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„Sexual objectification and its relation to empathy and gender“

verfasst von / submitted by

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Introduction

Sexual violence poses a significant threat to global mental and physical health. According to the World Health Organization (WHO) report in 2021, 1 in 3 women worldwide has experienced sexual violence, whether from their husband or male intimate partner, or from a non-partner, during their lifetime. This alarming statistic translates to an estimated 736 million women who have suffered from sexual violence (WHO, 2021). The detrimental effects of sexual violence on women's health are manifold. In addition to the direct physical harm (Campbell, 2002), women who have been exposed to sexual violence often experience heightened feelings of anxiety, insomnia, mood swings, and a decreased desire for sexual activity (Domenech Del Rio & Sirvent Garcia del Valle, 2017). They also face a higher risk of developing depression and post-traumatic stress disorder (Campbell, 2002; Cascardi et al., 1999; Silva et al., 1997). Furthermore, women who have experienced sexual violence in their lifetime are at an increased risk of harmful alcohol use, sexually transmitted infections, and suicide compared to those who have not been subjected to such violence (García-Moreno et al., 2013). Consequently, the costs of sexual violence are significantly burdensome, both on women's overall health and on collective society.

To effectively reduce and prevent sexual violence and protect women's health and well-being, it is essential to gain an understanding of the underlying mechanisms. One influential factor implicated in sexual violence is the concept of sexual objectification.

Sexual Objectification in a basic definition describes treating other people as sexualized objects limited to their body parts (Fredrickson & Roberts, 1997). Objectification evidently leads to a dehumanization of the other, which comprises a denial of mind and moral status and the capability for actions and decision-making (Loughnan et al., 2010; Loughnan & Pacilli, 2014; Zurbriggen et al., 2018). When sexually objectifying the other, people tend to perceive the objectified person as less similar to themselves. In their 2011 study, Vaes, Paladino, and Puvia observed that women are more prone to devalue sexualized representations of women when they perceive greater dissimilarity between themselves and such depictions. Sexual objectification includes also denial of autonomy, subjectivity, morality, competence and self-control and an attribution of

inertness and fungibility (Gray et al., 2011; Langton, 2009; Nussbaum, 1995; Ward, 2016; Ward et al., 2023).

Sexual objectification is a phenomenon prevalent in media and pop culture, especially for women and girls (Alberga et al., 2018; APA, 2007; Hatton & Trautner, 2011; Stankiewicz & Rosselli, 2008). Resulting actions, such as catcalling and other harassing behaviours, are reoccurring in women's everyday lives. Research found that women are subject to sexual objectification on average four times a week and they experience other women getting sexually objectified on average nine times a week (Holland et al., 2017). Moreover, 84 % of women experience street harassment before the age of 17 (Hollaback!, 2016). Scientific evidence supports the adverse effects of sexual objectification. Being subjected to sexual objectification is linked to an increased degree of self-objectification (Strelan & Hargreaves, 2005; Ward et al., 2023) and is associated with higher scores in depression, body shame, rumination, anxiety, and disordered eating (Kahalon et al., 2018; Schaefer & Thompson, 2018; Szymanski & Feltman, 2015; Ward et al., 2023).

Sexual Objectification, Empathy, and Sexual Violence

One of the pivotal factors that studies have identified linking sexual objectification and sexual violence is empathy.

Empathy is a extensively debated concept broadly agreed on to be an important aspect of human social life, as it is an adaptive behaviour to social clues in our environment (Decety, 2015). Many scientific articles argue that empathy as a measurable concept has a vast variety of definitions, thus making it complicated to establish a sound theoretical framework for it (Coplan, 2011; Vignemont & Singer, 2006). However, in their 2021 review including 1189 scientific publications on empathy, Håkansson Eklund and Summer Meranius found a virtual consensus on four main themes in defining empathy: to experience empathy, a person has to understand another person's feelings on a cognitive level as well as on an affective level, he or she has to feel a similar emotion as the other person is feeling and he or she has to have a clear notion of the other person being distinct from themselves, thus having a self-other differentiation. Consequently, under this broad definition, if a person's empathy is reduced, he or she either fails to understand the other person's feelings to a certain degree or is feeling an emotion different to the other person's emotion. This interconnectedness of empathy with emotional understanding and resonance extends to prosocial behavior: children as young as 18 months are showing signs of concern and helping behaviour when seeing another person in distress (Vaish et al., 2009;

Warneken & Tomasello, 2006). Empathy has consistently been shown as a motivator for prosocial and helping behaviour (Decety, 2015; Ho et al., 2014; Myers et al., 2014; Pfattheicher et al., 2022).

Sexual objectification often leads to reduced empathy and thus reduced motivation for helping behaviour: women perceived as sexual objects elicit less empathy when becoming victims of sexual assault, with the perpetrators being blamed less (Bernard et al., 2015; Holland & Haslam, 2016). People are generally less hesitant to administer painful consequences to sexually objectified individuals (Loughnan et al., 2010) and tend to show more aggressive behaviour towards sexually objectified women (Vasquez et al., 2018). When sexually objectified, women do not elicit more empathy than inanimate humanlike objects like mannequins (Cogoni et al., 2015). Cogoni et al. (2018) also found reduced empathy on a neural level: people‘s brain networks associated with empathy showed less activity for sexually objectified women when seeing them getting socially excluded. Two proposed causes for the lack of empathy and prosocial behaviour that accompanies sexual objectification are dehumanization and perceived dissimilarity to the other. Dehumanization leads to a denial of uniquely human traits, which can hinder the sharing of the other's affective state (Vignemont & Singer, 2006). Additionally, the perception of dissimilarity is discussed to be a contributing factor in linking a lessened empathic response to sexual objectification. Women have been found to devalue sexualized women to a greater extent when they perceive them as less similar to themselves (Vaes et al., 2011).

The reduced empathy sexual objectification causes enables violent behaviour and prevents altruistic behaviour (Baron-Cohen, 2011; Cailleau et al., 2016; Decety et al., 2016). Therefore, a detailed examination of the underlying processes of sexual objectification in regard to reduced empathy can be the foundation of a sensible prevention of sexual violence.

Sexual Objectification of men and women

Against the rather extensive literature on the sexual objectification of women stands a relatively small body of research regarding the objectification of men. The few studies regarding the objectification of men are focusing either on the self-objectification of men (Cole et al., 2013; Daniel & Bridges, 2010) or on the intrapersonal effects of sexual objectification of men on the objectified man himself (Frith & Gleeson, 2004; Heimerdinger-Edwards et al., 2011; Johnson et al., 2007; McCabe & Ricciardelli, 2004).

Even the effects of the sexual objectification of women on men has been observed (Tolman, 2013). Studies on the interpersonal aspects of the sexual objectification of men, however, are lacking, especially on the consequences of objectification on empathy towards men.

This lack of research may have emerged given the circumstance that women experience sexual objectification regularly (Hollaback!, 2016; Johnson et al., 2007; Koval et al., 2019), are still more frequently portrayed as sexualized objects in mainstream and social media (Davis, 2018; Kavanagh et al., 2019; Seabrook et al., 2019) and both men and women tend to objectify women more often than men (Strelan & Hargreaves, 2005). Thus, the need for research on the interpersonal mechanisms of sexual objectification – how people perceive the sexualized person and how they act on it – seems more urgent focusing on women as the objectified target.

However, investigating the interpersonal processes of the sexual objectification of men can be most useful: it can help to bring more attention to this rather neglected side of objectification. Men are also suffering under the consequences of objectification (Frith & Gleeson, 2004; Heimerdinger-Edwards et al., 2011; Johnson et al., 2007; McCabe & Ricciardelli, 2004), and a lack of research does not mean that there are no noteworthy effects of the objectification of men on people's behaviour. Moreover, understanding how and to what extent the sexual objectification of men elicits different reactions than the sexual objectification of women can give deeper insights into the basic workings of the interpersonal mechanisms of objectification.

This study, therefore, wants to investigate in particular the difference between empathic behaviour towards sexually objectified women and sexually objectified men.[1] We conducted an experiment that enabled us to compare the difference in empathic behaviour toward a personalized and sexualized confederate of the same gender on an intrapersonal level as well as the difference in empathic behaviour toward sexualized confederates of different genders on an interpersonal level. For that, participants were either be confronted with two female confederates, one personalized and one sexualized, or with two male confederates, one personalized and one sexualized. The design of our study

[1] The author would like to declare her appreciation of the notion that there are more genders than those represented in the binary gender categories. Nevertheless, for our research question, we focused on the two genders male and female.

is unique in regard to the creation of a real-life scenario. Through the utilization of real people as confederates, we wanted to provide outcomes with a high external validity. Furthermore, the confederates being either male or female enabled us to compare the interpersonal differences regarding gender in the mechanisms of sexual objectification directly. This is especially beneficial for closing the research gap concerning the objectification of women and men.

Based on the empirical findings mentioned above, we expected that people would show less empathy for the sexualized than for the personalized confederate, regardless of the confederates' gender (Hypothesis 1). Furthermore, we expected that sexual objectification has a greater effect on empathy when the objectified person is female, meaning the difference between personalized and sexualized confederate is greater in the female confederate condition (Hypothesis 2).

Methods

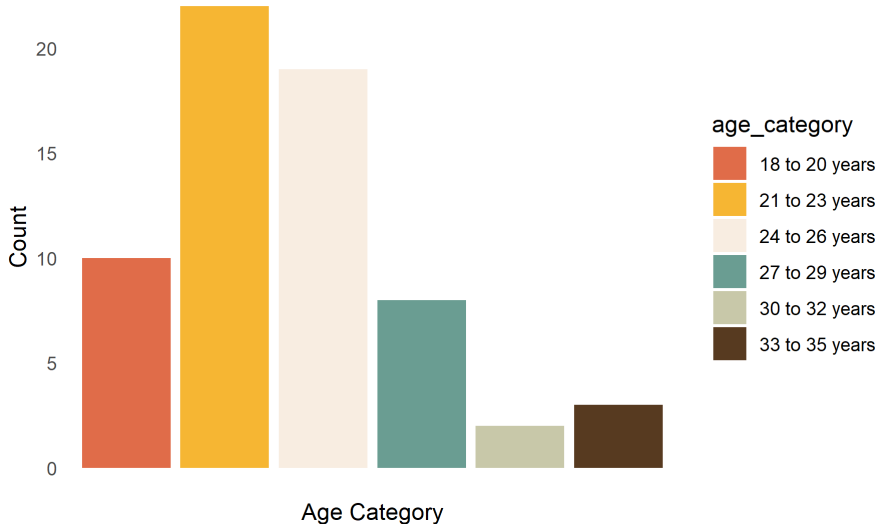
This study's data collection is currently taking place at the Department of Clinical and Health Psychology at the University of Vienna under the supervision of Melanie Michna, MSc.

Participants

In total 64 Participants between the age of 18 and 35 years (27 male, 37 female; mean age of 24.1 years; *SD* = 3.7; for age distribution see, Figure 1) participated in our study. Testing took place from 10th of October 2022 to 21st of September 2023.

Figure 1

Age distribution of our sample



In an a priori power analysis using G*Power (version: 3.1.9.2), the sample size has been calculated to a number of N = 15 for Hypothesis 1 (t-test for dependent means, Cohen's d = .70, α = .05, β = .80, effect size based on Loughnan et al. (2010)) and a number of N = 51 per group for Hypothesis 2 (t-test for independent means, Cohens's d= .50, α = .05, β = .80, effect size due to lack of comparable research based on studies examining other gender effects estimated as a medium strong effect). Although our sample met the requirements for our first hypothesis, due to a shortage of time, we did not meet our aspired sample size of 51 participants per group for our second hypothesis. Data collection will continue to ensure sufficient power for future analyses.

We recruited participants via two main distribution channels: we shared the link to our eligibility questionnaire on social media, mainly on Facebook, and additionally used the Vienna Cognitive Science Hub's online recruitment tool. As an MRI was being used in our experiment, we excluded people with a visual impairment of over 1 dioptre, people that have been exposed to heart surgery, people with a pacemaker, metallic implants, a hearing aid, extensive tattoos and permanent makeup and people with claustrophobia or an extreme sensitivity for loud noises. Furthermore, we excluded people with a neurological or psychological disorder, people identifying as a diverse gender and people with a non-heterosexual sexual orientation. Due to our study using a cover story with confederates being included in the paradigm, we also excluded psychology students as they tend to

suspect that psychological studies need to use deception for covering the study's target interest. The participant's age was limited to 18 to 35 years. They were evenly assigned to one of 16 versions of the experiment that all included the same procedure with differently counterbalanced gender of models and order of questions to prevent order or other confounding effects. Participants were being rewarded with 30 euros for partaking in the study.

Procedure

Participants were recruited under the impression of taking part in a study regarding pain estimation and pain tolerance. The confederates pretending to be participants waited in front of the entrance together with the real participant. One of the confederates was dressed in revealing clothes that accentuate sexualized body parts and one was dressed in loose-fitting clothes that cover arms, legs, and chest (see Figure 2 & 3). In one condition the confederates were male, in the other condition they were female. Over the course of the experiment, we employed three male models and four female models as confederates. That way, participants could get allocated to one of 14 possible confederate combinations.

Figure 2

Example Pictures of male model in condition sexualized/personalized

Note. Left picture shows model in personalized condition, right picture shows model in sexualized condition.

Figure 3

Example Pictures of female model in condition sexualized/personalized

Note. Left picture shows model in personalized condition, right picture shows model in sexualized condition.

To prevent personal preference for the confederate's appearances confounding our outcomes, confederates alternately wore either the sexualized or the personalized outfits. After being greeted by an instructor and led to a room next to the MRI, the participant and confederates were receiving a scripted introduction to the study by the instructor (for the introduction's script, see Appendix). Participants were told that they were randomly assigned to complete the tasks in an MRI next to the introduction room while the two confederates stayed in the introduction room to complete the following tasks there. In the next part, the instructor took photographs of the participant in front of the MRI room stating that they would be needed for the confederates' tasks. The photos taken of the participants weren't used for the proceeding study. As we showed pictures of the confederates in the following tasks, we needed this step to make plausible that we had pictures of the alleged other participants.

After the introduction and the photographs, the confederates and the instructor left the participant to allegedly go back to the instruction room and the participant was led in the MRI- room. There, another instructor adjusted an electrode on the participants' left hand that distributes light to heavy electric shocks. For accounting for different pain

tolerances, we first calibrated participants' pain threshold using a subjective pain scale from 0 to 8. Then participants were put into the MRI. In the first task, based on Hein et al. (2010), they either saw pictures of the confederates getting light or heavy shocks showing the respective mimical reaction or received light or heavy shocks themselves. Then they had to estimate the painfulness of the shock for either the confederates or for themselves and how painful it was to watch the confederates receiving the shock. Through this two measurements, we assessed for two mechanisms of empathy: recognizing the target's emotional state and the emotional state the target elicits in the participant (Coll et al., 2017). In the second task, based on FeldmanHall et al. (2015), participants saw pictures of the confederates getting shocked and had to decide if they share the shock with them, thus making it lighter for them, or if they decided not to share it. In the third part of the study, participants had to fill out a questionnaire on a laptop outside the MRI.

After the study, participants were partly debriefed about the subject of the study.

Design and Measures

This study uses a 2 (sexualized and personalized confederate) x 2 (male or female confederate) design. Participants were randomly assigned to one condition using stratification for gender (male/female participants).

Our independent variables are the degree of sexualization of the confederate (sexualized or personalized) for Hypothesis 1 and the gender (male or female) of the confederates for Hypothesis 2.

We assess the dependent variable empathy with two aspects of empathy. First with an estimation of the other's intensity of pain on a 9-point Likert scale and the empathic experience of unpleasentness watching the confederates getting shocked, measured on a scale ranging from pleasant to unpleasant on a 9-point Likert scale. Second with the amount of costly helping behaviour participants show in the second task, assessed by three possibilities for the participants to choose: to help the confederate by sharing their pain, to not help them and watch them getting the shock and to not help them and watch a video of nature instead of seeing them getting shocked. For calculating a score for the frequency of helping behaviour, we calculated the ratio of helping opportunities where participants chose to help to the overall number of helping opportunities.

For checking if our manipulation, which should result in the objectification of the sexualized confederate, has worked, we will assess two proposed underlying mechanisms of empathy: denial of human mental capacities and perceived dissimilarity. For this purpose, participants will fill out the Mental Agency Score (Gray et al., 2011) with the two subratings agency ("How competent is this person to plan?", "How competent is this person to act morally?" and "How competent is this person to control him-/herself?") and experience ("How able is this person to feel hungry?", "How able is this person to feel desire?", "How able is this person to feel joy?") and indicate how similar they perceive the confederates to themselves on a 6-Point Likert Scale.

Hypothesis 1

For the first hypothesis, stating that the sexualized confederate will elicit less empathy than the personalized confederate, we used a t-test for dependent means and calculated it for the empathic experience of physical pain as well as for helping behaviour. We used the test for dependent means because this hypothesis regards participants' intrapersonal differences in empathy towards the sexualized and personalized confederates.

Hypothesis 2

For the second hypothesis, stating that sexual objectification has a greater effect on empathy when the objectified person is female, we used a t-test for independent means and calculated it for the difference between empathic experience of physical pain as well as helping behaviour between the sexualized and the personalized confederates. We used the test for independent means because the second hypothesis regards the interpersonal difference in empathy towards men and women.

All statistical calculations were conducted using the latest version of RStudio.

Results

Statistical analysis, graphs, and tables were computed using the open-source software R version 2023.03.1 (R Core Team, 2023) and the application RStudio (RStudio, 2020). A significance level of $\alpha = 0.05$ was used for all tests.

Descriptive Analysis

Means and standard deviation of the painfulness ratings and the empathic unpleasantness ratings for the sexualized and personalized confederates overall and sorted by gender are reported in Table 1 and 2. Means and standard deviation of the frequency of helping behaviour for the sexualized and personalized confederates are reported in Table 3.

Table 1

Descriptive statistics for painfulness ratings for personalized and sexualized confederates

Confederate condition	*M*	*M* 95% CI [LL, UL]	*SD*
Personalized			
Overall	4.65	[4.44, 4.87]	2.17
Male	4.72	[4.38, 5.05]	2.23
Female	4.60	[4.32, 4.88]	2.13
Sexualized			
Overall	4.78	[4.57, 4.99]	2.15
Male	4.93	[4.61, 5.24]	2.10
Female	4.67	[4.39, 4.96]	2.18

Note. *M* and *SD* represent mean and standard deviation, respectively. *LL* and *UL* indicate the lower and upper limits of the 95% confidence interval for the mean, respectively. Painfulness ratings were assessed on a 9-point Likert Scale.

Table 2

Descriptive statistics for empathic unpleasentness ratings for personalized and sexualized confederates

Confederate condition	*M*	*M* 95% CI [LL, UL]	*SD*
Personalized			
Overall	3.46	[3.25, 3.67]	2.12
Male	3.88	[3.55, 4.21]	2.21
Female	3.14	[3.02, 3.97]	2.01
Sexualized			
Overall	3.45	[3.25,3.65]	2.01
Male	3.84	[4.61, 5.24]	2.08
Female	3.16	[3.05, 3.57]	1.92

Note. *M* and *SD* represent mean and standard deviation, respectively. *LL* and *UL* indicate the lower and upper limits of the 95% confidence interval for the mean, respectively. Empathic unpleasentness ratings were assessed on a 9-point Likert Scale.

Table 3

Descriptive statistics for frequency of participants' helping behaviour for personalized and sexualized confederates

Confederate condition	*M*	*M* 95% CI [LL, UL]	*SD*
Personalized			
Overall	0.83	[0.77, 0.88]	0.22
Male	0.78	[0.68, 0.89]	0.25
Female	0.85	[0.79, 0.92]	0.19
Sexualized			
Overall	0.79	[0.73, 0.85]	0.25
Male	0.70	[0.57, 0.82]	0.30
Female	0.85	[0.78, 0.94]	0.20

Note. *M* and *SD* represent mean and standard deviation, respectively. *LL* and *UL* indicate the lower and upper limits of the 95% confidence interval for the mean, respectively. Helping behaviour frequency was assessed by the proportion of how often people chose to share a painful shock with the confederates (shock sharing ÷ sharing opportunities).

Confirmatory Analysis

Manipulation Check

To make sure that our manipulation regarding the objectification of the sexualized confederates worked, we compared the similarity and mental attribution scores from the questionnaire that was filled out by participants in the end of the experiment.

On average, participants perceived the personalized confederate as more similar to themselves (M = 3.06 on a 6-Point Likert Scale) than the sexualized confederates (M = 2.62 on a 6-Point Likert Scale). We conducted a Welch t-test for the difference of perceived

similarity between personalized and sexualized confederates that turned out significant ($t(128) = -2.37$, $p < .05$).

On the overall Mental Attribution Score, the sexualized confederates' mean score ($M = 4.65$) was higher than the personalized confederates' mean score ($M = 4.20$). However, looking at the subratings of the Mental Attribution Score, personalized confederates scored higher on agency ratings ($M = 4.32$) than sexualized confederates ($M = 4.05$) while sexualized confederates scored higher on experience ratings ($M = 4.65$) than personalized confederates ($M = 4.20$). Conducting a t-test on the differences between the ratings for sexualized and personalized confederates we found a significant difference for the overall Mental Attribution Score ($t(133) = 2.40$, $p < .05$) and the experience ratings ($t(133) = 2.40$, $p < .05$).

Main Hypotheses

For the first task, our sample according to a conducted Shapiro-Wilk-Test did neither fulfil the assumption of normality for the painfulness ratings ($W = 0.92$, $p < .001$) nor for the empathic unpleasentness ratings ($W = 0.89$, $p < .001$). However, homogeneity of variances according to a Levene Test was fulfilled for the painfulness ratings ($F(2841) = 2.84$, $p = .06$) and for the empathic unpleasentness ratings ($F(1890) = 2.22$, $p = .14$).

For the second task, the helping behaviour task, our sampled did not fulfil the assumption of normality according to a conducted Shapiro-Wilk-Test ($W = 0.50$, $p < .001$) or the assumption of homogeneity of variances according to a conducted Levene-Test ($F(4788) = 9.80$, $p < .001$).

We nevertheless decided to conduct a t-test for both hypotheses as this statistical test has been shown to be robust against violation of normality (Fagerland et al., 2011; Rasch et al., 2007).

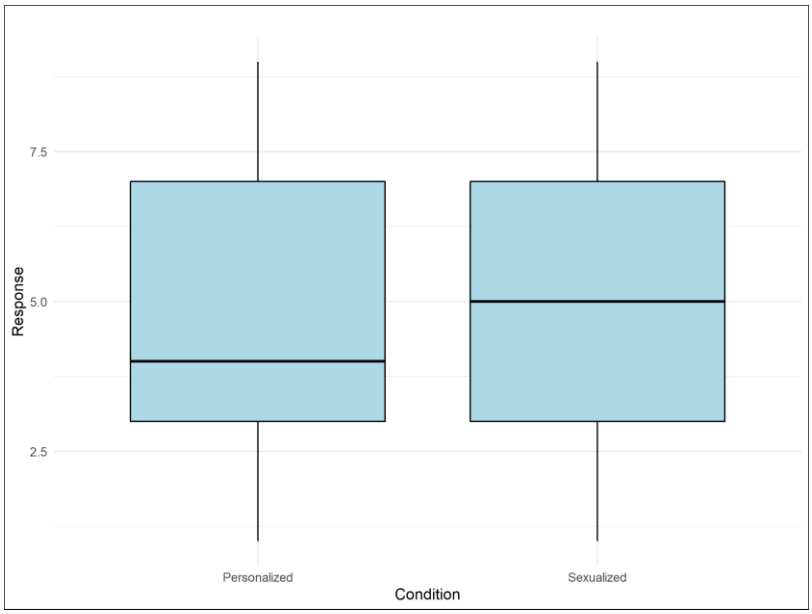
H1. For our first hypothesis stating that the sexualized confederate will elicit less empathy than the personalized confederate, we conducted a t-test over dependent means and calculated it for the empathic experience of physical pain, assessed through the painfulness ratings and the empathic unpleasentness ratings in the first task, as well as for helping behaviour, assessed in the second task.

In the first task, participants' did not significantly estimate the personalized confederates' experience as more painful than the sexualized confederates' experience ($t(1886) = -1.40$, $p = .92$) and there was also no significant difference in empathic

unpleasentness ratings for personalized and sexualized confederates ($t(1872) = 0.20$, $p = .42$). For a graphic representation of the respective group values and their differences see Figure 1 and 2.

Figure 1

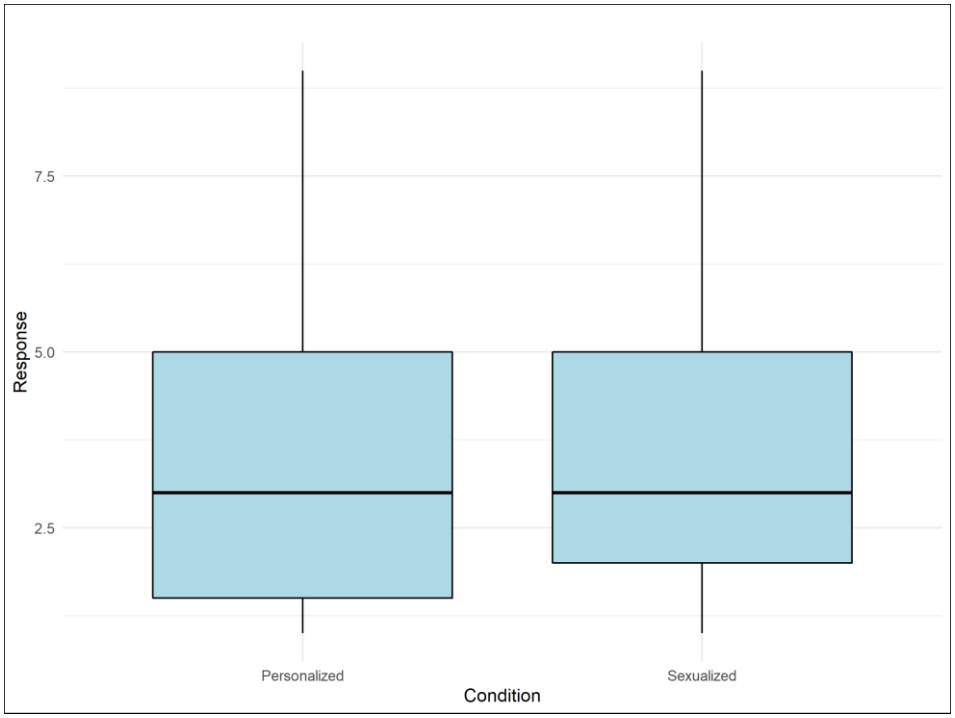
Comparison of painfulness ratings between personalized and sexualized confederates.



Note. Painfulness ratings were assessed on a 9-point Likert Scale.

Figure 2

Comparison of empathic unpleasentness ratings between personalized and sexualized confederates.

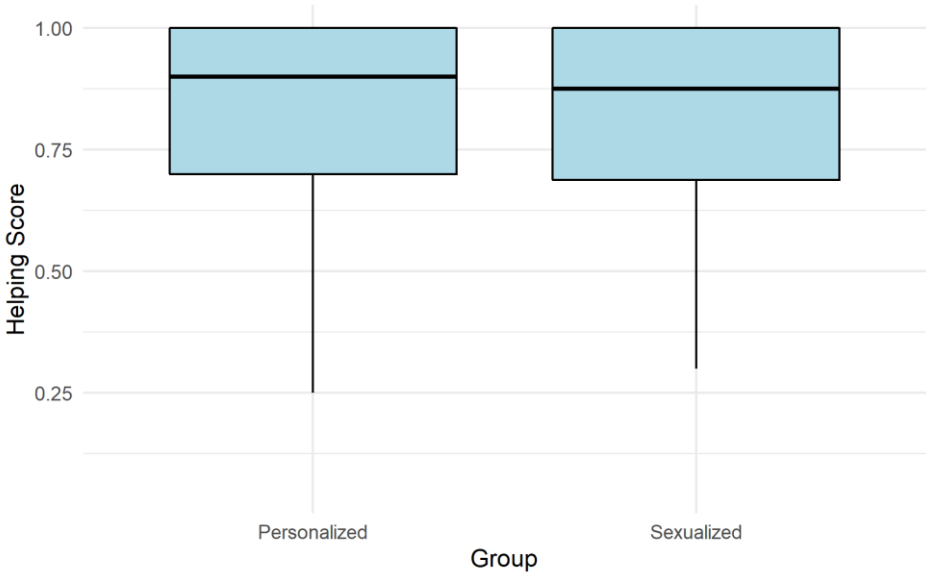


Note. Empathic unpleasentness ratings were assessed on a 9-point Likert Scale.

In the second task, participants did not significantly help the personalized confederates more often than the sexualized confederates ((*t*(59) = -1.83, *p* = .07). For a graphic representation of the respective group values and their differences see Figure 3.

Figure 3

Comparison of helping behaviour frequency.



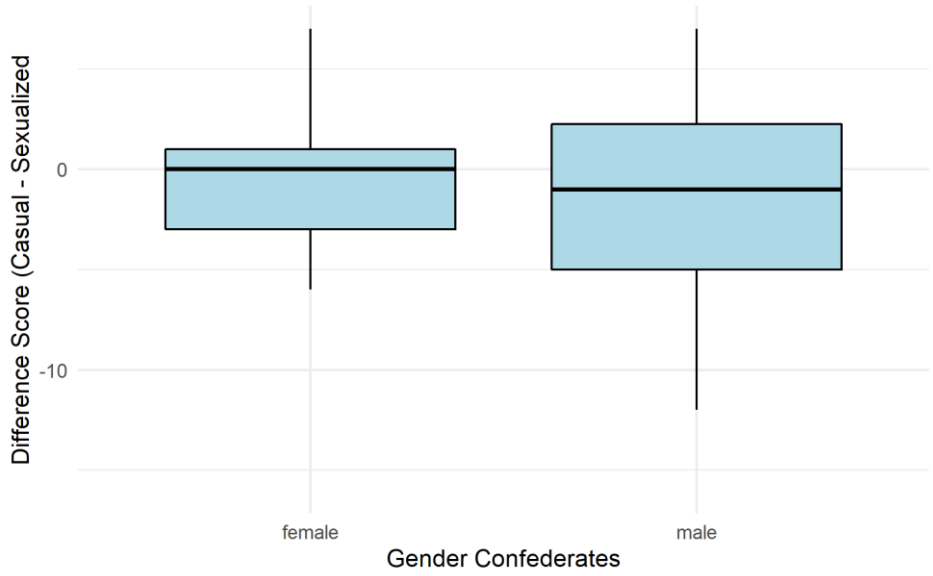
Note. Helping behaviour frequency was assessed by the proportion of how often people chose to share a painful shock with the confederates.

H2. For our second hypothesis stating that sexual objectification has a greater effect on empathy when the objectified person is female, we conducted a t-test for independent means and calculated it for the empathic experience of physical pain, assessed through the painfulness ratings and the empathic unpleasentness ratings in the first task, as well as for helping behaviour, assessed in the second task. We created a difference score for the difference of painfulness and empathic unpleasentness ratings as well as helping behviour between the sexualized and personalized confederate.

In the first task, the difference in empathic experience of pain between personalized and sexualized confederate was not significantly greater when the objectified person was female, neither in the painfulness ratings ($t(39) = 0.43$, $p = .33$) nor in the empathic unpleasentness ratings ($t(45) = -0.58$, $p = .71$). For a graphic representation of the respective group values and their differences see Figure 4 and 5.

Figure 4

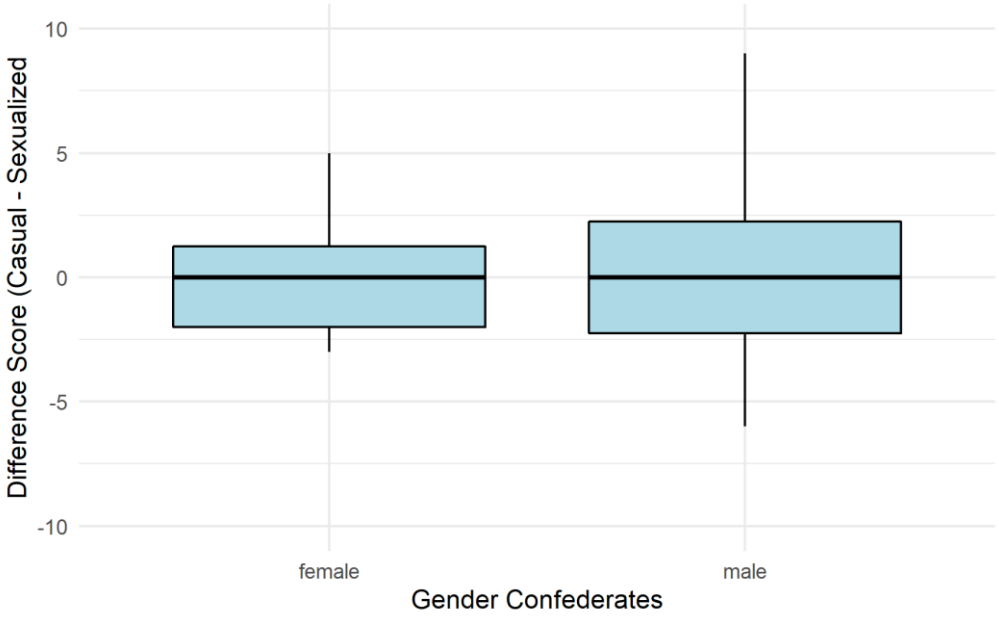
Comparison of difference score in painfulness ratings between personalized and sexualized confederates, sorted by gender of confederates.



Note. Difference Score was assessed by aggregating the painfulness ratings per subject and subtracting the painfulness ratings for the sexualized confederates from the personalized confederates.

Figure 5

Comparison of difference score in empathic unpleasentness ratings between personalized and sexualized confederates, sorted by gender of confederates.

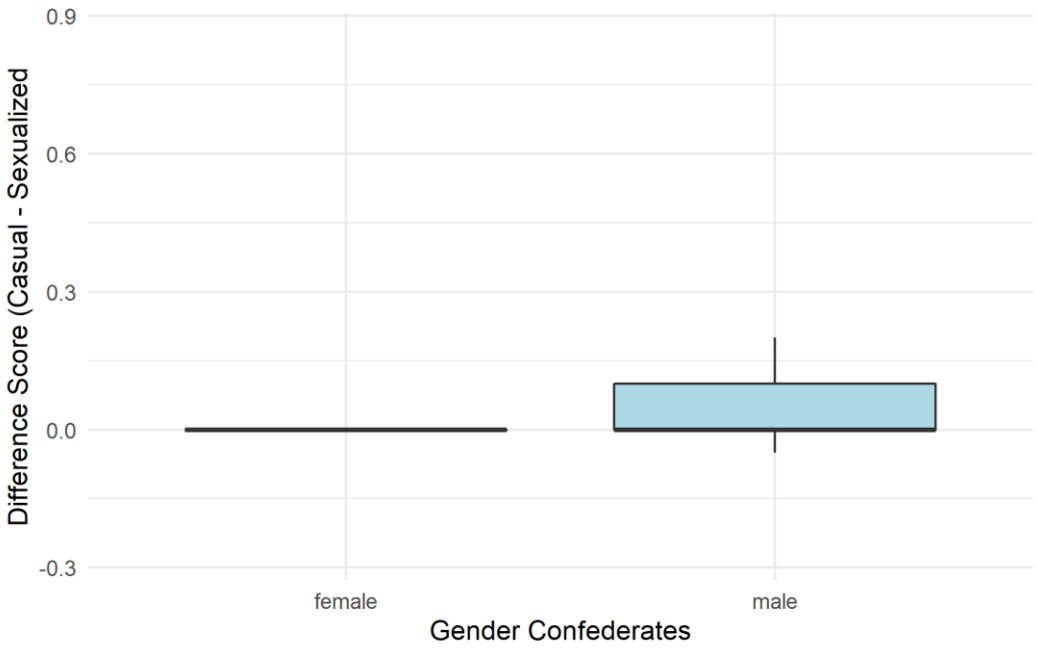


Note. Difference Score was assessed by aggregating the empathic unpleasentness ratings per subject and subtracting the painfulness ratings for the sexualized confederates from the personalized confederates.

In the second task, the difference in helping behaviour between personalized and sexualized confederate was also not significantly greater when the objectified person was female ($t(45) = -0.58$, $p = .71$). For a graphic representation of the respective group values and their differences see Figure 6.

Figure 6

Comparison of difference score in helping behaviour between personalized and sexualized confederates, sorted by gender of confederates.



Note. Difference Score was assessed by subtracting the helping frequency (shock sharing ÷ sharing opportunities) for the sexualized confederates from the personalized confederates.

Exploratory Analysis

For an exploratory analysis, we wanted to check if participants' gender made a difference for empathic experience of pain and helping behaviour towards the confederates. For analysing this for the first task, we again aggregated the painfulness ratings and empathic unpleasantness ratings per subject and subtracted the ratings for the personalized confederates from the ratings for the sexualized confederates to calculate a difference score. Comparing this difference score between genders with a t-test for independent means, we did neither find a significant difference in painfulness ratings between female and male participants ($t(56) = -1.04$, $p = .30$) nor in the empathic unpleasantness ratings ($t(56) = -1.58$, $p = .12$). For the second task, we again built a difference score by subtracting the helping frequency for the personalized confederates from the helping frequency for the sexualized confederates. Conducting a t-test for independent means, we found no significant difference in helping behaviour towards the confederates between female and male participants (t (56) = -1.30, $p = .20$).

As we let participants indicate as how sexy and how attractive they perceive the confederates, we wanted to see in another exploratory analysis if there was a confounding influence of perceived attractiveness and sexiness on empathic experience of pain and helping behaviour. For that purpose, we conducted linear regressions including the influence of attractiveness and sexiness for all tasks. Neither perceived attractiveness nor sexiness had a significant influence on painfulness ratings for personalized confederates and sexualized confederates or empathic unpleasantness ratings. Participants' helping frequency for personalized and sexualized confederates was also not significantly influenced by perceived attractiveness and sexiness.

Discussion

In this study we wanted to find out how and to which degree sexual objectification influences empathic experience and prosocial behaviour. In addition, we wanted to explore how the objectified person's gender affects the connection between sexual objectification and empathy. To investigate that, we conducted a study in an experimental setting with participants aged 18 to 35. To measure empathy, we assessed painfulness estimation, experience of empathic unpleasantness and helping behaviour in a paradigm using individually calibrated electrical shocks. For comparison of the degrees of sexualization, we employed two confederates that were either casually clothed in loose-fitting clothes or clothed in a manner that accentuated sexualized body parts.

Our manipulation – a higher degree of sexual objectification of the sexualized confederate than of the personalized confederate - worked for the aspect of perceived dissimilarity but not for the aspect of attribution of less mental capacity for the sexualized confederates. Hence, the participants in our sample objectified the sexualized confederate significantly through just one of two analyzed aspects of the construct.

We rejected our first main hypothesis stating that the sexualized confederate will elicit less empathy than the personalized confederate. Participants neither estimated the pain of the sexualized confederates as lower, nor did it feel less unpleasant for them to watch them getting shocked, nor did they help the sexualized confederates less. We did not only find no difference regarding inferential statistics, but also our sample's descriptives do not show a tendency in a certain direction and show nearly no difference between personalized and sexualized confederates.

We also had to reject our second main hypothesis stating that sexual objectification has a greater effect on empathy when the objectified person is female. We did not find a significantly greater difference in the estimation of painfulness, empathic unpleasentness or helping behaviour between personalized and sexualized confederates for the female confederates in comparison to the male confederates. Our sample's descriptives did again not show any major difference or noteworthy tendency in a certain direction of influence.

There are several possible reasons why we did not find evidence for our hypothesis regarding the influence of sexual objectification and empathy:

Foremost, the sample showed no signs of significant objectification in terms of mental attribution. Even more, participants assigned the sexualized confederates significantly higher mantal capacities than the personalized confederates. This signifies that our manipulation has not worked the way we intended and we may even accidentally manipulated a parameter in the personalized confederates' appearance and demeanour The denial of human capacities, such as agency and experience, measured by the Mental Attribution Score, is an integral part of the definition of sexual objectification (Loughnan et al., 2010; Loughnan & Pacilli, 2014; Zurbriggen et al., 2018). Therefore, although participants perceived the personalized confederates as more similar to themselves, we failed to meet an inherent requirement of our study's construct measurement.

Furthermore, in contrast to other studies that found an influence between empathy and sexual objectification mentioned in the introduction, the objectified person being a real confederate could have an effect-altering impact. There could be unknown mediating effects of a real-life situation for the influence of sexual objectification in empathy, such as the time spent with the person, similarities to familiar persons or any interactions with the person. Meeting and spending time with the confederates during the introduction before making decisions concerning their wellbeing could have also supposedly touched off a mere exposure effect. The mere exposure effect describes the phenomenon that the more often we see a stimulus, the more we tend to like that stimulus (Harrison, 1977; Mrkva & Van Boven, 2020; Zajonc, 1968). An increased liking through mere exposure before the decision-making task could have influenced participants' results. Another confounding factor resulting from the participants' meeting real-life confederates should also be considered: although the instructor made sure to inform the participants that a future encounter with the confederates won't be happening after the instructions, participants possibly were worried about the confederates' reaction to them not sharing the shock with

them. As most of our participants where students between 20 and 25 years and our confederates where of a similar age, our sample could have estimated the chances of meeting them again after the experiment in other settings as relatively high.

As our sample exhibited a quite high mean helping frequency of over 75% through all conditions, it is also possible that participants acted socially desirable. They were led into an MRI-room and an instructor outside the room gave them instructions through an intercom. As participants most likely noticed that the instructor saw their decisions simultaneously, they perchance acted following social rules and not their own unprompted decisions. Especially in the second task, not helping the confederates through sharing the shock could be considered a violation of social norms that has been proved to be a relevant factor in inducing social desirability bias (Gittelman et al., 2015; Krumpal, 2013; Tourangeau & Yan, 2007). We could possibly have seen a clearer difference in measures across conditions if participants would not have felt observed.

Limitations

One aspect that may definitely be considered a limitation of the present study was the size of our sample. Due to a limited amount of time, we underscored the aimed sample size for our second hypothesis by 38 participants and therefore only had 63 % of the required participants to find an effect based on our power analysis. A reduced statistical power can lead to a higher susceptibility for a type II error, which could have led to a false negative finding in our analysis.

We also were not able to keep the confederates' appearance consistent through all conditions. Due to organizational reasons, we employed three different male confederates and four different female confederates that embodied the two other participants. All models wore the same clothes for both conditions, still we can't rule out the possibility that different models made different impressions in the same clothes. Although we tried to counterbalance the conditions, the limited amount of time and participants led to an imbalance in encounters. Similarly, over the course of the experiment we had 11 different instructors employed for the experiment, so we could not keep the instructor's appearance and demeanour completely constant.

Additionally, we can't be sure if the concealment of our study's purpose worked to a sufficient extent. In the end questionnaire, we asked participants to tell us what suspicion they had about the study's rational ("What do you think was the purpose of this study?").

30 percent mentioned “empathy” and 21 percent mentioned “appearance” when speculating about the study’s rational. The clear contrast of clothing between the two confederates and the tasks measuring empathy could have been too obvious for some of the participants.

As we also collected brain data for other analyses in this study, we repeatedly asked participants to make the same decisions. Moreover, setting up the MRI and the eyetracker before the participants started to make decisions also took a considerable amount of time. It is possible that participants became fatigued or disengaged during the experiment, which would have influenced the quality of our data.

Implications for future research

Our results regarding the influence of sexual objectification on empathy and the role gender plays in this connection still need further confirmation through additional research with sufficient sample sizes to make sure that our results not being in line with previous research is not due to the discussed limitations of our study. Should there be additional evidence over several experiments that in a real-life scenario sexual objectification has a negligible effect on empathy, future studies should investigate the reasons leading to this circumstance.

Testing our study’s design without the participants meeting their opposites in real life but only seeing pictures of them and being told that there are real people in the next room could rule out the possibility of the aforementioned conceivable confounds such as a mere exposure effect.

Future research should also focus on differences of the target’s gender in sexual objectification. The sexual objectification of men up to now is – as mentioned in the introduction – a relatively uncharted topic. If the mediating and moderating influences of gender on sexual objectification are investigated more thoroughly, experiments like the one we conducted in this study could be designed with a more precise picture of these influences.

Conclusion

In this study, we did not find an influence of sexual objectification on empathy and prosocial behaviour. We also rejected our hypothesis that the effect of sexual objectification on empathy is greater when the objectified person is female.

In summary, the results of our study not meeting our expectations and being different from previous research highlights the importance of further investigation of the influence of sexual objectification on real-life settings and the connection between the objectified target's gender and the relationship between sexual objectification and empathy. This should be done with sample sizes meeting the statistical requirements to gain enough statistical power and over several different settings and conditions.

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Appendix

Abstract

Research on the emergence of sexual violence and violence against women found a significant influence of sexual objectification on empathy and prosocial behaviour. Building on studies stating that sexual objectification reduces empathy and prosocial behaviour, this study assessed empathy in a design with a cover story in two gender conditions, the sexual objectified person either being female or male. Participants were between 18 and 35 years old. We hypothesized participants show less empathy and prosocial behaviour towards a sexually objectified person than a personalized person. We additionally hypothesized that this effect is greater when the objectified person is female. A paradigma using electric shocks to assess empathic reactions as well as helping behaviour was used for the study. We rejected our hypotheses as we did neither find a significant difference of empathy and prosocial behaviour towards the sexually objectified and the personalized person nor did we find a significant difference regarding the effect of sexual objectification between the gender conditions. Further research, especially in scenarios resembling real life situations, will be needed to draw firm conclusions on the role of sexual objectification on empathy and prosocial behaviour and the influence of the target's gender.

Keywords: sexual objectification, empathy, prosocial behaviour, cover story, gender differences

Abstract
(deutsche Übersetzung)

Forschung zu sexueller Gewalt und Gewalt gegen Frauen hat einen signifikanten Einfluss sexueller Objektifizierung auf Empathie und prosoziales Verhalten festgestellt. Aufbauend auf Studien, die besagen, dass sexuelle Objektivierung zu einer Reduktion von Empathie und prosozialem Verhalten führt, erhoben wir in dieser Studie Empathie mittels einer Cover Story in zwei verschiedenen Konditionen das Geschlecht betreffend, wobei die sexuell objektifizierte Person entweder weiblich oder männlich war. Die Teilnehmer waren zwischen 18 und 35 Jahren alt. Unsere Hypothese besagte, dass die Teilnehmer gegenüber einer sexuell objektifizierten Person weniger Empathie und prosoziales Verhalten zeigen als gegenüber einer personalisierten Person. Darüber hinaus stellten wir die Hypothese auf, dass dieser Effekt größer ist, wenn die objektifizierte Person weiblich ist. Ein Paradigma, das elektrische Schocks zur Bewertung empathischer Reaktionen sowie prosozialen Handelns verwendete, wurde für die Studie eingesetzt. Wir lehnten unsere Hypothesen ab, da wir weder einen signifikanten Unterschied in der Empathie und im prosozialen Verhalten gegenüber der sexuell objektifizierten und der personalisierten Person, noch einen signifikanten Unterschied bezüglich des Effekts der sexuellen Objektifizierung zwischen Männern und Frauen fanden. Weitere Forschung, insbesondere mit Paradigmen, die realen Lebenssituationen ähneln, wird benötigt, um Schlussfolgerungen über die Rolle der sexuellen Objektivierung auf Empathie und prosoziales Verhalten sowie den Einfluss des Geschlechts zu ziehen.

Keywords: Sexuelle Objektifizierung, Empathie, prosoziales Verhalten, Cover Story, Geschlechtsunterschied

Introduction Script

“Willkommen zur Studie `neuronale Korrelate der Schmerzwahrnehmung`. Wir möchten bei der Studie die Gehirnaktivität bei eigener Schmerzwahrnehmung und Schmerzwahrnehmung anderer untersuchen. Dafür haben wir 3 Personen rekrutiert, eine davon ist im MRT scanner- das bist du- und ihr werdet an der Studie an diesen beiden PCs teilnehmen.

Bitte lest sorgfältig die Einverständniserklärung durch und unterschreibt wenn ihr fertig seid.

Ich würde euch jetzt bitten euer Handy auszuschalten.

Die Studie besteht aus 4 Teilen- 3 davon sind für dich im Scanner, den letzten Teil machst du auch am PC. Es gibt immer noch einmal Instruktionen vor jeder Aufgabe. Wir erklären alles ganz genau mündlich.

Da es sich um eine Schmerzstudie handelt bekommt ihr eine Elektrode an eurem Handrücken die einen kleinen Schmerzreiz abgibt. Wir kalibrieren vor dem Experiment für jede/n von euch eure individuelle Schmerzschwelle. Wir beginnen dazu mit ganz leichten Stromschlägen, die kaum spürbar sein werden für euch und gehen dann auf einer Skala von 0 bis 8 ganz langsam hoch auf eurer individuellen Schmerzgrenze. Ihr werdet im Experiment niemals einen höheren Schmerzreiz bekommen als ihr bei dieser Kalibrierung am Anfang angebt.

Die ersten beiden Teile sind Aufgaben, die ihr alle gemeinsam macht.

Im ersten Teil bekommt ihr alle 3 abwechselnd Stromschläge (in zufälliger Reihenfolge) und -auch zufällig- immer eine Person schätzt ein, wie schmerzhaft der Stromschlag entweder für sich selbst oder für die andere Person war.

In der zweiten Aufgabe bekommt ihr - auch wieder zufällig- die Stromschläge und ihr müsst dazu Entscheidungen treffen

In der dritten Aufgabe- die macht dann jede/r für sich- seht ihr Videos von Gesichtern, die sich in andere Gesichter umwandeln und ihr müsst einen Knopf drücken sobald ihr mehr vom anderen Gesicht seht. Der letzte Teil sind Fragebögen die ihr ausfüllen müsst. Das machst du dann auch außerhalb des Scanners, nachdem du noch einen kurzen Scan von

deinem Gehirn gemacht hast. Nach dem Ausfüllen der Fragebögen gebt ihr dann noch eure Kontodaten an und dann könnt ihr nach Hause gehen. Ihr werdet euch nicht mehr sehen nach der Studie da du etwas länger brauchen wirst im Scanner (wir machen dann noch das Bild von deinem Gehirn)

Generell können die ganzen Vorbereitungen im Scanner immer etwas länger dauern, also müsst ihr beide manchmal vielleicht etwas länger warten bei den Aufgaben, die ihr gemeinsam macht.

Habt ihr Fragen?

Wie ihr schon in der Einverständniserklärung gelesen habt machen wir vorher noch ein paar Fotos von euch, damit ihr bei den Aufgaben immer wisst wer an der Reihe ist.

Die Fotos werden gleich nach der Studie wieder gelöscht- die seht nur ihr jetzt, sonst keiner.”