

The presentation of bisexual characters in TV shows  
and how it affects the viewer's attitude change toward  
bisexuals

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### **Abstract**

This study aims at examining the relationship between the type of video representation of bisexual individuals and the attitude change towards bisexuality in viewers, including investigations of differences in the gender of the viewers. It was hypothesized that the answers of female viewers and the positive video representation would show a more positive attitude change. The participants were asked to answer two scales that measure the attitude towards bisexuality, one before and one after the video that was randomly assigned to be either a negative or a positive representation of the reaction to bisexuality. The analysis showed that significant results were not present and therefore changes must be made in order to test these effects. It was recommended to do this study on a bigger scale with more diverse participants who participate long-term in watching a longer video series, such as a TV show.

## **Introduction**

A lot has changed the last few years in awareness towards the community of lesbians, gays, bisexuals, transgender/transsexuals, queer and others (LGBTQ+) in western societies (Hatzenbuehler, Birkett, van Wagenen & Meyer, 2014). This can also be seen in the media, which is shown to be connected to this attitude change (Ayoub & Garretson, 2016; Klein, 2011; McInroy & Craig, 2015). The LGBTQ+ community represents gender, sexual and romantic minorities (Dastagir, 2017). This also includes individuals identifying as pansexual, asexual, metrosexual, non-binary and other (Dastagir, 2017).

### **The LGBTQ+ community and related problems**

In the last decades, the rights and official openness towards LGBTQ+ individuals have changed a lot and the community is more accepted in western societies and all over the world (Graves & Watson, 2016; McCormack, 2013; International Lesbian, Gay, Bisexual, Trans and Intersex Association, Carroll & Mendos, 2017). This has a positive effect since awareness and acceptance result in a higher quality of life and better self-acceptance for young adults who identify as transsexual and transgender (Austin, 2016).

However, this community still struggles with insufficient awareness, support, and acceptance, as well as persecution, execution and murder, solely based on their sexuality, depending on the culture and time they live in (Jäckle & Wenzelburger, 2014; Graves & Watson, 2016; International Lesbian, Gay, Bisexual, Trans and Intersex Association, Carroll & Mendos, 2017). Furthermore, it was shown that members of the LGBTQ+ community are at higher risk for sexual harassment, which results in mental health issues (Boyle & McKinzie, 2018). In general, severe mental health issues of members of the LGBTQ+ community are shown to be linked to discrimination (Meyer, 2013; Pandya, 2014; Hatzenbuehler, Birkett, Van Wagenen & Meyer, 2014). In addition, family members not accepting someone's sexuality can cause members of a sexual minority to fall into depression and anxiety, as well as other mental health problems (Ryan, Huebner, Diaz & Sanchez, 2009).

A group that is especially affected by the rejection of their sexual orientation is the group of bisexual individuals (Ryan, Huebner, Diaz & Sanchez, 2009). Bisexuality is defined as being attracted to two or more sexes or gender (Dastagir, 2017). Often, in addition to not accepting a person as an individual because they are a member of the LGBTQ+ community, bisexuality is not accepted as being an existing sexual orientation in general (Belous & Bauman, 2017; Hayfield & Jowett, 2017). This phenomenon is called erasure and deals with attitudes such as that bisexuality or other sexual orientations are “just a phase” or not a “real”

sexuality, and they should “decide” to be either gay or straight (Hayfield & Jowett, 2017). In addition, often bisexuals in a different-sex relationship are seen as straight and in a same-sex relationship as gay (Hayfield & Jowett, 2017). Since this group struggles with additional challenges, compared to homosexuals (Meyer, 2013; Pandya, 2014; Hatzenbuehler, Birkett, Van Wagenen & Meyer, 2014) and is a group that only recently became a more popular topic that has not been studied extensively yet, this study will focus on bisexuals.

### **Attitudes towards bisexual individuals**

This rejection towards bisexual individuals, but also towards other minority groups, is associated with the attitude of individuals, studies have shown (Hatzenbuehler, Birkett, Van Wagenen & Meyer, 2014; Keating & Muller, 2020; Meyer, 2013). Attitude can be defined as a judgement or disposition towards something or someone which can be both positive and negative (Allport, 1935). An attitude has the attributes of being stable and lasting over time, even though it can also be altered (Colman, 2009) and can influence the behavior and actions of an individual (Allport, 1935). Awareness and positive attitudes towards the LGBTQ+ community are important, as they are said to ease the process of self-definition and reduce prejudices, as well as ensure a better life quality of individuals of the LGBTQ+ community (Rohde-Abuba, Vennmann & Zimenkova, 2019; McCormack, 2013).

The attitudes towards the LGBTQ+ community, and in particular towards bisexual individuals, vary, depending on the culture and environment people grew up in, their gender, age and their sexual orientation (Jäckle & Wenzelburger, 2014; Brassel & Anderson, 2019; Kowalski & Scheitle, 2019). There is still a lot of biphobia present today, not only in heterosexual but also gay and lesbian individuals (London-Terry, n.d.; Mitchell, Davis & Galupo, 2014). These negative attitudes might be caused by a lack of awareness and therefore developed prejudices (Norton & Herek, 2012; Cumming-Potvin & Martino, 2018). Hence, a greater awareness is needed to reach the acceptance of bisexual individuals to live a life in society without problems related to their sexuality (Rohde-Abuba, Vennmann & Zimenkova, 2019).

### **Media, narratives and the attitude towards the LGBTQ community**

This awareness and acceptance can for instance be achieved by digital media channels (Belous & Bauman, 2017). Therefore, negative attitudes towards the LGBTQ+ community could be changed by the media. Media has many ways of portraying the LGBTQ+ community, dealing with issues and ways of life (Ayoub & Garretson, 2016). For instance, the representation of transsexuality and transgenderism in social media and in entertainment media is getting more and more positive (McInroy & Craig, 2015). The use of social media

makes it possible to share life stories and connect with other individuals, which has shown to change the attitude positively and foster support toward the LGBTQ+ community, especially in younger individuals (McInroy & Craig, 2015; Ayoub & Garretson, 2016). Furthermore, regarding narratives in general, some novelizations or movies deal with very black and white representations of gender and sexuality, while others manage to present sexuality as completely normal and ordinary (McInroy & Craig, 2015; Wickens, 2011; Du Fresne, 2015; Ossana & Schamus, 2005; Spears, Guadagnino, Georges, Teixeira, Morabito, Ivory & Rosenman, 2017).

In addition to those media representations mentioned above, TV series became more and more popular in the last decades, and with that increase of series, there was also an increase of bisexual characters that are portrayed in them (Aguirre-Sacasa et al., 2018-present; Goor et al., 2013-present; Kapinos et al., 2016-present; Malmuth, Schur, Miner & Fryman, 2019; Waisbord, 2004). The way TV series represent current social issues and topics and how those representations change the attitudes of the increasing number of viewers is something that was studied before, even though not extensively (Ayoub & Garretson, 2016; Klein, 2011). The findings of those existing studies leave room for wondering how much TV series can change the attitude toward certain minorities. Therefore, this study will focus on the media genre of narratives, TV series in particular.

Especially in the newer series, the portrayal of bisexuality is very common (Goor et al., 2013-present; Kapinos et al., 2016-present; Nunn et al., 2019-present). For instance, the British series 'sex education' deals with pan-, a- and bisexuality among other less known sexual preferences (Nunn et al., 2019-present). Bisexuality is also addressed in "Brooklyn nine-nine", "Abby's" and "Lucifer", as in many other relatively new series (Goor et al., 2013-present; Kapinos et al., 2016-present; Malmuth, Schur, Miner & Fryman, 2019; Aguirre-Sacasa et al., 2018-present). In "Brooklyn nine-nine", a character expresses her sexuality, is both accepted by friends as well as struggles with coming out to her parents and is in relationships with both men and women (Goor et al., 2013-present). Some shows even portray bisexuality as something completely ordinary and take the focus off the differences to heterosexuality, as well as showing other characters as completely accepting. For instance, the character Eleanor in the TV show "The good place" talks a lot about her attraction to male and female persons, which is accepted by her peers without a problem (Schur et al., 2016-2020). She also continues to talk about being attracted to women after entering a relationship with a male character, which promotes not to erase a part of her sexuality and that she did not "choose" a sex to be attracted to (Schur et al., 2016-2020).

However, bisexuality is not only presented as something positive. Only five years ago, there were some TV shows that used bisexuality as a source of jokes. One example would be the sitcom “how I met your mother”, where one of the female protagonists, who is married to a man, repeatedly states her sexual interests toward one of her female friends for comic relief (Bays et al., 2005-2014). This is seen in various shows, including “the big bang theory” and “2 broke girls” (Lorre et al., 2007-2019; King, Cummings, Nader & Astrof, 2011-2017).

Narratives are said to change the attitude toward the LGBTQ+ community in many ways (Marwick, Gray & Annany, 2013; Bond, 2020; Yan, 2019). For instance, a study by Gillig and Murphy (2016) showed that young heterosexual viewers of narratives featuring characters of a sexual minority were in general inclined to have a more negative attitude toward the LGBTQ+ community after watching the story. However, other studies showed that watching a narrative of a LGBTQ+ character resulted in more positive attitudes toward the LGBTQ+ community or the sexuality of the character (Marwick, Gray & Annany, 2013; Yan, 2019).

Bond (2020) attempted to explain how narratives change attitudes. He arrived at the conclusion that our connection with the fictional characters works much like our connections with people in our real lives (Bond, 2020). Since contact with a minority is said to change the attitude toward this minority, Bond found that a similar thing happens when we relate to fictional characters (Bond, 2020). The emotional bond with those characters helps to get over prejudices and change the behavior toward the minority (Bond, 2020). Therefore, the way we perceive a minority is connected to the way it is presented to us (Székely & Horváth, 2014).

This was also shown in a study that inspected the negative and positive portrayal of transsexual women and the results were that the negative clips changed the attitudes of the views negatively while the positive clips did not change the attitude at all (Solomon & Kurtz-Costes, 2017). In addition, counter-stereotypical representations of characters that belonged to a minority are connected to a more positive attitude towards this minority and a decline in prejudice (Ramasubramanian, 2011). Hence, the type of representation might have an impact on the way the attitude of a viewer is changed.

This attitude change is shown to be different in female and male viewers (Brassel & Anderson, 2019; Gillig & Murphy, 2016; London-Terry, n.d.; Norton & Herek, 2012; Solomon & Kurtz-Costes, 2017). In almost every study that investigates the attitude towards LGBTQ+ community members, but also bisexuality in particular, the attitude of male participants differs from the attitude of female participants (Brassel & Anderson, 2019; London-Terry, n.d.; Norton & Herek, 2012).

One theory that explains how this attitude change via representation of characters might work is the social learning theory (Bandura, 1977). It states that a behavior change can occur without having to practice the behavior themselves beforehand if an individual observes others and imitates their behavior. In addition, the behavior of an individual can also be changed if it observes someone else being punished or rewarded for their behavior. This is called vicarious reinforcement. If the behavior is rewarded, the observer is most likely to act in the same way, while if it is punished, the observer refrains from acting like the person they observed (Bandura, 1977).

A study by Yilmaz, Yilmaz and Demi-Yilmaz (2019) has shown that this theory can be applied to visual media and the change of behavior and attitudes (Yilmaz, Yilmaz & Demi-Yilmaz, 2019). Therefore, if watching a scene from a TV series for instance, the viewer might adapt the behavior of the characters, especially if they see them being rewarded. Also, reward and punishment might change the attitude of the viewer, seeing the behavior of the character as bad if they are punished and changing their attitude towards the action of the character (Yilmaz, Yilmaz & Demi-Yilmaz, 2019). This was also shown in a study that dealt with RuPaul's Drag Race and how representation of the LGBTQ+ community changed the attitudes of viewers towards this community (Villarreal, García & Fernández, 2017). There is evidence that based on the social learning theory, homophobic attitudes of the viewers decreased by watching the show and learning by observing (Villarreal, García & Fernández, 2017).

### **This study**

The attitudes towards bisexuality are therefore something that might be changed by watching a video and learning from the way the characters act towards a bisexual individual. Attitudes are different for men and women and the importance of changing those attitudes is evident. It is said that media, and narratives in specific can change the attitudes towards sexual minorities and therefore change the behavior towards them. This would result in a decrease of problems, such as discrimination and mental health problems for the LGBTQ+ community and bisexuals in particular. Therefore, the research question posed here is "Does the presentation of fictional characters in TV shows and movies that identify as bisexual have an impact on the change of viewer's attitudes toward bisexuals?"

The hypotheses are as follows:

1. The presentation of bisexuality in a positive way will cause a positive attitude change.

2. There will be a larger positive attitude change for female than for male participants.

## Methods

### Participants

The participants were selected through convenience sampling by contacting acquaintances of the researchers via WhatsApp and Instagram. In addition, the study was uploaded on the platform SONA, which rewards psychology students who participate with 0,25 credits of the 15 credits they need to collect. There were 99 participants, of which 60 were female and 39 were male. The age ranged from 18 to 81 years ( $M=30.66$ ,  $SD=18,37$ ) and the Nationality was divided in 60 German, 13 Dutch and 26 from other nationalities. 81 participants were identifying as heterosexual, three as homosexual, six as bisexual, one as asexual and six as pansexual. In addition, of the participants, 43 reported to be Christian, 15 follow another religion, and 41 were non-religious. Furthermore, the political ideologies were divided in 44 liberal, 16 center, seven conservative, 27 non-political and five specified another political ideology. The participants were asked to have a sufficient level of knowledge of the English language and be over 18 years of age, apart from that there was no inclusion data given.

### Materials

The study was conducted on the platform Qualtrics (2020). In the beginning of the questionnaire, there were demographic questions about the participants' age, nationality, gender, sexual orientation, religious affiliation and political ideology. The age was recorded with an open text field. For the nationality, there was a selection of "German", "Dutch" or an open text field to enter another nationality. The gender was recorded by choosing between "male", "female", "non-binary", "transgender", "prefer not to disclose" and an open field to self-describe. The concepts of non-binary and transgender were explained at the top of the question. In addition, there was a question about the participants' sexual orientation, being able to select "heterosexual", "homosexual", "bisexual", "asexual" and "pansexual", as well as an open text field to self-describe. The concepts of bisexuality, asexuality and pansexuality were explained at the top of the question. Then, the religion of the participants was sought after, namely "Christianity", "Islam", "Judaism", "Hinduism", "Buddhism" and "non-religious", as well as an open text field to self-describe. Finally, the last demographic question dealt with political ideologies of the participants. It was possible to select "liberal", "center", "conservative" and "non-political", as well as an open text field to self-describe.

The study contained three different scales because of collaboration with other researchers. For this paper, only the “Attitudes Regarding Bisexuality Scale” (Mohr & Rochlen, 1999) was of significance. The “Attitudes Regarding Bisexuality Scale” is a validated questionnaire with 18 items about attitudes towards bisexuality in males and females, formulated in statements (Mohr & Rochlen, 1999). The statements were tested by using a 5-point Likert scale, ranging from “Strongly Disagree” to “Strongly Agree”. Examples of statements given in the questionnaire are “Most men who claim to be bisexual are in denial about their true sexual orientation” and “I would *not* be upset if my sister were bisexual” (Mohr & Rochlen, 1999). This questionnaire was validated multiple times (Matsuda, Rouse & Miller-Perrin, 2014; Mohr & Rochlen, 1999). The items were found to be reliable and measuring what was intended and there was evidence for a strong internal consistency (Matsuda, Rouse & Miller-Perrin, 2014; Mohr & Rochlen, 1999). This was also shown with the data of this study, with a Chronbach’s Alpha of .81.

After the questionnaire, there was one question about how familiar participants were with bisexuality. The answer was recorded using a 4-point Likert scale, ranging from “not familiar” to “familiar”.

The videos used in this study were two clips from the popular TV series “Brooklyn nine-nine” containing scenes of different natures. The first clip deals with a situation in which the sexuality of a bisexual individual is accepted. A friend of the bisexual character is trying to get information about her new boyfriend out of her until he finds out it is a girlfriend (Goor et al., 2013- present). The second clip deals with the same individual experiencing how her sexuality is not accepted. The parents of the character say it is okay for her to date a married man, because that is better than being a lesbian. She then outs herself and storms out (Goor et al., 2013- present).

After the video, some questions were asked, such as “Have you seen this scene before?” which could be answered by either yes or no. The next question was “What was the hair color of the main character in the scene?” that could be answered by choosing “blue”, “red”, “black”, “brown”, “blonde” or “I don’t know”. The last question was “What type of media was shown?”. The possible answers were reality TV, advertisement, vlog content and entertainment media (e.g. Netflix or TV show).

## **Procedure**

The study was conducted online. The participants could enter the questionnaire by using a link or going through the platform SONA. After answering the consent form, the participants were asked to enter their demographic data. Following, the participants were first

asked to fill out the “Attitudes Regarding Bisexuality Scale” and then to state how familiar they were with bisexuality as a concept. After this, the participants were asked to watch the video. The videos shown to the participants were randomly chosen to be either the video with the positive response or the negative response towards the sexuality of the character. Next, the participants were asked some general questions about the video in order to test if they had watched it and to leave more time before answering the questionnaire again. Those questions were answerable by drop-down pre-made answers. In addition, there was a question about the characters sexuality that had the answer possibilities heterosexual, homosexual, bisexual, asexual and not mentioned. Finally, the last question was “Were the main character’s parents shown?” which could be answered by either yes or no.

After answering those questions, the participants were asked to fill out the “Attitudes Regarding Bisexuality Scale” again.

At the end of the questionnaire, the participants were debriefed about the purpose of the study and had the possibility to enter their Email-address if they wanted to be informed about their results. After this, the study was completed.

### **Data analysis**

In order to analyze the data gathered through the study, first the participants who did not consent, did not complete the questionnaire and did not fulfil the inclusion criteria were excluded from analysis. In addition, one participant gave invalid answers to the demographic questions, such as answering the question about the nationality with the phrase “from a land far far away” and was therefore excluded as well.

Then, the independent and dependent variables were generated by summarizing the results of the questionnaires and dividing the participants in two groups, those who had watched the positive video and those who had watched the video with the negative response. The independent variable was the kind of video that was watched and therefore a dummy variable of the two groups described above. The dependent variable was the difference in attitude, measured by the difference in responses of the questionnaire before the video and the questionnaire after the video. Finally, the moderator variables were the recorded answers of the participants to the demographic questions about the gender, which was a dummy variable since participants solely selected to be either male or female.

Those variables were then inserted in the Hayes’ PROCESS macro in SPSS in order to answer the hypotheses of this study by testing the effects the variables had on each other.

## **Results**

There were no significant differences between the group that watched the positive video and the group that watched the negative video, as well as the test of attitude before and after watching each video. This can be seen in table 1.

**Table 1**

*Descriptive statistics*

		Positive		Negative	
		Before	After	Before	After
N	Valid	50	50	49	49
	Missing	49	49	50	50
Mean		74,34	74,56	73,39	74,61
Std.-Deviation		8,97	9,77	7,60	7,94

The analysis with PROCESS to investigate the relationship between the video type and the change in the attitude of participants toward bisexuality, regarding the gender of the participants, revealed that there is not a significant effect present. The main effect of the video type on the attitude change had a p-value of .16 and was therefore also not significant ( $b = -2.94$ ,  $t(95) = -1.41$ ,  $p = .16$ ). Furthermore, the explained variance was low and the moderation had an insignificant effect ( $F(3, 95) = 2.26$ ,  $p = .08$ ,  $R^2 = .07$ ).

### Discussion

This study aimed at studying the relationship between the representation of bisexual characters in a video and the change in attitude towards bisexual individuals, regarding the gender of participants as possible moderator variable. It was hypothesized that female viewers and viewers of the positive representation video would have a more positive attitude change. These hypotheses were not confirmed since the results of this study showed that even though there might be some minimal differences that can be explained by the variables that were tested those differences are not high enough to be significant. Therefore, this study does not have any significant results.

### Implications

This insignificance of results implies that short video clips that show reactions to someone's bisexuality, negative or positive, cannot change the attitude of individuals towards bisexuality. This seems to be therefore true for short-term interventions with video clips that do not support building an emotional connection with the characters but only show one or a few scenes with one main issue. Hence, the social learning theory does not apply to video clips of this kind, at least not regarding the attitudes towards bisexuality.

In addition, there is no proof in this study that male and female participants express a significant difference in attitude change when watching these video clips. This implies that the impact of short video clips is not different in male and female participants, however, the insignificance of the main effect might have an impact on this implication and a significant attitude change might show some difference in male and female participants.

### **Strengths and limitations**

There were several strengths to this study. First of all, the sampling of participants was, with the possibilities restricted to students kept in mind, quite diverse, there were two participants over the age of eighty and several over the age of fifty, also many different religious faiths and political ideologies were represented. In addition, the pool of participants consisted of over one hundred people, which therefore resulted in a sample large enough to expect the results to be valid. The study also had the strength of randomization since the different scales and videos were randomly assigned to each participant and therefore effects that the other scales might have had on the scales that were analyzed, cancelled each other out.

Finally, this study gave insight into a new topic since there are barely studies about the impact of the type of representation of a sexuality in a TV show on the attitude towards this sexuality, and there is not one study present that looked at the effect of the social learning theory through the representation on TV shows on the attitude towards bisexuality, which is then tested for a moderation of gender. This combination of variables, combined with the insignificant results, might show a new perspective on this topic and help other researchers in the future to build their research around it.

There are some limitations to this study as well. First, the study had a large dropout rate due to the length and repetition of scales in the questionnaire. The participants reported irritation and boredom because of the repetition, and some had to invest over an hour to fill in the questionnaire. Therefore, many reported to have dropped out because the questionnaire took too long, and they were not interested in participating any more.

In addition, the sample of participants consisted mainly of liberal, open-minded people, considering that most participants were selected using convenience sampling. Therefore, most of the participants already had a positive attitude towards bisexuality and could therefore not be changed for the better.

Regarding the videos, there might have been some limitations as well. First of all, most of the participants were not native English speakers and there were a few complaints and comments by participants that they were not always able to follow the content of the videos. This might have resulted in the expected effect of the video type on the attitude to be less impactful. The message of the video and the actions of the characters might have not been understood and therefore the variable of the video type would be invalid. Furthermore, the video clips were very short, there was not enough time to connect with the characters and feel for them. Many participants also stated that they did not know which character was the main character in a certain scene, which might have resulted in not being able to decide which character's action to follow and learn from. In order to have significant results it might be of importance to watch longer clips or even a whole show.

### **Recommendations for future research**

Using longer clips is one recommendation for future research. A long term-study could be conducted which requires the participants to watch an entire show and connect with the characters, which is shown to have a significant impact on the attitude of the viewers (Bond, 2020). This might show very different results and an increase in positive attitude for participants who started with a negative attitude.

This should also be more possible with a more diverse sample of participants that includes more participants with negative attitudes towards bisexuality. In order to produce valid results, the sample should be more random than in the current study. In addition, the language of the questionnaire and the videos should match the native language of the participants to ensure that everything is understood correctly, and the message of the videos comes across.

If these changes are implemented and if results then show that TV shows can change the attitude toward bisexuality for the better, then the researcher recommends to create an intervention in order to change attitudes and get people to think more positively about this particular group of people.

### **Conclusion**

In conclusion, studying the attitude change towards bisexuality through different representations of reactions to bisexuality in short video clips did not produce any significant

results in this study. This shows that short term studies such as this are not effective in studying the attitude change toward bisexuality caused by TV shows. Therefore, the researcher recommends conducting a study on a bigger scale with a different sample of participants and longer videos. This topic is still a very relevant one and more studies in this area might produce results that can be used for helpful interventions.

## Appendix 1

### SPSS Syntax

```
RECODE Q147_1 Q149_1 Q151_1 Q148_1 Q150_1 Q154_1 Q155_1 Q156_1 Q158_1
Q159_1 Q160_1 Q162_1 Q165_1
    Q166_1 Q167_1 Q168_1 Q169_1 Q170_1 Q173_1 Q174_1 Q175_1 Q177_1 Q178_1
Q179_1 Q180_1 Q183_1 Q184_1
    Q185_1 Q186_1 Q187_1 Q188_1 Q191_1 Q192_1 Q193_1 Q195_1 Q196_1 Q197_1
Q198_1 Q201_1 Q202_1 Q203_1
    Q204_1 Q205_1 Q206_1 Q209_1 Q210_1 Q211_1 Q213_1 Q214_1 Q215_1 Q216_1
Q219_1 (1=5) (2=4) (3=3)
    (4=2) (5=1).
```

EXECUTE.

```
RECODE Q152_1 Q153_1 Q157_1 Q164_1 Q163_1 Q171_1 Q172_1 Q176_1 Q181_1
Q182_1 Q189_1 Q190_1 Q194_1
    Q200_1 Q199_1 Q207_1 Q208_1 Q212_1 Q218_1 Q217_1 (6=5) (7=4) (8=3) (9=2)
(10=1).
```

EXECUTE.

```
RECODE Q152_1 Q153_1 Q157_1 Q164_1 Q163_1 Q171_1 Q172_1 Q176_1 Q181_1
Q182_1 Q189_1 Q190_1 Q194_1
    Q200_1 Q199_1 Q207_1 Q208_1 Q212_1 Q218_1 Q217_1 (6=5) (7=4) (8=3) (9=2)
(10=1) (1=5) (2=4) (3=3)
    (4=2) (5=1).
```

EXECUTE.

```
RECODE Q218_1 (13=5) (18=4) (19=3) (20=2) (21=1).
```

EXECUTE.

```
RECODE Q200_1 (13=1) (18=2) (19=3) (20=4) (21=5).
```

EXECUTE.

```
RECODE Q200_1 (5=1) (4=2) (2=4) (1=5).
```

EXECUTE.

RECODE Q202\_1 (1=0) (0=1) INTO videotype.

EXECUTE.

FREQUENCIES VARIABLES=Q147\_1 Q148\_1 Q149\_1 Q150\_1 Q151\_1 Q152\_1 Q153\_1  
Q154\_1 Q155\_1 Q156\_1 Q157\_1

Q158\_1 Q159\_1 Q160\_1 Q162\_1 Q163\_1 Q164\_1 Q165\_1 Q31\_1 Q166\_1 Q167\_1  
Q168\_1 Q169\_1 Q170\_1 Q171\_1

Q172\_1 Q173\_1 Q174\_1 Q175\_1 Q176\_1 Q177\_1 Q178\_1 Q179\_1 Q180\_1 Q181\_1  
Q182\_1 Q183\_1 Q184\_1 Q185\_1

Q186\_1 Q187\_1 Q188\_1 Q189\_1 Q190\_1 Q191\_1 Q192\_1 Q193\_1 Q194\_1 Q195\_1  
Q196\_1 Q197\_1 Q198\_1 Q199\_1

Q200\_1 Q201\_1 Q202\_1 Q203\_1 Q204\_1 Q205\_1 Q206\_1 Q207\_1 Q208\_1 Q209\_1  
Q210\_1 Q211\_1 Q212\_1 Q213\_1

Q214\_1 Q215\_1 Q216\_1 Q217\_1 Q218\_1 Q219\_1

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN

/BARCHART FREQ

/ORDER=ANALYSIS.

COMPUTE posafter=Q166\_1 + Q167\_1 + Q168\_1 + Q169\_1 + Q170\_1 + Q171\_1 + Q172\_1  
+ Q173\_1 + Q174\_1 +

Q175\_1 + Q176\_1 + Q177\_1 + Q178\_1 + Q179\_1 + Q180\_1 + Q181\_1 + Q182\_1 +  
Q183\_1.

EXECUTE.

COMPUTE negafter=Q202\_1 + Q203\_1 + Q204\_1 + Q205\_1 + Q206\_1 + Q207\_1 +  
Q208\_1 + Q209\_1 + Q210\_1 +

Q211\_1 + Q212\_1 + Q213\_1 + Q214\_1 + Q215\_1 + Q216\_1 + Q217\_1 + Q218\_1 +  
Q219\_1.

EXECUTE.

COMPUTE posbefore=Q147\_1 + Q148\_1 + Q149\_1 + Q150\_1 + Q151\_1 + Q152\_1 +  
Q153\_1 + Q154\_1 + Q155\_1 +

Q156\_1 + Q157\_1 + Q158\_1 + Q159\_1 + Q160\_1 + Q162\_1 + Q163\_1 + Q164\_1 +  
Q165\_1.

EXECUTE.

COMPUTE negbefore=Q184\_1 + Q185\_1 + Q186\_1 + Q187\_1 + Q188\_1 + Q189\_1 +  
Q190\_1 + Q191\_1 + Q192\_1 +

Q193\_1 + Q194\_1 + Q195\_1 + Q196\_1 + Q197\_1 + Q198\_1 + Q199\_1 + Q200\_1 +  
Q201\_1.

EXECUTE.

FREQUENCIES VARIABLES=posbefore posafter negbefore negafter

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN

/BARCHART FREQ

/ORDER=ANALYSIS.

FREQUENCIES VARIABLES=Q11 Q68 Q68\_3\_TEXT Q12 Q12\_6\_TEXT Q13  
Q13\_6\_TEXT Q14 Q14\_7\_TEXT Q15 Q15\_5\_TEXT

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN

/BARCHART FREQ

/ORDER=ANALYSIS.

COMPUTE ALL\_before = MAX(posbefore, negbefore).

EXECUTE.

COMPUTE ALL\_after = MAX(posafter, negafter).

EXECUTE.

COMPUTE ALL\_dif=ALL\_after - ALL\_before.

EXECUTE.

GRAPH

/HISTOGRAM=ALL\_dif

/PANEL COLVAR=Q12 COLOP=CROSS ROWVAR=videotype ROWOP=CROSS.

## CORRELATIONS

```

/VARIABLES=ALL_dif videotype Q68 Q12 Q13 Q14 Q15
/PRINT=TWOTAIL NOSIG
/STATISTICS DESCRIPTIVES
/MISSING=PAIRWISE.

```

## RELIABILITY

```

/VARIABLES=Q147_1 Q148_1 Q149_1 Q150_1 Q151_1 Q152_1 Q153_1 Q154_1
Q155_1 Q156_1 Q157_1 Q158_1
Q159_1 Q160_1 Q162_1 Q163_1 Q164_1 Q165_1
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE CORR
/SUMMARY=TOTAL.

```

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