analysts, tennis critics, and former and current players consider Federer to be the greatest tennis player of all time. Federer has also been actively involved in various charitable activities on the ATP World Tour and through his own foundation. In September 2011, he was voted the second most trusted and respected human in the world by a study of the Reputation Institute, second only to Nelson Mandela. Back Next

Figure 4: Example of Pretest 2, Roger Federer

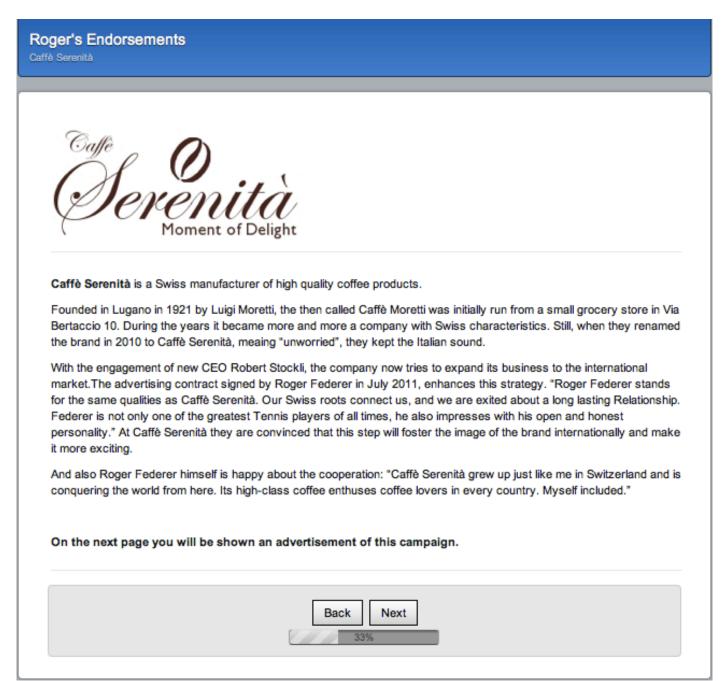


Figure 5: Example of Pretest 2, Caffè Serenità

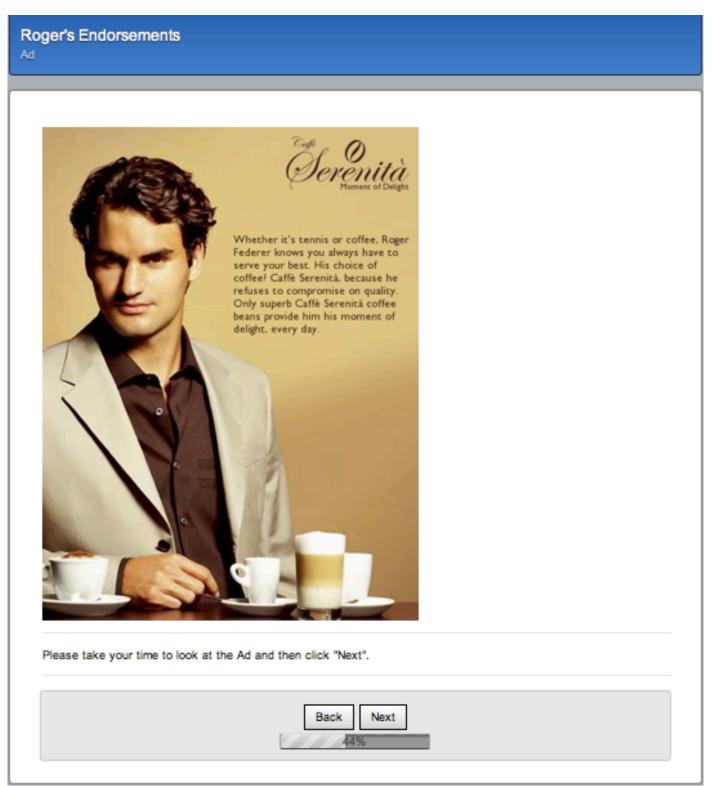


Figure 6: Example of Pretest 2, Ad

Roger's Endorsements From what you know now about Caffè Serenità and its ambassador Roger Federer, do you think... ...these two have a * low fit 0 Θ Θ 0 0 0 0 high fit 2 3 4 5 7 1 ...their relationship * does not makes Θ Θ Θ Θ 0 make sense sense 1 2 3 7 ...these two are * dissimilar 0 0 Θ 0 0 Θ 0 similar 1 2 5 7 ...this combination is * atypical 0 0 0 0 0 0 typical 1 2 3 4 5 6 7 ...this combination is * inconsis-0 0 0 Θ 0 0 consis- tent tent 1 2 5 6 7

Figure 7: Example of Pretest 2, Evaluation of Fit

| unrepre- sentative | 0 | 0 | 0 | 0 | 0 | 0 | 0 | repre- sentative |
|------------------------|---|---|---|---------|-----|---|---|---------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| these two are * | | | | | | | | |
| not comple- mentary | 0 | 0 | 0 | 0 | 0 | 0 | 0 | comple- mentary |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| | | | _ | | | | | |
| | | | | Back Ne | ext | | | |

Figure 8: Continuing: Example of Pretest 2, Evaluation of Fit

Figures 4 to 8 illustrate parts of the survey of Pretest 2. Participants were introduced to Roger Federer (see Fig. 4) and to the coffee brand Caffè Serenità (see Fig. 5), they were shown an advertisement of Roger Federer endorsing Caffè Serenità (see Fig. 6) and were subsequently asked to evaluate the fit between the celebrity and the brand (see Figs. 7 and 8). Afterwards they were going through the same process when evaluating the fit between Roger Federer and the sports brand Halma.

Measures:

Fit between Roger Federer and the brand was measured on 7-point semantic differential scales (7 items: dissimilar/similar, inconsistent/consistent, atypical/typical, unrepresentative/representative, not complementary/complementary, low fit/high fit and does not make sense/makes sense) used in a prior study of Simmons and Becker-Olsen (2006). Higher numbers on a scale represent a more positive evaluation of the fit and a participant's evaluation of fit is composed of the average of the seven scales measuring this variable.

Results

| Response ID CS-RF | _FIT_AVG | HA-RF_FIT_AVG |
|-------------------|----------|---------------|
| 1,00 | 4,29 | 5,86 |
| 2,00 | 3,14 | 5,71 |
| 3,00 | 5,57 | 6,86 |
| 4,00 | 2,43 | 5,00 |
| 5,00 | 6,71 | 6,57 |
| 6,00 | 6,00 | 5,86 |
| 7,00 | 3,71 | 6,71 |
| 8,00 | 7,00 | 6,86 |
| 9,00 | 6,00 | 6,29 |
| 10,00 | 3,71 | 5,86 |
| 11,00 | 5,00 | 6,00 |
| 12,00 | 4,71 | 5,71 |
| 13,00 | 6,43 | 6,14 |
| 14,00 | 4,00 | 5,14 |
| 15,00 | 2,14 | 6,00 |
| 16,00 | 5,71 | 6,43 |
| 17,00 | 6,00 | 6,14 |
| 18,00 | 5,71 | 6,29 |
| 19,00 | 5,71 | 6,14 |
| 20,00 | 5,14 | 6,29 |
| Mean | 4,96 | 6,09 |

Figure 9: Evaluations of Fit (N=20)

20 University students evaluated the fit between Roger Federer and Caffè Serenità (CS-RF_FIT_AVG) as well as Roger Federer and Halma (HA-RF_FIT_AVG) (see Fig. 9). The average evaluation of each respondent represents the mean of the 7 items measuring fit. Keeping in mind the scales are from one to seven, total means of 4.96 and 6.09 respectively represent a more than reasonable fit between Roger Federer and each of the two brands.

6.3.1.3 Pretest 3



Figure 10: Example of Pretest 3, Caffè Serenita

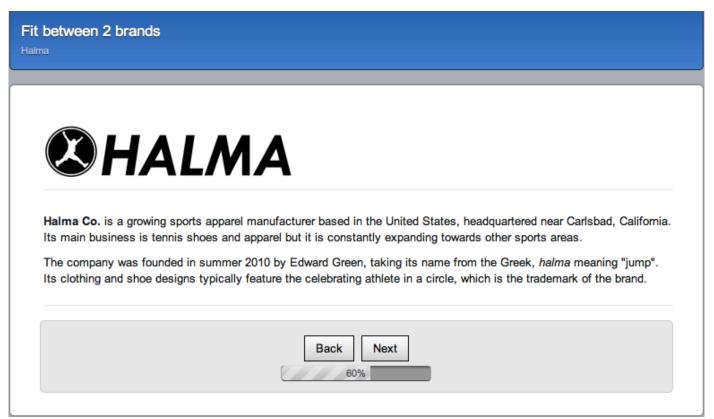


Figure 11: Example of Pretest 3, Halma

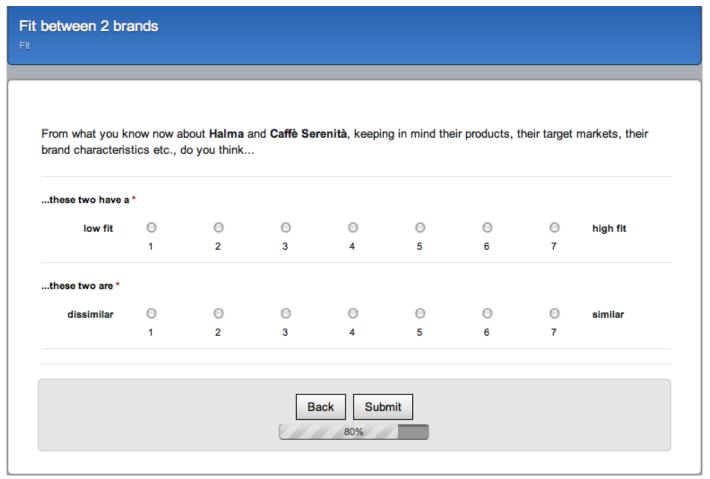


Figure 12: Example of Pretest 3, Evaluation of Fit

Figures 10 to 12 illustrate parts of the survey of Pretest 3. Participants were introduced to the coffee brand Caffè Serenità (see Fig. 10) and to the sports brand Halma (see Fig. 11), and subsequently were asked to evaluate the fit between the two brands (see Fig. 12).

Measures

Fit between Caffè Serenità and Halma was measured on 7-point semantic differential scales with 2 of 7 items (dissimilar/similar, low fit/high fit) that were used in a prior study of Simons and Becker-Olsen, 2006. Higher numbers on a scale represent a more positive evaluation of the fit and a participants's evaluation of fit is composed of the average of the two scales measuring this variable.

Results

| Response ID | CS_HA_FIT_AVG |
|-------------|---------------|
| 1 | 2,5 |
| 2 | 2 |
| 3 | 2,5 |
| 4 | 1,5 |
| 5 | 1,5 |
| 6 | 1 |
| 7 | 2 |
| 8 | 3 |
| 9 | 2,5 |
| 10 | 2,5 |
| 11 | 2,5 |
| 12 | 1,5 |
| 13 | 2 |
| 14 | 1 |
| 15 | 2,5 |
| 16 | 2,5 |
| 17 | 2 |
| 18 | 3 |
| 19 | 1,5 |
| 20 | 2,5 |
| Mean | 2,1 |
| | |

Figure 13: Evaluation of Fit (N=20)

20 University students evaluated the fit between Caffè Serenità and Halma (CS_HA_FIT_AVG) (see Fig. 13). The average evaluation of each respondent represents the mean of the 2 items measuring fit. Keeping in mind the scales are from one to seven, a total mean of 2.1 represents a more than appropriate evaluation of the fit between the two brands that are not supposed to have any direct associative link to each other

6.2.2 Final Survey

6.2.2.1 Groups 1 & 2

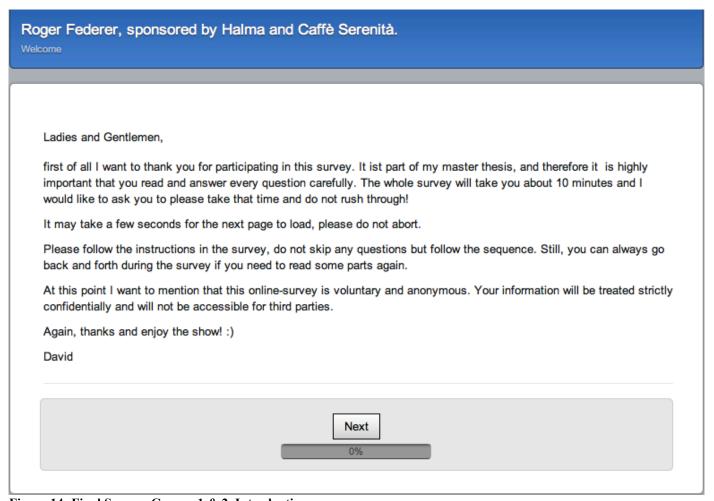


Figure 14: Final Survey, Groups 1 & 2, Introduction

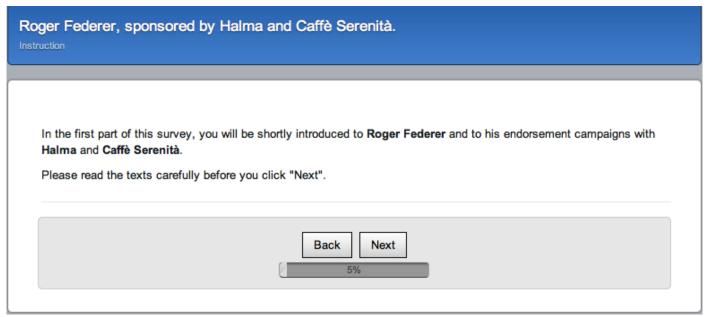


Figure 15: Final Survey, Groups 1 & 2, Instruction Celebrity and Brands

Roger Federer, sponsored by Halma and Caffè Serenità.



Roger Federer (born August 8th, 1981) is a Swiss professional tennis player who held the ATP no. 1 position for a record 237 consecutive weeks. As of October 2011, he is ranked world no. 4 by the ATP. Federer has won a men's record 16 Grand Slam singles titles and he is one of seven male players to capture the career Grand Slam. Many sports analysts, tennis critics, and former and current players consider Federer to be the greatest tennis player of all time.

In summer 2011 Roger Federer signed contracts with two new sponsors, the coffee brand Caffè Serenità and the sports brand Halma. Both will be introduced on the following pages.

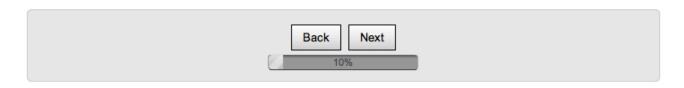


Figure 16: Final Survey, Groups 1 & 2, Roger Federer



Figure 17: Final Survey, Groups 1 & 2, Halma

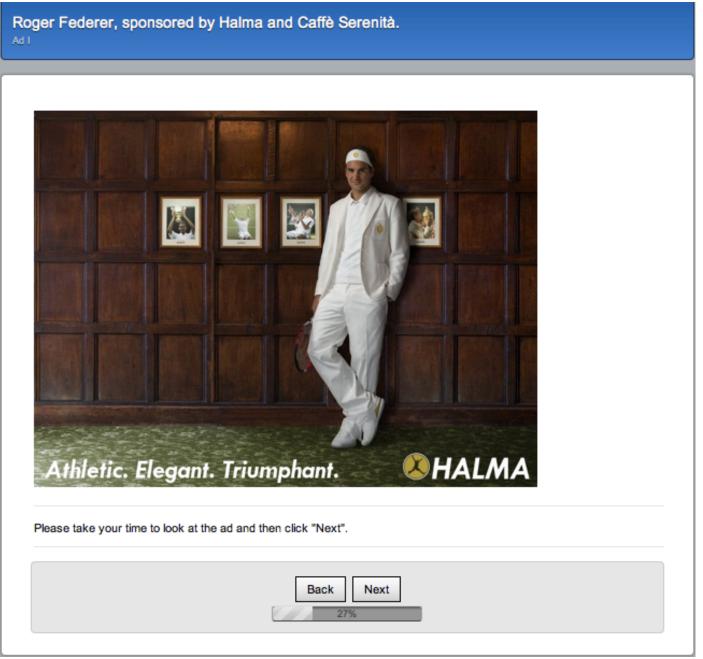


Figure 18: Final Survey, Groups 1 & 2, Ad I Halma

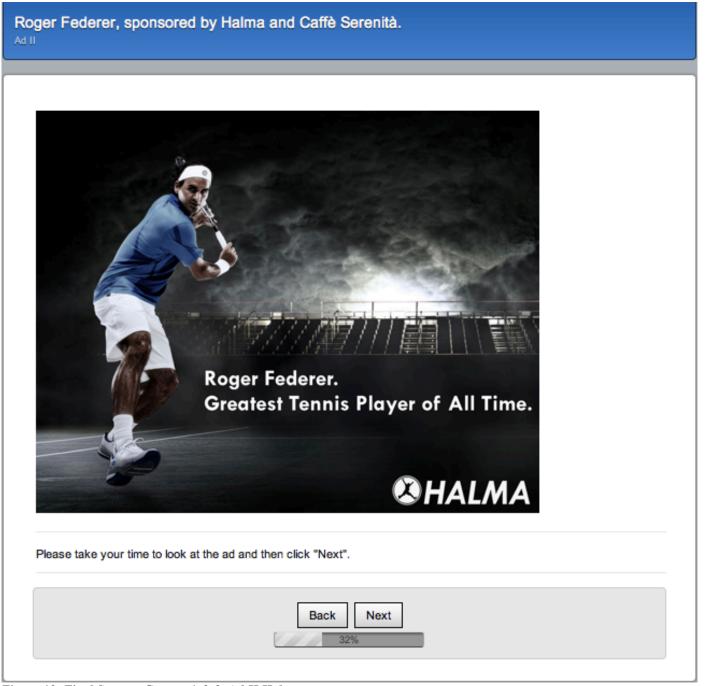


Figure 19: Final Survey, Groups 1 & 2, Ad II Halma

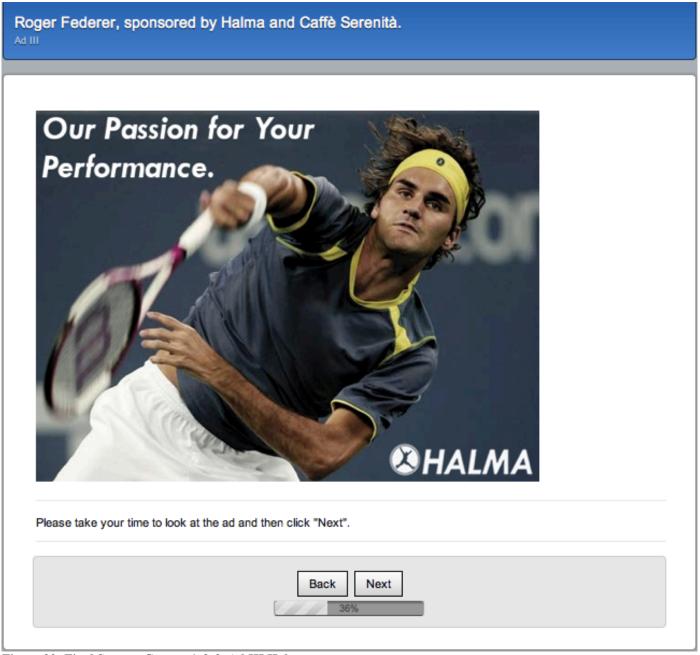


Figure 20: Final Survey, Groups 1 & 2, Ad III Halma



Figure 21: Final Survey, Groups 1 & 2, Caffè Serenità

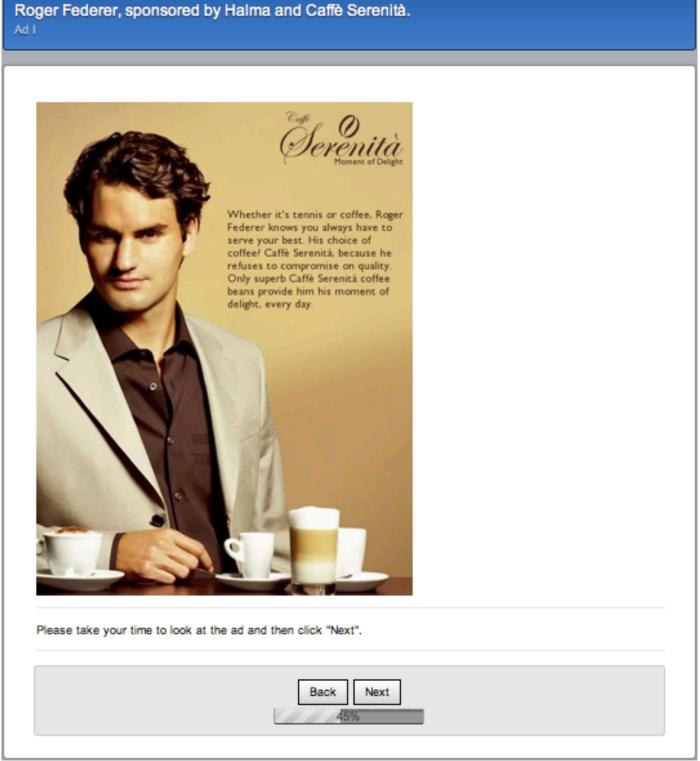


Figure 22: Final Survey, Groups 1 & 2, Ad I Caffè Serenità

Roger Federer, sponsored by Halma and Caffè Serenità.

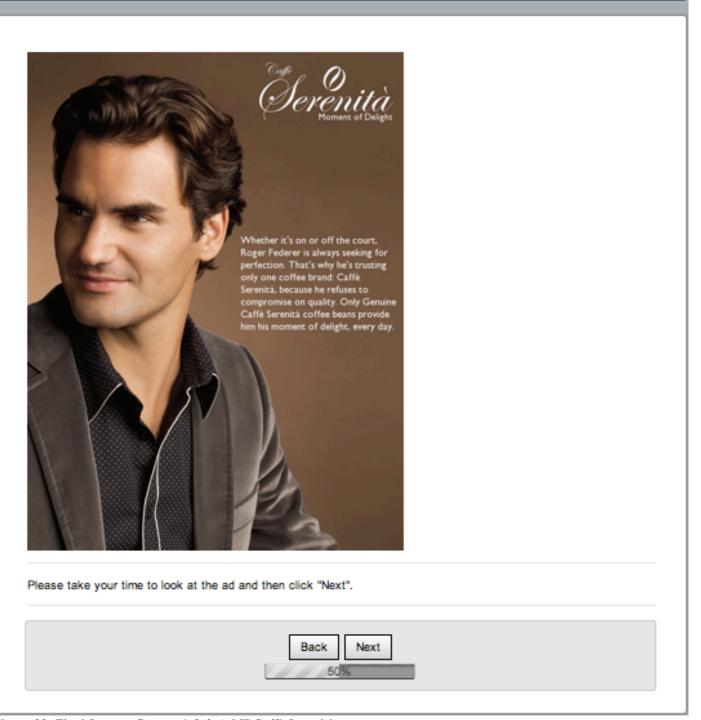


Figure 23: Final Survey, Groups 1 & 2, Ad II Caffè Serenità

Roger Federer, sponsored by Halma and Caffè Serenità. For Roger Federer, any break off the tennis court is the right time to enjoy a perfect coffee. His choice of coffee? Caffé Serenità, because he refuses to compromise on quality. Only genuine Caffè Serenità coffee beans provide him his moment of delight, every day. Please take your time to look at the ad and then click "Next".

Figure 24: Final Survey, Groups 1 & 2, Ad III Caffè Serenità



Figure 25: Final Survey, Group 1, Instruction Newspaper Article

Roger Federer, sponsored by Halma and Caffè Serenità.

The Guardian Article

theguardian

News \ World news \ India

By Dan McDagull, October 3rd, 2011.

The hidden face of Halma sportswear

The sportswear brand Halma is found to use children laboring in Indian refugee camps to produce some of its garments. Children as young as 11 are sewing T-Shirts for Western desires.

When Halma was launched, its flagship store in California was besieged by fans that had previously been attracted by the well-known million dollar campaign in cooperation with tennis star Roger Federer. It sold more than a million garments in its first 10 days. The opening drew a bigger crowd than that managed by Halma's competitor Nike.

Last week Halma was found to employ children in order to produce garments. An investigation found that in the refugee camps of southern India young children had been working long hours in foul conditions to sew the designs - children like Manteesh. At the age of 11 her life is already an extraordinary story of survival. An orphan child, this Tamil refugee had fled the bombings of Sri Lanka only to find herself abandoned by an opportunistic human trafficker on a sandbank 15 miles off land. Exhausted and dehydrated, in the middle of the dangerous Palik Strait, the channel between India and Sri Lanka, she was rescued by fishermen just as the tide was closing over her. Manteesh ended up at India's Mandapam transit camp, a fenced-off series of dilapidated, one-storey cement blocks, 12 miles from the flat Arichalmunai beachfront, the first port of call for Sri Lankan refugees. Mantheesh went to Bhavanisagar camp, 40 miles from Tirapur. Within months she was absorbed into India's burgeoning economy, hand sewing from dawn to dusk for a businessman who had shrewdly recruited hundreds of refugees on the cheap to make garments destined Western firms like Halma.



Figure 26: Final Survey, Group 1, Newspaper Article

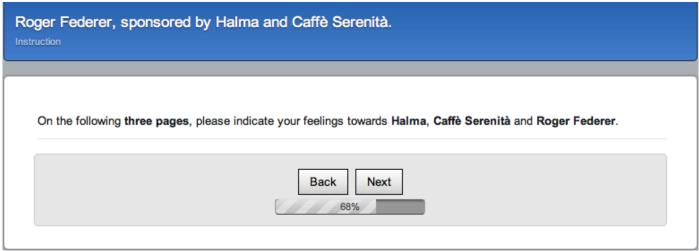


Figure 27: Final Survey, Groups 1 & 2, Instruction on Evaluation

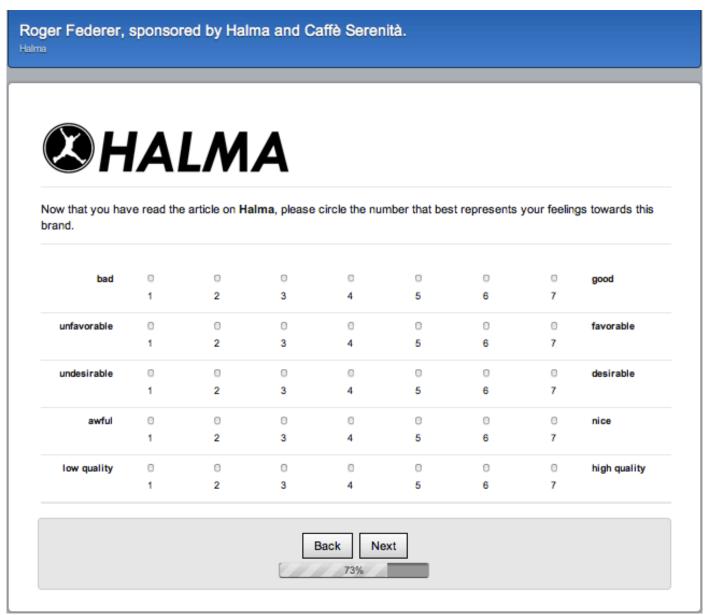


Figure 28: Final Survey, Groups 1 & 2, Evaluation of Attitude Toward Halma

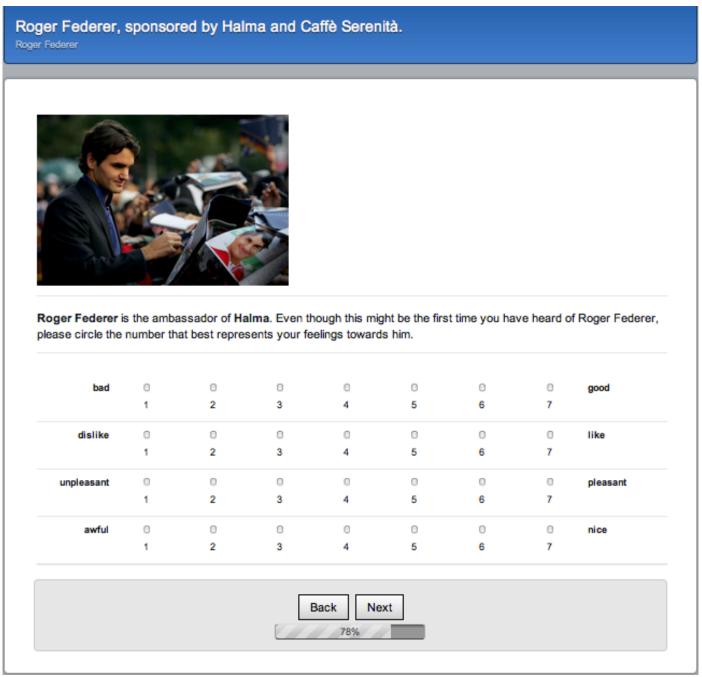


Figure 29: Final Survey, Groups 1 & 2, Evaluation of Attitude Toward Roger Federer



Figure 30: Final Survey, Groups 1 & 2, Evaluation of Attitude Toward Caffè Serenità



Figure 31: Final Survey, Groups 1 & 2, Familiarity of Roger Federer

| oger Federer, s | sponsore | ed by Halm | na and Caf | fè Serenit | à. | | | |
|----------------------|--------------|----------------------|-------------|--------------|----------------|---------------|-----------|-------------------|
| From what you k that | now so far | about Roger | Federer, Ha | Ima and Caff | 'è Serenità, μ | lease indicat | e how you | evaluate the fact |
| Roger Federe | r is promoti | ing Caffè Ser | enità? | | | | | |
| in- appropriate | 0 | 0 | 0 | 0 | 0 | 0 | 0 | appropriate |
| арргорпасе | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| ineffective | 0 | 0 | 0 | 0 | 0 | 0 | 0 | effective |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Roger Federe | r is promoti | ing Halma ? | | | | | | |
| in- appropriate | 0 | 0 | 0 | 0 | 0 | Θ | 0 | appropriate |
| арргорпасе | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| ineffective | 0 | 0 | 0 | 0 | 0 | 0 | 0 | effective |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| | | | E | Back Ne | xt | | | |

Figure 32: Final Survey, Groups 1 & 2, Evaluation of Appropriateness

| oger Federer, sponsored by Halma and Caffè Serenità. |
|--|
| |
| Last but not least, please indicate some personal information. |
| Age * |
| Please Select \$ |
| Gender * |
| Please Select \$ |
| Country * |
| Please Select ¢ |
| Footbale Bootbale over the control of a control of |
| English Proficiency (honest self-evaluation) - Please Select - \$ |
| Education (highest level received by respondent) |
| Please Select • |
| |
| Job Please Select |
| |
| Income |
| Please Select ¢ |
| |
| Back Submit 95% |
| |

Figure 33: Final Survey, Groups 1 & 2, Demographics

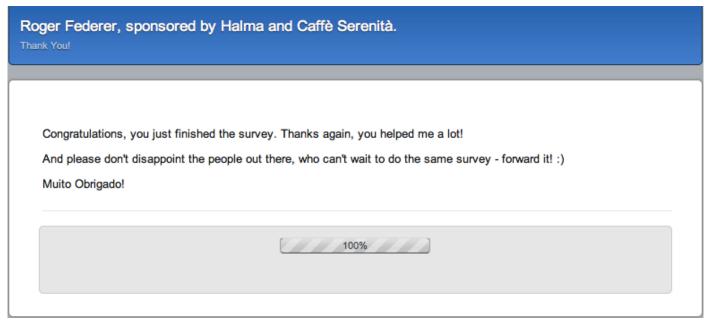


Figure 34: Final Survey, Groups 1 & 2, Thank You

Figures 14 to 34 illustrate the complete survey for group 1 (experimental group). Group 2's survey looks exactly the same but does not include the newspaper article (see Fig. 26) as well as the instruction on the newspaper article (see Fig. 25).

After a short introduction (see Fig. 14), participants were introduced to Roger Federer (see Fig. 15) and the sports brand Halma (see Fig. 17), including a presentation of its advertising campaign (see Figs. 15-20). Next, they were introduced to the coffee brand Caffè Serenità (see Fig. 21) and again shown three of its advertisements (see Figs. 22-24). Then, only the experimental group was introduced to the negative publicity through a newspaper article (Fig. 26). Afterwards the participants were asked to evaluate their attitude toward Halma (see Fig. 28), Roger Federer (see Fig. 29) and Caffè Serenità (see Fig. 30), as well as state if they are familiar with Roger Federer (see Fig. 31), and how they evaluate the appropriateness of the endorsements (see Fig. 32). Finally, the participants were requested to provide important demographics (see Fig. 33) and thanked for their participation (see Fig. 34).

6.2.2.2 Groups 3 & 4

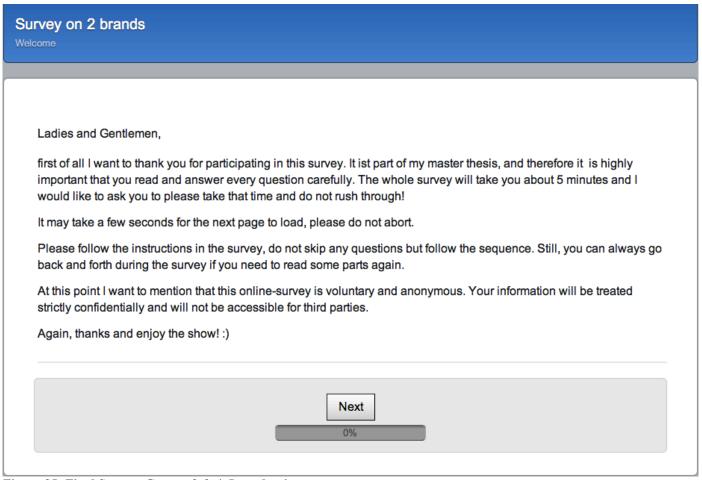


Figure 35: Final Survey, Groups 3 & 4, Introduction

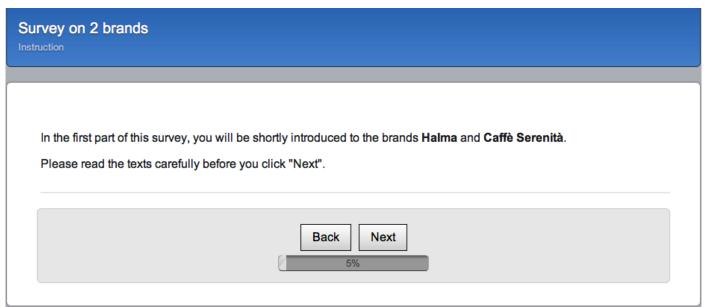


Figure 36: Final Survey, Groups 3 & 4, Instruction Brands

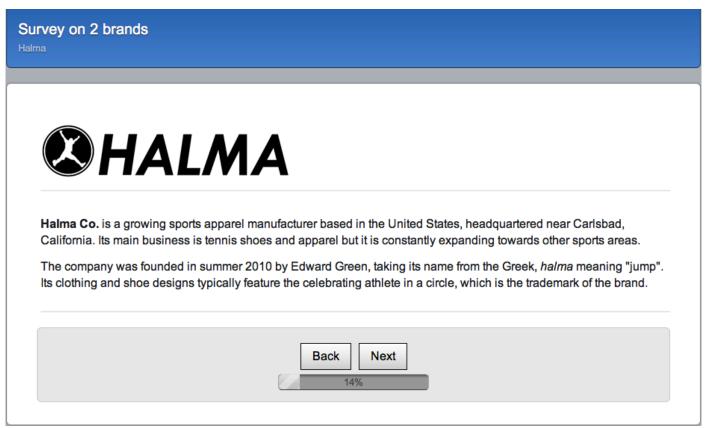


Figure 37: Final Survey, Groups 3 & 4, Halma



Figure 38: Final Survey, Groups 3 & 4, Caffè Serenità

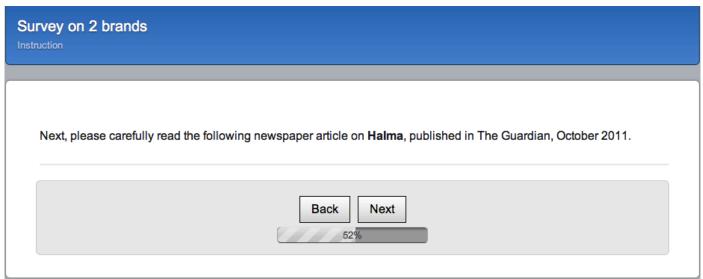


Figure 39: Final Survey, Group 3, Instruction Newspaper Article

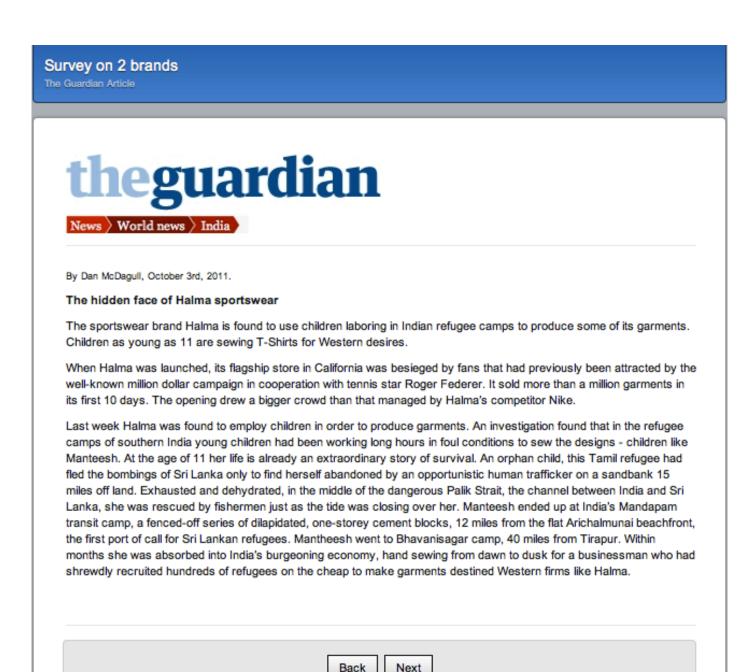


Figure 40: Final Survey, Group 3, Newspaper Article

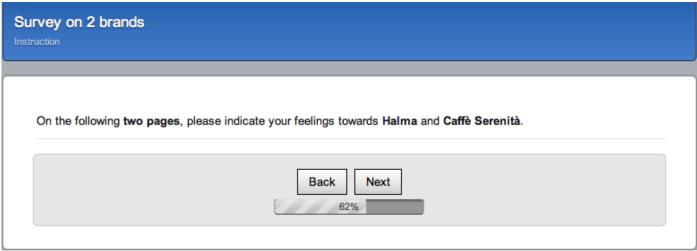


Figure 41: Final Survey, Groups 3 & 4, Instruction on Evaluation

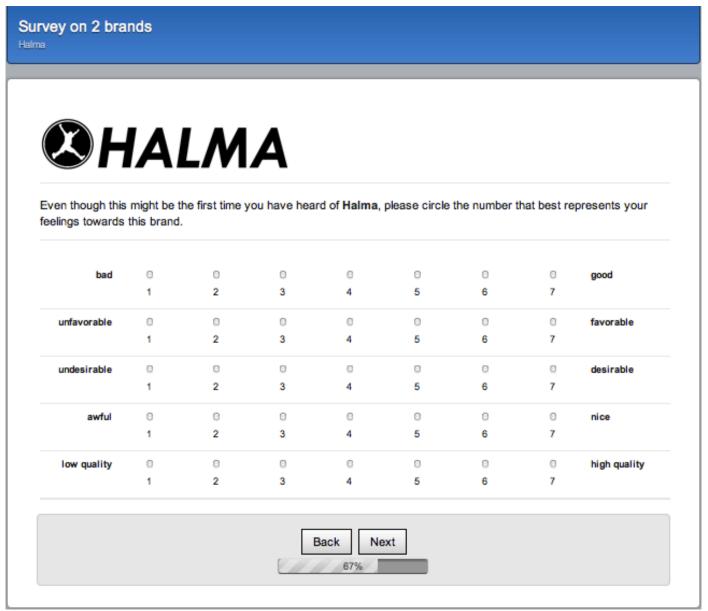


Figure 42: Final Survey, Groups 3 & 4, Evaluation of Attitude Toward Halma



Figure 43: Final Survey, Groups 3 & 4, Evaluation of Attitude Toward Caffè Serenità

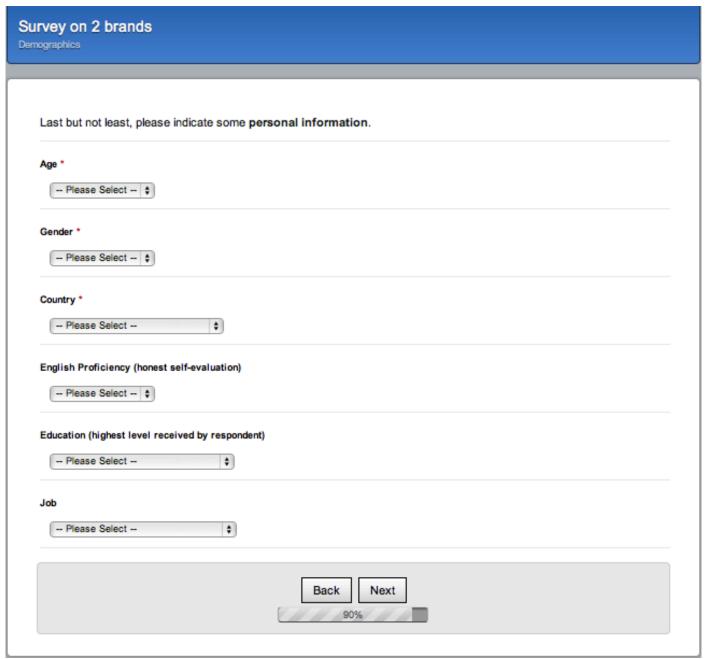


Figure 44: Final Survey, Groups 3 & 4, Demographics

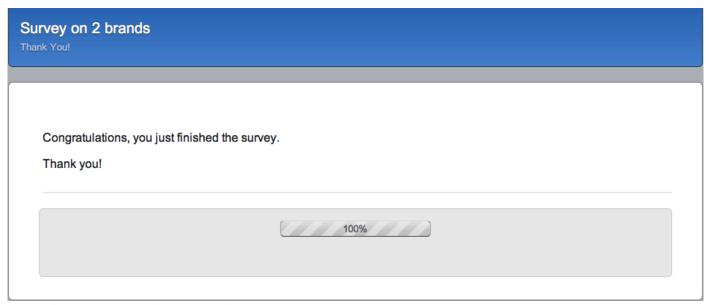


Figure 45: Final Survey, Groups 3 & 4, Thank You

Figures 35 to 45 illustrate the complete survey for group 3. Group 4's survey looks exactly the same but does not include the newspaper article (see Fig. 40) as well as the instruction on the newspaper article (see Fig. 39).

After a short introduction (see Fig. 35), participants were introduced to the sports brand Halma (see Fig. 37) and to the coffee brand Caffè Serenità (see Fig. 38). Then, only group 3 was introduced to the negative publicity through a newspaper article (see Fig. 40). Afterwards the participants were asked to evaluate their attitude toward Halma (see Fig. 42) and Caffè Serenità (see Fig. 43). Roger Federer was never mentioned in this Survey. Finally, the participants were requested to provide important demographics (see Fig. 44) and thanked for their participation (see Fig. 45).

6.3 SPSS Output

Explanation:

Markings

- 1. Red markings refer to the comparison of means between group 1 and group 2
- 2. Green markings refer to the comparison of means between group 3 and group 4.
- 3. Orange border lines refer to the comparison of means between group 1 and group 3.
- 4. Blue border lines refer to the comparison of means between group 2 and group 4.
- $_{\rm 5}$ Orange and blue stripes refer to the percentage change of attitude towards Halma.

Variables

HA_ATTITUDE: Attitude toward Halma

RF ATTITUDE: Attitude toward Roger Federer

CS ATTITUDE: Attitude toward Caffè Serenità

Groups

| Experimental Design | Negative Article on Halma | No Negative Article on Halma |
|------------------------|---------------------------------|------------------------------------|
| Celebrity | Group 1 | Group 2 |
| No Celebrity | Group 3 | Group 4 |

Figure 46: Overview of the Different Groups

6.3.1 All Cases, N=435

6.3.1.a ANOVA (All Cases, N=435)

Figures 47-54 illustrate the data analysis on all respondents (N=435). A respondent's attitude consists of the mean score of the scales measuring this variable.

Oneway

| | Notes | |
|--------|---------------|--|
| Filter | <none></none> | |

Descriptives

| | | | eacripuves | , | | | | |
|---------------|-----|--------|------------|------------|------------|----------|---------|---------|
| | | | | | 95% Cor | nfidence | | |
| | | | | | Interval f | or Mean | | |
| | | | Std. | | Lower | Upper | | |
| | N | Mean | Deviation | Std. Error | Bound | Bound | Minimum | Maximum |
| HA_ATTITUDE 1 | 105 | 2,838 | 1,3394 | ,1307 | 2,579 | 3,097 | 1,0 | 6,2 |
| 2 | 122 | 5,179 | 1,0201 | ,0924 | 4,996 | 5,362 | 1,6 | 6,8 |
| 3 | 117 | 2,460 | 1,2282 | ,1135 | 2,235 | 2,685 | 1,0 | 6,0 |
| 4 | 91 | 4,585 | ,8637 | ,0905 | 4,405 | 4,764 | 2,6 | 7,0 |
| Total | 435 | 3,758 | 1,6271 | ,0780 | 3,605 | 3,911 | 1,0 | 7,0 |
| RF_ATTITUDE 1 | 105 | 4,7524 | 1,57371 | ,15358 | 4,4478 | 5,0569 | 1,00 | 7,00 |
| 2 | 122 | 5,7992 | 1,13802 | ,10303 | 5,5952 | 6,0032 | 2,00 | 7,00 |
| 3 | 0 | | | | | | | |
| 4 | 0 | | | | | | | |
| Total | 227 | 5,3150 | 1,45143 | ,09633 | 5,1251 | 5,5048 | 1,00 | 7,00 |
| CS_ATTITUDE 1 | 105 | 4,8214 | 1,25774 | ,12274 | 4,5780 | 5,0648 | 1,00 | 7,00 |
| 2 | 122 | 5,1160 | 1,22918 | ,11128 | 4,8957 | 5,3363 | 1,25 | 7,00 |
| 3 | 117 | 4,9774 | 1,13516 | ,10495 | 4,7695 | 5,1852 | 2,00 | 7,00 |
| 4 | 91 | 5,1341 | ,88094 | ,09235 | 4,9506 | 5,3175 | 2,80 | 6,60 |
| Total | 435 | 5,0114 | 1,14932 | ,05511 | 4,9031 | 5,1197 | 1,00 | 7,00 |

Figure 47: Descriptives (All Cases, N=435); Source: SPSS Output

Figure 47 shows important descriptives:

- 1. The means of the attitude toward Halma (HA_ATTITUDE), Roger Federer (RF_ATTITUDE) and Caffè Serenità (CS_ATTITUDE) of group 1 and group 2 are highlighted by the red markings.
 - a. Different evaluations of HA ATTITUDE between group 1 and 2 are analyzed to prove H₁.
 - b. Different evaluations of RF_ATTITUDE between group 1 and 2 are analyzed to prove H_{2a}.
 - c. Different evaluations of CS ATTITUDE between group 1 and 2 are analyzed to prove H_{2b}.
 - ⇒ For each of the three variables, the means in group 1 are lower than in group 2. These differences are all significant (see **Figures 52 and 53**).

- 2. The means of the attitude toward Caffè Serenità (CS_ATTITUDE) of group 3 and group 4 are highlighted by the green markings.
 - a. Different evaluations of CS ATTITUDE between group 3 and 4 are analyzed to prove H₃.
 - ⇒ This difference is not significant (see Figures 52 and 54).
- 3. The means of the attitude toward Halma (HA_ATTITUDE) of group 2 and group 4 are highlighted by the blue border lines.
 - a. Different evaluations of HA_ATTITUDE between group 2 and 4 are analyzed to show the positive impact a celebrity has on the attitude toward a brand.
 - ⇒ The evaluations of group 2 (with endorsing celebrity) are higher than of group 4 (no endorsing celebrity). This mean difference is significant (see **Figure 52**).
- 4. The means of the attitude toward Halma (HA_ATTITUDE) of group 1 and group 3 are highlighted by the orange border lines.
 - a. Different evaluations of HA_ATTITUDE between group 1 and 3 are analyzed to show the positive impact a celebrity has on the attitude toward a brand that is affected by negative publicity.
 - ⇒ The evaluations of group 1 (with endorsing celebrity) are higher than of group 3 (no endorsing celebrity). This mean difference is significant (see **Figure 52**).

| Group | Mean | Group | Mean |
|----------|----------|----------|---------|
| 2 | 5,179 | 4 | 4,585 |
| 1 | 2,838 | 3 | 2,460 |
| %-Change | -45,1966 | %-Change | -46,346 |

Figure 48: %-Changes of Attitude toward Halma (All Cases, N=435); Source: Own Illustration

Figure 48 describes the percentage change of the attitude toward Halma caused by the negative article. It compares the change between group 2 and 1 with the change between group 4 and 3 to see if a celebrity endorser can minimize the damaging effect of negative publicity.

⇒ The comparison reveals a less negative change between the groups that are endorsed by a celebrity (-45.20% vs. -46.35%).

In the following section the significances of the mean differences are tested.

Test of Homogeneity of Variances

| | Levene Statistic | df1 | df2 | Sig. |
|-------------|------------------|-----|-----|------|
| HA_ATTITUDE | 8,740 | 3 | 431 | ,000 |
| RF_ATTITUDE | 18,456 | 1 | 225 | ,000 |
| CS_ATTITUDE | 2,827 | 3 | 431 | ,038 |

Figure 49: Test of Homogeneity (All Cases, N=435); Source: SPSS Output

Figure 49 shows the Levene-Test of homogeneity of variances. The test proves the null-hypothesis that the variances of the considered variable are universally equal in the groups. The significance shows the probability of making a mistake by rejecting the null-hypothesis.²

⇒ The test reveals that for each variable, this null-hypothesis has to be rejected since the significance is less than 0.05. Subsequently, equal variances cannot be assumed.

ANOVA

| | | Sum of | | Mean | | |
|-------------|----------------|----------|-----|---------|---------|------|
| | | Squares | df | Square | F | Sig. |
| HA_ATTITUDE | Between Groups | 594,447 | 3 | 198,149 | 153,991 | ,000 |
| | Within Groups | 554,592 | 431 | 1,287 | | |
| | Total | 1149,039 | 434 | | | |
| RF_ATTITUDE | Between Groups | 61,837 | 1 | 61,837 | 33,586 | ,000 |
| | Within Groups | 414,267 | 225 | 1,841 | | |
| | Total | 476,104 | 226 | | | |
| CS_ATTITUDE | Between Groups | 6,629 | 3 | 2,210 | 1,681 | ,170 |
| | Within Groups | 566,657 | 431 | 1,315 | | |
| | Total | 573,286 | 434 | | | |

Figure 50: ANOVA (All Cases, N=435); Source: SPSS Output

Figure 50 illustrates the outcome of the ANOVA. But since equal variances cannot be assumed, the requirements for this test are not satisfied.

² Felix Brosius, "SPSS 14 – Das mitp-Standartwerk", Redline GmbH, Heidelberg 2006

Robust Tests of Equality of Means

| | Statistic ^a | df1 | df2 | Sig. |
|-------------------|------------------------|-----|---------|------|
| HA_ATTITUDE Welch | 154,556 | 3 | 235,339 | ,000 |
| RF_ATTITUDE Welch | 32,039 | 1 | 186,253 | ,000 |
| CS_ATTITUDE Welch | 1,659 | 3 | 237,491 | ,177 |

a. Asymptotically F distributed.

Figure 51: Welch Tests, (All Cases, N=435); Source: SPSS Output

Figure 51 shows the outcome of the Welch-Test. This test is run instead of an ANOVA, if equal variances in the groups cannot be assumed. For each variable it tests the null-hypothesis that the means of all four groups are equal. But to test the hypotheses it requires a comparison of only two respective groups. Since Roger Federer occurs only in group 1 and 2, the Welch-Test, in this case, can only compare the means of attitude toward Roger Federer of these two groups. In this way it is possible to test the significance of the mean difference between only group 1 and 2.

⇒ The significance of RF_ATTITUDE shows that there is a significant difference in the means between group 1 and group 2 ($F_{(1,186.25)} = 32.04$, p < 0.001).

Contrast Coefficients

| Contrast | Group | | | | | |
|----------|-------|----|----|----|--|--|
| | 1 | 2 | 3 | 4 | | |
| 1 | 1 | -1 | 0 | 0 | | |
| 2 | 0 | 0 | 1 | -1 | | |
| 3 | 1 | 0 | -1 | 0 | | |
| 4 | 0 | 1 | 0 | -1 | | |

| _ | 4 | - | | 4 |
|-----|------|----|----|-----|
| (:0 | ntra | ST | Ie | STS |

| | Contrast | | Value of | | | | Sig. (2- |
|-------------|-----------------|---|----------|------------|---------|---------|----------|
| | | | Contrast | Std. Error | t | df | tailed) |
| HA_ATTITUDE | Assume equal | 1 | -2,341 | ,1510 | -15,500 | 431 | ,000 |
| | variances | 2 | -2,125 | ,1585 | -13,401 | 431 | ,000 |
| | | 3 | ,378 | ,1525 | 2,481 | 431 | ,013 |
| | | 4 | ,594 | ,1571 | 3,781 | 431 | ,000 |
| | Does not assume | 1 | -2,341 | ,1600 | -14,625 | 192,517 | ,000 |
| | equal variances | 2 | -2,125 | ,1452 | -14,631 | 204,073 | ,000 |
| | | 3 | ,378 | ,1731 | 2,185 | 211,967 | ,030 |
| | | 4 | ,594 | ,1293 | 4,593 | 207,572 | ,000 |
| RF_ATTITUDE | Assume equal | 1 | -1,0468 | ,18063 | -5,795 | 225 | ,000 |
| | variances | 3 | 4,7524 | ,13242 | 35,889 | 225 | ,000 |
| | | 4 | 5,7992 | ,12285 | 47,206 | 225 | ,000 |
| | Does not assume | 1 | -1,0468 | ,18494 | -5,660 | 186,253 | ,000 |
| | equal variances | 3 | 4,7524 | ,15358 | 30,944 | 104,000 | ,000 |
| | | 4 | 5,7992 | ,10303 | 56,286 | 121,000 | ,000 |
| CS_ATTITUDE | Assume equal | 1 | -,2946 | ,15264 | -1,930 | 431 | ,054 |
| | variances | 2 | -,1567 | ,16027 | -,978 | 431 | ,329 |
| | | 3 | -,1559 | ,15414 | -1,012 | 431 | ,312 |
| | | 4 | -,0181 | ,15882 | -,114 | 431 | ,909 |
| | Does not assume | 1 | -,2946 | ,16568 | -1,778 | 218,407 | ,077 |
| | equal variances | 2 | -,1567 | ,13979 | -1,121 | 206,000 | ,264 |
| | | 3 | -,1559 | ,16149 | -,966 | 210,688 | ,335 |
| | | 4 | -,0181 | ,14461 | -,125 | 210,697 | ,901 |

Figure 52: Contrasts, (All Cases, N=435); Source: SPSS Output

Figure 52 shows the results of the contrast tests. A contrast test looks at differences in means of only two respective groups. It is very similar to a normal T-Test, but in the case of assumed equal variances, the contrast test uses the degrees of freedom of <u>all</u> the groups that are represented in the respective variable. The T-Test in comparison, only considers the degrees of freedom of the <u>two</u> compared groups. Additionally, the contrast test is based on a Levene-Test that tested the variances of <u>all</u> the groups that are represented in the respective variable. The Levene-Test aimed at the T-Test only considers the <u>two</u> compared groups.

Therefore results might differ slightly to the results of the T-Test, introduced in paragraph G.

- ⇒ The red markings show a significant difference in means between group 1 and 2 for HA_ATTITUDE ($t_{(192.52)}$ = -14.63, p < 0.001), RF_ATTITUDE ($t_{(186.25)}$ = -5.66, p < 0.001) and CS_ATTITUDE ($t_{(218.41)}$ = -1.78, p < 0.05 (one-tailed)).
- ⇒ The green markings show <u>no</u> significant difference in means between group 3 and 4 for CS_ATTITUDE ($t_{(206.00)} = -1.12$, p > 0.25).
- ⇒ The orange border lines show a significant difference in means between group 1 and 3 for HA ATTITUDE ($t_{(211.97)} = 2.19$, p < 0.05).
- \Rightarrow The blue border lines show a significant difference in means between group 2 and 4 for HA_ATTITUDE ($t_{(207.57)} = 4.59$, p < 0.001).

6.3.1.b T-Tests (All Cases, N=435)

T-Test

Group Statistics

| Group | | | | Std. | Std. Error |
|-------------|---|-----|--------|-----------|------------|
| | | N | Mean | Deviation | Mean |
| HA_ATTITUDE | 1 | 105 | 2,838 | 1,3394 | ,1307 |
| | 2 | 122 | 5,179 | 1,0201 | ,0924 |
| RF_ATTITUDE | 1 | 105 | 4,7524 | 1,57371 | ,15358 |
| | 2 | 122 | 5,7992 | 1,13802 | ,10303 |
| CS_ATTITUDE | 1 | 105 | 4,8214 | 1,25774 | ,12274 |
| | 2 | 122 | 5,1160 | 1,22918 | ,11128 |

Independent Samples Test

| | · · · | | | | | | | | | |
|-------------|-----------------------------|-------------------------|-----------------------|------------------------------|---------|---------------------|--------------------|--------------------------|------------------------------|----------|
| | | Levene's Equality of | Test for Variances | t-test for Equality of Means | | | | | | |
| | | | | | | | | | 95% Coi Interva Differ | l of the |
| | | F | Sig. | t | df | Sig. (2- tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| HA_ATTITUDE | Equal variances assumed | 10,554 | ,001 | -14,920 | 225 | ,000 | -2,3406 | | -2,6497 | -2,0315 |
| | Equal variances not assumed | | | -14,625 | 192,517 | ,000 | -2,3406 | ,1600 | -2,6563 | -2,0249 |
| RF_ATTITUDE | Equal variances assumed | 18,456 | ,000 | -5,795 | 225 | ,000 | -1,04680 | ,18063 | -1,40274 | -,69086 |
| | Equal variances not assumed | | | -5,660 | 186,253 | ,000 | -1,04680 | ,18494 | -1,41164 | -,68196 |
| CS_ATTITUDE | Equal variances assumed | ,216 | ,642 | -1,781 | 225 | ,076 | -,29456 | ,16539 | -,62048 | ,03137 |
| | Equal variances not assumed | | | -1,778 | 218,407 | ,077 | -,29456 | ,16568 | -,62109 | ,03198 |

Figure 53: T-Tests, Group 1 & 2, (All Cases, N=435); Source: SPSS Output

Group Statistics

| Group | | | | Std. | Std. Error |
|-------------|---|-----|--------|-----------|------------|
| · | | N | Mean | Deviation | Mean |
| CS_ATTITUDE | 3 | 117 | 4,9774 | 1,13516 | ,10495 |
| | 4 | 91 | 5,1341 | ,88094 | ,09235 |

Independent Samples Test

| | | | ependent S | <u>Samples Te</u> | | | | | |
|-------------------------------------|----------|---|------------|-------------------|---------------------|--------------------|--------------------------|------------------------------|----------|
| | Levene's | evene's Test for t-test for Equality of Means | | | | | | | |
| | | | | | | | | 95% Col Interva Differ | l of the |
| | F | Sig. | t | df | Sig. (2- tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| CS_ATTITUDE Equal variances assumed | 6,823 | ,010 | -1,087 | 206 | ,278 | -,15672 | ,14422 | -,44105 | ,12762 |
| Equal variances not assumed | | | -1,121 | 206,000 | ,264 | -,15672 | ,13979 | -,43232 | ,11889 |

Figure 54: T-Test, Group 3 & 4, (All Cases, N=435); Source: SPSS Output

Figure 53 and 54 show the results of the T-Test.

- ⇒ The red markings show a significant difference in means between group 1 and 2 for HA_ATTITUDE ($t_{(192.52)}$ = -14.63, p < 0.001), RF_ATTITUDE ($t_{(186.25)}$ = -5.66, p < 0.001) and CS_ATTITUDE ($t_{(225)}$ = -1.78, p < 0.05 (one-tailed)).
- \Rightarrow The green markings show <u>no</u> significant difference in means between group 3 and 4 for CS_ATTITUDE ($t_{(206.00)} = -1.12$, p > 0.25).

6.3.2 Filter: Appropriateness, N=384

6.3.2.a ANOVA (Filter: Appropriateness, N=384)

Figures 55-62 illustrate the data analysis on respondents evaluating the endorsements as appropriate (N=385). A Respondent's attitude consists of the mean score of the scales measuring this variable.

Oneway

| | Notes | |
|--------|----------------|---|
| Filter | ` - | 3 OR MISSING (CS_APPROPRIATENESS)) AND 3 OR MISSING (HA_APPROPRIATENESS)) |

| | | D | escriptives | 3 | | | | |
|---------------|-----|--------|-------------|------------|---------|----------|---------|---------|
| | | | Std. | | 95% Cor | nfidence | | |
| | N | Mean | Deviation | Std. Error | Bound | Bound | Minimum | Maximum |
| HA_ATTITUDE 1 | 74 | 3,205 | 1,2902 | ,1500 | 2,906 | 3,504 | 1,0 | 6,2 |
| 2 | 102 | 5,247 | ,9297 | ,0921 | 5,064 | 5,430 | 2,6 | 6,8 |
| 3 | 117 | 2,460 | 1,2282 | ,1135 | 2,235 | 2,685 | 1,0 | 6,0 |
| 4 | 91 | 4,585 | ,8637 | ,0905 | 4,405 | 4,764 | 2,6 | 7,0 |
| Total | 384 | 3,847 | 1,5799 | ,0806 | 3,689 | 4,006 | 1,0 | 7,0 |
| RF_ATTITUDE 1 | 74 | 5,1284 | 1,47539 | ,17151 | 4,7866 | 5,4702 | 1,00 | 7,00 |
| 2 | 102 | 5,9387 | 1,03314 | ,10230 | 5,7358 | 6,1417 | 2,50 | 7,00 |
| 3 | 0 | | | | | | | |
| 4 | 0 | | | | | | | |
| Total | 176 | 5,5980 | 1,29807 | ,09785 | 5,4049 | 5,7911 | 1,00 | 7,00 |
| CS_ATTITUDE 1 | 74 | 5,0865 | ,99162 | ,11527 | 4,8567 | 5,3162 | 2,50 | |
| 2 | 102 | 5,4299 | ,89665 | ,08878 | 5,2538 | 5,6060 | 3,00 | 7,00 |
| 3 | 117 | 4,9774 | 1,13516 | ,10495 | 4,7695 | 5,1852 | 2,00 | 7,00 |
| 4 | 91 | 5,1341 | ,88094 | ,09235 | 4,9506 | 5,3175 | 2,80 | 6,60 |
| Total | 384 | 5,1557 | 1,00143 | ,05110 | 5,0553 | 5,2562 | 2,00 | 1 |

Figure 55: Descriptives (Filter: Appropriateness, N=384); Source: SPSS Output

Figure 55 shows important descriptives:

- 1. The means of the attitude toward Halma (HA_ATTITUDE), Roger Federer (RF_ATTITUDE) and Caffè Serenità (CS_ATTITUDE) of group 1 and group 2 are highlighted by the red markings.
 - a. Different evaluations of $HA_ATTITUDE$ between group 1 and 2 are analyzed to prove H_1 .
 - b. Different evaluations of RF_ATTITUDE between group 1 and 2 are analyzed to prove H_{2a}.
 - c. Different evaluations of CS ATTITUDE between group 1 and 2 are analyzed to prove H_{2b}.
 - ⇒ For each of the three variables, the means in the group 1 are lower than in group 2. These differences are all significant (see **Figures 60 and 61**).

- 2. The means of the attitude toward Caffè Serenità (CS_ATTITUDE) of group 3 and group 4 are highlighted by the green markings.
 - a. Different evaluations of CS ATTITUDE between group 3 and 4 are analyzed to prove H₃.
 - ⇒ This difference is not significant (see Figures 60 and 62).
- 3. The means of the attitude toward Halma (HA_ATTITUDE) of group 2 and group 4 are highlighted by the blue border lines.
 - a. Different evaluations of HA_ATTITUDE between group 2 and 4 are analyzed to show the positive impact a celebrity has on the attitude toward a brand.
 - ⇒ The evaluations of group 2 (with endorsing celebrity) are higher than of group 4 (no endorsing celebrity). This mean difference is significant (see **Figure 60**).
- 4. The means of the attitude toward Halma (HA_ATTITUDE) of group 1 and group 3 are highlighted by the orange border lines.
 - a. Different evaluations of HA_ATTITUDE between group 1 and 3 are analyzed to show the positive impact a celebrity has on the attitude toward a brand that is affected by negative publicity.
 - ⇒ The evaluations of group 1 (with endorsing celebrity) are higher than of group 3 (no endorsing celebrity). This mean difference is significant (see **Figure 60**).

| Group | Mean | Group | Mean |
|----------|----------|----------|---------|
| 2 | 5,247 | 4 | 4,585 |
| 1 | 3,205 | 3 | 2,460 |
| %-Change | -38,9104 | %-Change | -46,346 |

Figure 56: %-Changes of Attitude toward Halma (Filter: Appropriateness, N=384); Source: Own Illustration

Figure 56 describes the percentage change of the attitude toward Halma caused by the negative article. It compares the change between group 2 and 1 with the change between group 4 and 3 to see if a celebrity endorser can minimize the damaging effect of negative publicity.

⇒ The comparison reveals a less negative change between the groups that are endorsed by a celebrity (-38.91% vs. -46.35%).

In the following section the significances of the mean differences are tested.

Test of Homogeneity of Variances

| | Levene Statistic | df1 | df2 | Sig. |
|-------------|------------------|-----|-----|------|
| HA_ATTITUDE | 7,736 | 3 | 380 | ,000 |
| RF_ATTITUDE | 13,343 | 1 | 174 | ,000 |
| CS_ATTITUDE | 3,176 | 3 | 380 | ,024 |

Figure 57: Test of Homogeneity (Filter: Appropriateness, N=384); Source: SPSS Output

Figure 57 shows the Levene-Test of homogeneity of variances. The test proves the null-hypothesis that the variances of the considered variable are universally equal in the groups. The significance shows the probability of making a mistake by rejecting the null-hypothesis.³

⇒ The test reveals that for each variable, this null-hypothesis has to be rejected since the significance is less than 0.05. Subsequently, equal variances cannot be assumed.

ANOVA

| | Sum of | | Mean | | |
|---------------------------|-----------|-----|---------|---------|------|
| | Squares | df | Square | F | Sig. |
| HA_ATTITUDE Between Group | s 505,046 | 3 | 168,349 | 141,867 | ,000 |
| Within Groups | 450,932 | 380 | 1,187 | | |
| Total | 955,977 | 383 | | | |
| RF_ATTITUDE Between Group | s 28,162 | 1 | 28,162 | 18,373 | ,000 |
| Within Groups | 266,710 | 174 | 1,533 | | |
| Total | 294,872 | 175 | | | |
| CS_ATTITUDE Between Group | s 11,788 | 3 | 3,929 | 4,010 | ,008 |
| Within Groups | 372,305 | 380 | ,980 | | |
| Total | 384,092 | 383 | | | |

Figure 58: ANOVA (Filter: Appropriateness, N=384); Source: SPSS Output

Figure 58 illustrates the outcome of the ANOVA. But since equal variances cannot be assumed, the requirements for this test are not satisfied.

³ Felix Brosius, "SPSS 14 – Das mitp-Standartwerk", Redline GmbH, Heidelberg 2006

Robust Tests of Equality of Means

| | Statistic | df1 | df2 | Sig. |
|-------------------|-----------|-----|---------|------|
| HA_ATTITUDE Welch | 141,073 | 3 | 198,052 | ,000 |
| RF_ATTITUDE Welch | 16,466 | 1 | 122,932 | ,000 |
| CS_ATTITUDE Welch | 4,158 | 3 | 202,023 | ,007 |

a. Asymptotically F distributed.

Figure 59: Welch Tests (Filter: Appropriateness, N=384); Source: SPSS Output

Figure 59 shows the outcome of the Welch-Test. This test is run instead of an ANOVA, if equal variances in the groups cannot be assumed. For each variable it tests the null-hypothesis that the means of all four groups are equal. But to test the hypotheses it requires a comparison of only two respective groups. Since Roger Federer occurs only in group 1 and 2, the Welch-Test, in this case, can only compare the means of attitude toward Roger Federer of these two groups. In this way it is possible to test the significance of the mean difference between only group 1 and 2.

⇒ The significance of RF_ATTITUDE shows that there is a significant difference in the means between group 1 and group 2 with p < 0.001 ($F_{(1.122.93)} = 16.47$, p < 0.001).

| | Contra | <u>ast Coeffic</u> | <u>ients</u> | | | | | |
|----------|--------|--------------------|--------------|----|----|--|--|--|
| Contrast | | Group | | | | | | |
| | | 1 | 2 | 3 | 4 | | | |
| 1 | | 1 | -1 | 0 | 0 | | | |
| 2 | | 0 | 0 | 1 | -1 | | | |
| 3 | | 1 | 0 | -1 | 0 | | | |
| 4 | | 0 | 1 | 0 | -1 | | | |

| Contrast Tests ^a | | | | | | | | |
|-----------------------------|-----------------|----------|----------|------------|---------|---------|----------|--|
| | | Contrast | Value of | | | | Sig. (2- | |
| | | | Contrast | Std. Error | t | df | tailed) | |
| HA_ATTITUDE | Assume equal | 1 | -2,042 | ,1663 | -12,274 | 380 | ,000 | |
| | variances | 2 | -2,125 | ,1523 | -13,955 | 380 | ,000 | |
| | | 3 | ,746 | ,1618 | 4,608 | 380 | ,000 | |
| | | 4 | ,662 | ,1571 | 4,217 | 380 | ,000 | |
| | Does not assume | 1 | -2,042 | ,1760 | -11,602 | 125,485 | ,000 | |
| | equal variances | 2 | -2,125 | ,1452 | -14,631 | 204,073 | ,000 | |
| | | 3 | ,746 | ,1881 | 3,963 | 149,710 | ,000 | |
| | | 4 | ,662 | ,1291 | 5,131 | 190,678 | ,000 | |
| RF_ATTITUDE | Assume equal | 1 | -,8103 | ,18905 | -4,286 | 174 | ,000 | |
| | variances | 3 | 5,1284 | ,14392 | 35,633 | 174 | ,000 | |
| | | 4 | 5,9387 | ,12259 | 48,445 | 174 | ,000 | |
| | Does not assume | 1 | -,8103 | ,19970 | -4,058 | 122,932 | ,000 | |
| | equal variances | 3 | 5,1284 | ,17151 | 29,901 | 73,000 | ,000 | |
| | | 4 | 5,9387 | ,10230 | 58,054 | 101,000 | ,000 | |
| CS_ATTITUDE | Assume equal | 1 | -,3434 | ,15115 | -2,272 | 380 | ,024 | |
| | variances | 2 | -,1567 | ,13835 | -1,133 | 380 | ,258 | |
| | | 3 | ,1091 | ,14702 | ,742 | 380 | ,458 | |
| | | 4 | ,2958 | ,14273 | 2,073 | 380 | ,039 | |
| | Does not assume | 1 | -,3434 | ,14550 | -2,360 | 147,722 | ,020 | |
| | equal variances | 2 | -,1567 | ,13979 | -1,121 | 206,000 | ,264 | |
| | | 3 | ,1091 | ,15589 | ,700 | 170,465 | ,485 | |
| | | 4 | ,2958 | ,12810 | 2,309 | 189,215 | ,022 | |

Figure 60: Contrasts (Filter: Appropriateness, N=384); Source: SPSS Output

Figure 60 shows the results of the contrast tests. A contrast test looks at differences in means of only two respective groups. It is very similar to a normal T-Test, but in the case of assumed equal variances, the contrast test uses the degrees of freedom of <u>all</u> the groups that are represented in the respective variable. The T-Test in comparison, only considers the degrees of freedom of the <u>two</u> compared groups. Additionally, the contrast test is based on a Levene-Test that tested the variances of <u>all</u> the groups that are represented in the respective variable. The Levene-Test aimed at the T-Test only considers the <u>two</u> compared groups.

Therefore results might differ slightly to the results of the T-Test, introduced in paragraph G.

⇒ The red markings show a significant difference in means between group 1 and 2 for HA_ATTITUDE ($t_{(125.49)} = -11.60$, p < 0.001), RF_ATTITUDE ($t_{(122.93)} = -4.06$, p < 0.001) and CS_ATTITUDE ($t_{(147.72)} = -2.36$, p < 0.05).

- \Rightarrow The green markings show <u>no</u> significant difference in means between group 3 and 4 for CS_ATTITUDE ($t_{(206.00)} = -1.12$, p > 0.25).
- \Rightarrow The orange border lines show a significant difference in means between group 1 and 3 for HA_ATTITUDE ($t_{(149.71)} = 3.96$, p < 0.001)
- ⇒ The blue border lines show a significant difference in means between group 2 and 4 for HA_ATTITUDE

$$(t_{(190.68)} = 5.13, p < 0.001)$$

6.3.2.b T-Tests (Filter: Appropriateness, N=384)

T-Test

Group Statistics

| Group | | | | Std. | Std. Error |
|-------------|---|-----|--------|-----------|------------|
| | | N | Mean | Deviation | Mean |
| HA_ATTITUDE | 1 | 74 | 3,205 | 1,2902 | ,1500 |
| | 2 | 102 | 5,247 | ,9297 | ,0921 |
| RF_ATTITUDE | 1 | 74 | 5,1284 | 1,47539 | ,17151 |
| | 2 | 102 | 5,9387 | 1,03314 | ,10230 |
| CS_ATTITUDE | 1 | 74 | 5,0865 | ,99162 | ,11527 |
| | 2 | 102 | 5,4299 | ,89665 | ,08878 |

Independent Samples Test

| | | Levene's Equality of | | s t-test for Equality of Means | | | | | | |
|-------------|-----------------------------|-------------------------|------|--------------------------------|---------|----------|------------|------------|------------------------------|---------|
| | | | | | | | | | 95% Col Interva Differ | of the |
| | | | | | | Sig. (2- | Mean | Std. Error | | |
| | | F | Sig. | t | df | tailed) | Difference | Difference | Lower | Upper |
| HA_ATTITUDE | Equal variances assumed | 9,653 | ,002 | -12,205 | 174 | ,000 | -2,0417 | ,1673 | -2,3718 | -1,7115 |
| | Equal variances not assumed | | | -11,602 | 125,485 | ,000, | -2,0417 | ,1760 | -2,3899 | -1,6934 |
| RF_ATTITUDE | Equal variances assumed | 13,343 | ,000 | -4,286 | 174 | ,000 | -,81035 | ,18905 | -1,18348 | -,43721 |
| | Equal variances not assumed | | | -4,058 | 122,932 | ,000, | -,81035 | ,19970 | -1,20565 | -,41505 |
| CS_ATTITUDE | Equal variances assumed | ,786 | ,376 | -2,398 | 174 | ,018 | -,34342 | ,14318 | -,62601 | -,06082 |
| | Equal variances not assumed | | | -2,360 | 147,722 | ,020 | -,34342 | ,14550 | -,63094 | -,05589 |

Figure 61: T-Test, Group 1 & 2, (Filter: Appropriateness, N=384); Source: SPSS Output

Group Statistics

| | Group Gtatiotico | | | | | | | | |
|-------------|------------------|-----|--------|-----------|------------|--|--|--|--|
| Group | | | | Std. | Std. Error | | | | |
| | | N | Mean | Deviation | Mean | | | | |
| CS_ATTITUDE | 3 | 117 | 4,9774 | 1,13516 | ,10495 | | | | |
| | 4 | 91 | 5,1341 | ,88094 | ,09235 | | | | |

Independent Samples Test

| | independent dampies rest | | | | | | | | | |
|-------------|-----------------------------|----------|---|--------|---------|---------------------|--------------------|--------------------------|------------------------------|----------|
| | | Levene's | evene's Test for t-test for Equality of Means | | | | | | | |
| | | | | | | | | | 95% Col Interva Differ | l of the |
| | | F | Sig. | t | df | Sig. (2- tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| CS_ATTITUDE | Equal variances assumed | 6,823 | ,010 | -1,087 | 206 | ,278 | -,15672 | ,14422 | -,44105 | ,12762 |
| | Equal variances not assumed | | | -1,121 | 206,000 | ,264 | -,15672 | ,13979 | -,43232 | ,11889 |

Figure 62: T-Test, Group 3 & 4, (Filter: Appropriateness, N=384); Source: SPSS Output

Figure 61 and 62 show the results of the T-Test.

- ⇒ The red markings show a significant difference in means between group 1 and 2 for HA_ATTITUDE ($t_{(125.49)}$ = -11.60, p < 0.001), RF_ATTITUDE ($t_{(122.93)}$ = -4.06, p < 0.001) and CS_ATTITUDE ($t_{(174)}$ = -2.40, p < 0.05).
- \Rightarrow The green markings show <u>no</u> significant difference in means between group 3 and 4 for CS_ATTITUDE ($t_{(206.00)} = -1.12$, p > 0.25).

6.3.3 Filter: Germany, N=181

6.3.3.a ANOVA (Filter: Germany, N=181)

Figures 63-70 illustrate the data analysis on all respondents from Germany (N=181). A Respondent's attitude consists of the mean score of the scales measuring this variable.

Oneway

| | Notes |
|--------|------------------------------|
| Filter | Country = "Germany" (FILTER) |

| | | D | escriptives | 3 | | | | |
|---------------|-----|--------|-------------|------------|---------|----------|---------|---------|
| | | | | | 95% Cor | nfidence | | |
| | | | Std. | | Lower | Upper | | |
| | N | Mean | Deviation | Std. Error | Bound | Bound | Minimum | Maximum |
| HA_ATTITUDE 1 | 46 | 3,035 | 1,1565 | ,1705 | 2,691 | 3,378 | 1,2 | 5,6 |
| 2 | 45 | 4,902 | 1,0204 | ,1521 | 4,596 | 5,209 | 2,0 | 6,8 |
| 3 | 44 | 2,391 | 1,0547 | ,1590 | 2,070 | 2,712 | 1,0 | 5,2 |
| 4 | 46 | 4,335 | ,7900 | ,1165 | 4,100 | 4,569 | 2,6 | 6,0 |
| Total | 181 | 3,673 | 1,4164 | ,1053 | 3,465 | 3,881 | 1,0 | 6,8 |
| RF_ATTITUDE 1 | 46 | 4,5435 | 1,72667 | ,25458 | 4,0307 | 5,0562 | 1,00 | 7,00 |
| 2 | 45 | 5,7611 | 1,17980 | ,17587 | 5,4067 | 6,1156 | 2,50 | 7,00 |
| 3 | 0 | | | | | | | |
| 4 | 0 | | | | | | | |
| Total | 91 | 5,1456 | 1,59560 | ,16726 | 4,8133 | 5,4779 | 1,00 | 7,00 |
| CS_ATTITUDE 1 | 46 | 4,5435 | 1,22622 | ,18080 | 4,1793 | 4,9076 | 1,00 | 7,00 |
| 2 | 45 | 5,0967 | 1,15352 | ,17196 | 4,7501 | 5,4432 | 2,00 | 7,00 |
| 3 | 44 | 5,0284 | 1,08265 | ,16322 | 4,6993 | 5,3576 | 2,50 | 7,00 |
| 4 | 46 | 4,8957 | ,69377 | ,10229 | 4,6896 | 5,1017 | 3,60 | 6,60 |
| Total | 181 | 4,8884 | 1,07124 | ,07962 | 4,7313 | 5,0455 | 1,00 | 7,00 |

Figure 63: Descriptives (Filter: Germany, N=181); Source: SPSS Output

Figure 63 shows important descriptives:

- 1. The means of the attitude toward Halma (HA_ATTITUDE), Roger Federer (RF_ATTITUDE) and Caffè Serenità (CS_ATTITUDE) of group 1 and group 2 are highlighted by the red markings.
 - a. Different evaluations of HA ATTITUDE between group 1 and 2 are analyzed to prove H₁.
 - b. Different evaluations of RF ATTITUDE between group 1 and 2 are analyzed to prove H_{2a}.
 - c. Different evaluations of CS_ATTITUDE between group 1 and 2 are analyzed to prove H_{2b}.
 - ⇒ For each of the three variables, the means in group 1 are lower than in group 2. These differences are all significant (see **Figures 68 and 69**).

- 2. The means of the attitude toward Caffè Serenità (CS_ATTITUDE) of group 3 and group 4 are highlighted by the green markings.
 - a. Different evaluations of CS ATTITUDE between group 3 and 4 are analyzed to prove H₃.
 - ⇒ This difference is not significant (see Figures 68 and 70).
- 3. The means of the attitude toward Halma (HA_ATTITUDE) of group 2 and group 4 are highlighted by the blue border lines.
 - a. Different evaluations of HA_ATTITUDE between group 2 and 4 are analyzed to show the positive impact a celebrity has on the attitude toward a brand.
 - ⇒ The evaluations of group 2 (with endorsing celebrity) are higher than of group 4 (no endorsing celebrity). This mean difference is significant (see **Figure 68**).
- 4. The means of the attitude toward Halma (HA_ATTITUDE) of group 1 and group 3 are highlighted by the orange border lines.
 - a. Different evaluations of HA_ATTITUDE between group 1 and 3 are analyzed to show the positive impact a celebrity has on the attitude toward a brand that is affected by negative publicity.
 - ⇒ The evaluations of group 1 (with endorsing celebrity) are higher than of group 3 (no endorsing celebrity). This mean difference is significant (see **Figure 68**).

| Group | Mean | Group | Mean |
|----------|----------|----------|----------|
| 2 | 4,902 | 4 | 4,335 |
| 1 | 3,035 | 3 | 2,391 |
| %-Change | -38,0937 | %-Change | -44,8436 |

Figure 64: %-Changes of Attitude toward Halma (Filter: Germany, N=181); Source: Own Illustration

Figure 64 describes the percentage change of the attitude toward Halma caused by the negative article. It compares the change between group 2 and 1 with the change between group 4 and 3 to see if a celebrity endorser can minimize the damaging effect of negative publicity.

⇒ The comparison reveals a less negative change between the groups that are endorsed by a celebrity (-38.09% vs. -44.84%).

In the following section the significances of the mean differences are tested.

Test of Homogeneity of Variances

| | Levene Statistic | df1 | df2 | Sig. |
|-------------|------------------|-----|-----|------|
| HA_ATTITUDE | 2,175 | 3 | 177 | ,093 |
| RF_ATTITUDE | 9,123 | 1 | 89 | ,003 |
| CS_ATTITUDE | 4,844 | 3 | 177 | ,003 |

Figure 65: Test of Homogeneity (Filter: Germany, N=181); Source: SPSS Output

Figure 65 shows the Levene-Test of homogeneity of variances. The test proves the null-hypothesis that the variances of the considered variable are universally equal in the groups. The significance shows the probability of making a mistake by rejecting the null-hypothesis.⁴

⇒ The test reveals that for RF_ATTITUDE and CS_ATTITUDE, this null-hypothesis has to be rejected since the significance is less than 0.05. Subsequently, equal variances cannot be assumed for these variables. For HA_ATTITUDE on the other hand, equal variances can be assumed, since the significance is above 0.05.

⁴ Felix Brosius, "SPSS 14 – Das mitp-Standartwerk", Redline GmbH, Heidelberg 2006

| | | ANO | VA | | | |
|-------------|----------------|---------|-----|--------|--------|------|
| | | Sum of | | Mean | | |
| | | Squares | df | Square | F | Sig. |
| HA_ATTITUDE | Between Groups | 179,203 | 3 | 59,734 | 58,120 | ,000 |
| | Within Groups | 181,915 | 177 | 1,028 | | |
| | Total | 361,117 | 180 | | | |
| RF_ATTITUDE | Between Groups | 33,726 | 1 | 33,726 | 15,361 | ,000 |
| | Within Groups | 195,407 | 89 | 2,196 | | |
| | Total | 229,133 | 90 | | | |
| CS_ATTITUDE | Between Groups | 8,289 | 3 | 2,763 | 2,467 | ,064 |
| | Within Groups | 198,271 | 177 | 1,120 | | |
| | Total | 206,561 | 180 | | | |

Figure 66: ANOVA (Filter: Germany, N=181); Source: SPSS Output

Figure 66 illustrates the outcome of the ANOVA. This test requires assumed equal variances, which is given only for HA_ATTITUDE. For this variable, the test proves if the means of all four groups are significantly different from each other. Therefore it is irrelevant for this study.

Robust Tests of Equality of Means

| | Statistica | df1 | df2 | Sig. |
|-------------------|------------|-----|--------|------|
| HA_ATTITUDE Welch | 56,599 | 3 | 97,040 | ,000 |
| RF_ATTITUDE Welch | 15,485 | 1 | 79,648 | ,000 |
| CS_ATTITUDE Welch | 1,912 | 3 | 94,950 | ,133 |

Figure 67: Welch Tests (Filter: Germany, N=181); Source: SPSS Output

Figure 67 shows the outcome of the Welch-Test. This test is run instead of an ANOVA, if equal variances in the groups cannot be assumed. For each variable it tests the null-hypothesis that the means of all four groups are equal. But to test the hypotheses it requires a comparison of only two respective groups. Since Roger Federer occurs only in group 1 and 2, the Welch-Test, in this case, can only compare the means of attitude toward Roger Federer of these two groups. In this way it is possible to test the significance of the mean difference between only group 1 and 2.

⇒ The significance of RF_ATTITUDE shows that there is a significant difference in the means between group 1 and group 2 with p < 0.001 ($F_{(1,79.65)} = 15.49$, p < 0.001).

| Contr | <u>ast Coeπic</u> | lents | | | | | |
|----------|-------------------|-------|----|----|--|--|--|
| Contrast | Group | | | | | | |
| | 1 | 2 | 3 | 4 | | | |
| 1 | 1 | -1 | 0 | 0 | | | |
| 2 | 0 | 0 | 1 | -1 | | | |
| 3 | 1 | 0 | -1 | 0 | | | |
| 4 | 0 | 1 | 0 | -1 | | | |

| Contrast Testsa | | | | | | | | | |
|-----------------|-----------------|----------|----------|------------|--------|--------|----------|--|--|
| | | Contrast | Value of | | | | Sig. (2- | | |
| | | | Contrast | Std. Error | t | df | tailed) | | |
| HA_ATTITUDE | Assume equal | 1 | -1,867 | ,2126 | -8,785 | 177 | ,000 | | |
| | variances | 2 | -1,944 | ,2138 | -9,093 | 177 | ,000 | | |
| | | 3 | ,644 | ,2138 | 3,012 | 177 | ,003 | | |
| | | 4 | ,567 | ,2126 | 2,670 | 177 | ,008 | | |
| | Does not assume | 1 | -1,867 | ,2285 | -8,173 | 88,075 | ,000 | | |
| | equal variances | 2 | -1,944 | ,1971 | -9,862 | 79,622 | ,000 | | |
| | | 3 | ,644 | ,2331 | 2,762 | 87,806 | ,007 | | |
| | | 4 | ,567 | ,1916 | 2,962 | 82,871 | ,004 | | |
| RF_ATTITUDE | Assume equal | 1 | -1,2176 | ,31068 | -3,919 | 89 | ,000 | | |
| | variances | 3 | 4,5435 | ,21847 | 20,797 | 89 | ,000 | | |
| | | 4 | 5,7611 | ,22089 | 26,082 | 89 | ,000 | | |
| | Does not assume | 1 | -1,2176 | ,30943 | -3,935 | 79,648 | ,000 | | |
| | equal variances | 3 | 4,5435 | ,25458 | 17,847 | 45,000 | ,000 | | |
| | | 4 | 5,7611 | ,17587 | 32,757 | 44,000 | ,000 | | |
| CS_ATTITUDE | Assume equal | 1 | -,5532 | ,22191 | -2,493 | 177 | ,014 | | |
| | variances | 2 | ,1328 | ,22318 | ,595 | 177 | ,553 | | |
| | | 3 | -,4849 | ,22318 | -2,173 | 177 | ,031 | | |
| | | 4 | ,2010 | ,22191 | ,906 | 177 | ,366 | | |
| | Does not assume | 1 | -,5532 | ,24951 | -2,217 | 88,866 | ,029 | | |
| | equal variances | 2 | ,1328 | ,19262 | ,689 | 72,696 | ,493 | | |
| | | 3 | -,4849 | ,24357 | -1,991 | 87,451 | ,050 | | |
| | | 4 | ,2010 | ,20008 | 1,005 | 71,852 | ,318 | | |

Figure 68: Contrasts (Filter: Germany, N=181); Source: SPSS Output

Figure 68 shows the results of the contrast tests. A contrast test looks at differences in means of only two respective groups. It is very similar to a normal T-Test, but in the case of assumed equal variances, the contrast test uses the degrees of freedom of <u>all</u> the groups that are represented in the respective variable. The T-Test in comparison, only considers the degrees of freedom of the <u>two</u> compared groups. Additionally, the contrast test is based on a Levene-Test that tested the variances of <u>all</u> the groups that are represented in the respective variable. The Levene-Test aimed at the T-Test only considers the <u>two</u> compared groups.

Therefore results might differ slightly to the results of the T-Test, introduced in paragraph G.

⇒ The red markings show a significant difference in means between group 1 and 2 for HA_ATTITUDE ($t_{(177)}$ = -8.79, p < 0.001), RF_ATTITUDE ($t_{(79.65)}$ = -3.94, p < 0.001) and CS ATTITUDE ($t_{(88.87)}$ = -2.22, p < 0.05).

- ⇒ The green markings show <u>no</u> significant difference in means between group 3 and 4 for CS_ATTITUDE ($t_{(72.70)} = 0.69$, p > 0.45).
- \Rightarrow The orange border lines show a significant difference in means between group 1 and 3 for HA_ATTITUDE ($t_{(177)} = 3.01$, p < 0.005).
- \Rightarrow The blue border lines show a significant difference in means between group 2 and 4 for HA_ATTITUDE ($t_{(177)}$ = 2.67, p < 0.01).

6.3.3.b T-Tests (Filter: Germany, N=181)

T-Test

Group Statistics

| Group | | | Std. | Std. Error | |
|-------------|---|----|--------|------------|--------|
| | | N | Mean | Deviation | Mean |
| HA_ATTITUDE | 1 | 46 | 3,035 | 1,1565 | ,1705 |
| | 2 | 45 | 4,902 | 1,0204 | ,1521 |
| RF_ATTITUDE | 1 | 46 | 4,5435 | 1,72667 | ,25458 |
| | 2 | 45 | 5,7611 | 1,17980 | ,17587 |
| CS_ATTITUDE | 1 | 46 | 4,5435 | 1,22622 | ,18080 |
| | 2 | 45 | 5,0967 | 1,15352 | ,17196 |

Independent Samples Test

| | | Levene's Equality of | | t-test for Equality of Means | | | | | | |
|-------------|-----------------------------|-------------------------|------|------------------------------|--------|----------|----------|------------|---|---------|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | _ | C: m | t | ale. | Sig. (2- | Mean | Std. Error | Lower | Unnor |
| | | F | Sig. | , | df | tailed) | | Difference | Lower | Upper |
| HA_ATTITUDE | Equal variances assumed | ,322 | ,572 | -8,161 | 89 | ,000 | -1,8674 | ,2288 | -2,3221 | -1,4128 |
| | Equal variances not assumed | | | -8,173 | 88,075 | ,000 | -1,8674 | ,2285 | -2,3215 | -1,4134 |
| RF_ATTITUDE | Equal variances assumed | 9,123 | ,003 | -3,919 | 89 | ,000 | -1,21763 | ,31068 | -1,83494 | -,60032 |
| | Equal variances not assumed | | | -3,935 | 79,648 | ,000 | -1,21763 | ,30943 | -1,83345 | -,60181 |
| CS_ATTITUDE | Equal variances assumed | ,002 | ,968 | -2,216 | 89 | ,029 | -,55319 | ,24968 | -1,04930 | -,05708 |
| | Equal variances not assumed | | | -2,217 | 88,866 | ,029 | -,55319 | ,24951 | -1,04898 | -,05740 |

Figure 69: T-Test, Group 1 & 2, (Filter: Germany, N=181); Source: SPSS Output

Group Statistics

| Group | | | Std. | Std. Error | |
|-------------|---|----|--------|------------|--------|
| | | N | Mean | Deviation | Mean |
| CS_ATTITUDE | 3 | 44 | 5,0284 | 1,08265 | ,16322 |
| | 4 | 46 | 4,8957 | ,69377 | ,10229 |

Independent Samples Test

| Independent Samples Test | | | | | | | | | | |
|--------------------------|-----------------------------|----------|----------|------------------------------|--------|---------------------|--------------------|--------------------------|---|--------|
| | | Levene's | Test for | t-test for Equality of Means | | | | | | |
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2- tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| CS_ATTITUDE | Equal variances assumed | 9,630 | ,003 | ,696 | 88 | ,488 | ,13276 | ,19082 | -,24646 | ,51197 |
| | Equal variances not assumed | | | ,689 | 72,696 | ,493 | ,13276 | ,19262 | -,25116 | ,51668 |

Figure 70: T-Test, Group 3 & 4, (Filter: Germany, N=181); Source: SPSS Output

Figure 69 and 70 show the results of the T-Test.

- ⇒ The red markings show a significant difference in means between group 1 and 2 for HA_ATTITUDE ($t_{(89)} = -8.16$, p < 0.001), RF_ATTITUDE ($t_{(79.65)} = -3.94$, p < 0.001) and CS_ATTITUDE ($t_{(89)} = -2.22$, p < 0.05).
- \Rightarrow The green markings show <u>no</u> significant difference in means between group 3 and 4 for CS_ATTITUDE ($t_{(72.70)} = 0.69$, p > 0.45).