



Universidade do Minho
Escola de Psicologia

A study about Attitudes toward transgenders: a transparent hate
or a colourful love?

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Professora Doutora Joana Arantes

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Despacho RT - 31 /2019 - Anexo 3

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Acknowledgments

*“First, think. Second, dream. Third, believe. And finally, dare”,
Walt Disney*

Foram muitos os dias em que um post-it com esta frase se colocou diante dos meus olhos como uma onda que me movimentava entre as palavras e as ações. “Primeiro, pensa. Pensa num tema que suscite curiosidade e motivação. Segundo, Sonha. Sonha com as mudanças que podias fazer no mundo. Terceiro acredita. Acredita que tudo é possível, até mesmo o impossível. E, por último, desafia-te. Desafia o teu conhecimento e o teu conceito do mundo.”

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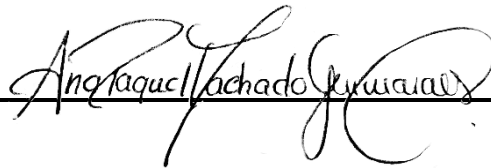
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Braga, 19 de Janeiro de 2020



Ana Raquel Machado Guimarães

Um estudo sobre atitudes perante transgêneros: um ódio transparente ou um amor colorido?

Resumo

A transfobia é sustentada por atitudes negativas, preconceituosas, discriminatórias e de assédio em detrimento de homens e mulheres transgêneros, enraizada nas aprendizagens sociais, políticas, educacionais e religiosas. O presente estudo tem como objetivo estudar a relação entre a empatia, a auto-estima, a religiosidade e a idade nas atitudes negativas perante homens e mulheres transgêneros. Também pretendemos determinar o poder explicativo coletivo e único dessas variáveis na predição das atitudes em relação aos transgêneros. A amostra final compreendeu 538 participantes (431 mulheres e 106 homens) que responderam a um questionário sociodemográfico, à Escala das Atitudes em Relação aos Homens e Mulheres Transgêneros (EARHMT), ao Índice de Reatividade Interpessoal (IRI) e à Escala de Auto-Estima de Rosenberg (EAER), para avaliar as variáveis do estudo. Os resultados mostraram que pessoas mais religiosas, com mais idade, e com menos empatia tendem a ter atitudes negativas em relação a homens e mulheres transgêneros. Além disso, mostraram que empatia e a religiosidade são preditores das atitudes em relação a transgêneros. Os resultados salientam a relevância da educação inclusiva para a diminuição dos crimes de ódio, e têm várias implicações, inclusivamente para contextos clínicos, forenses, desportivos, organizacionais e de investigação.

Palavras-chave: Autoestima, Empatia, Idade, Religiosidade e Transfobia

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Abstract

Transphobia is supported by negative, prejudiced, discriminatory and harassing attitudes toward transgender men and women, rooted in social, political, educational, and religious learning. The present study aims to perceive the relationship between empathy, self-esteem, religiosity and age on negative attitudes towards transgender men and women. We also aim to determine the collective and unique explanatory power of these variables in predicting attitudes towards transgender. The final sample comprised 538 participants (431 women and 106 men) who completed a sociodemographic questionnaire, the Attitudes Toward Transgender Men and Women (ATTMW) Scales, the Interpersonal Reactivity (IR) Index, and the Rosenberg self-esteem scale (RSES). Results showed that individuals more religious, less empathic and older tended to have more negative attitudes towards transgender. In addition, our results showed that empathy and religiosity were predictors of attitudes towards transgender men and women. Results have several implications, including for clinical settings. Results highlight the relevance of an inclusive education for the decrease of hate crimes, and have several implications, including in clinical, forensic, sports, organizational and research contexts.

Keywords: Age, Empathy, Religiousness, Self-Esteem and Transphobia

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Literature Review

Human beings construct their identity according to time, context and culture (Haslam, 2020; Joel & Vikhanski, 2020), and thus their attitudes and behaviors reflect what is considered typical to males or females in a given moment (Dewinter et al., 2017; Rosario & Schrimshaw, 2014; Stryker, 2017). Consequently, gender is a psychosocial construct with no physical location on the body, and reflects itself on behavioral, psychological and social characteristics (Hakeem, 2018; Macedo, 2018; World Health Organization, 2017). It can be divided into two concepts: gender identity and gender role (Hakeem, 2018). Gender Identity is how individuals identify themselves according to gender, independently of the way others perceive them (Hakeem, 2018; Khalil, 2018; Turban & Ehrensaft, 2017), self-identifying in the female-male spectrum, or as genderqueer (APA, 2015; Macedo, 2018; Pecora et al., 2020). Gender role assumes the importance of society on the delegation of certain attributes, activities, clothes and toys (Hakeem, 2018; Hardy, 1995; O'Neil, 1981), as well as the behaviors and attitudes considered acceptable and appropriate for individuals based on their sex as male or female (APA, 2015; George & Stokes, 2018; Khalil, 2018). From another angle, there is the concept of sex, determined by the human genotype and the physical manifests in the body, in which XX sex chromosomes display female anatomy, and XY sex chromosomes display male anatomy (Davis, 2018; Hakeem, 2018). This difference in genotype is reflected in the phenotype, in which the gonads and secreted hormones are different in both sexes (Tas et al., 2019) and it's externally visible (Sullman et al., 2017; Turban & Ehrensaft, 2017). There a third sex condition, named intersex, in which a person is born with a reproductive or sexual anatomy that does not fit the typical definitions of female or male (Griffiths, 2018; Hakeem, 2018).

Individuals may feel an incongruence between their anatomic sex and gender (Áran, 2006; APA, 2015), and in these cases their expression of gender do not follow cultural norms, stereotypes and social expectations (Becker, 2017; Forbe, 2011; Zucker et al., 2016). Gender dysphoria can be defined as an experience of discomfort with their own biological sex and a growing will to change it (Fisk, 1974; Stryker, 2017). According to the Diagnostic and Statistical Manual of Mental Disorders (5th ed.), is felt like a malady, resulting on a wish to change their gender identity to the opposite gender or to alternatives genders. In addition, any psychological disturbances as such as hallucination or delirium, use of medical substance, or

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biological reasons, like having both sex (hermaphrodites) and hormone problems, can contribute to the feeling of not being in the right body (Castel, 2001).

There are multiple terms normally used to label the individuals who express this condition, such as transgender, transsexualism, transsexual and trans or the condition itself, like gender variant, gender nonconforming, gender queer, genderfluid, bigender, gender neutral, agender, non-binary, and third gender (APA, 2015; Forbes, 2011; Zucker et al., 2016).

Throughout the last decades, scientific knowledge about transgender individuals has evolved, and the society has changed to incorporate those developments (Levitt, 2019; Macedo, 2018). In 1923, Magnus Hirschfeld, a German doctor, was the first to distinguish homosexuals from transgenders (Khan & Franklin, 2020; Mildemberger, 2019) and, in 1931, in Berlin, Dora Richter, became the first known transgender woman to undergo a vaginoplasty procedure (Beemyn, 2011; Macedo, 2018). In the 1960s and 1970s, society became more open to gay and lesbian community, empathizing with the cause and their rights, nevertheless, transgender were still discriminated by the whole society, including gay and lesbian (Khan & Franklin, 2020; Macedo, 2018). Transsexualism appeared for the first time in DSM relating to adolescents and adults in 1980, and fourteen years later, transsexualism and gender identity in childhood was converted in gender identity disorder (Drescher, 2010; Zucker et al., 2016). Nowadays, in DSM-V, gender identity disorder was converted into gender dysphoria (APA, 2013).

Transgenders are still often discriminated (Haider-Markel et al. 2017; Khan & Franklin, 2020; Macedo, 2018; Miller et al. 2017), possibly due to the low familiarity with the concept of transgender and the high importance typically attributed to traditional gender norms and moral beliefs (Adams et al., 2016; Billard, 2018; Bockting et al., 2020; Case & Stewart, 2013; Norton & Herek, 2013). Antagonistic attitudes and beliefs toward transgender men and women are named transphobia, defined as an antipathy toward transgender individuals (Winter et al., 2009), or strong emotional aversion (Bandini & Maggi, 2014; Bettcher, 2014; Hill & Willoughby, 2005), that can result in violence, discrimination and sexual assault (Bandini & Maggi, 2014; Hill & Willoughby, 2005; Lund et al., 2021; Winter et al., 2009). Impacting their life quality, job opportunities, mental and physical wellbeing (Harcourt, 2006). Associated with low family and friends support, these attitudes lead to high levels of stress,

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anxiety and depression in transgender men and women, as well as low self-esteem (Macedo, 2018; Tylor et al., 2020; Zeigler-Hill & Shackelford, 2020).

Studies have shown that cisgender men have more negative attitudes against transgender individuals than cisgender women (Carrol et al., 2012; Gerhardstein & Anderson's, 2010). In addition, researchers have shown that people tend to have more negative feelings over MtF (male to female), than FtM (female to male) transgenders (Bettcher's, 2007; Nagoshi et al., 2008). Research has also shown that negative attitudes and feelings towards transgender individuals are related to social authoritarianism, religious fundamentalism, hostile sexism, rape myth acceptance, sexual permissiveness and aggression proneness (Campbell et al., 2019; Case & Stewart, 2013; Daley et al., 2007; Perez-Arche & Miller, 2021; Nagoshi et al., 2008; Warriner et al., 2013). According to Bushman and colleagues (2009) and Baumeister and colleagues (1996), high self-esteem promotes arrogance and negative social relations, and can contribute to aggressive behaviors towards the others, respectively. Zeigler-Hill and Shackelford (2020) and Silva and colleagues (2017) showed that low self-esteem promotes general discriminatory acts, crime, delinquency, aggression, pessimism and criticism, resulting, according to Jordon and colleagues (2005), in possible prejudice. Likewise, people with more negative attitudes toward both transgender men and women reveal to be social, morally dogmatic and socially dominant conformists (Clark & Hugto, 2019; Willoughby, 2010).

The literature also shows a link between transphobia and empathy, demonstrating that people with a higher empathy tend to have less prejudice (Hund & Thomas, 2015; Miklikowska, 2018; Walters & Rehman, 2013) and more positive attitudes and beliefs toward both transgender men and women (Kelley, 2020). Hence, empathy is a good driver for social change (DeWall & Baumeister, 2006), diffusing respect for others (Baker-Eck & Walsh, 2020), imagining their thoughts (Bazalgette, 2017), understanding and allowing the experience of emotional states of others (Foell et al., 2018), and being the key to positive relationships with others (Bull & Baker, 2020). In addition, research has shown that empathy is stronger towards groups with which individuals can identify themselves (Bazalgette, 2017; Bloom, 2016).

Current study

Negative attitudes and beliefs towards transgenders often lead to discrimination, violence and harassment against them (Hill & Willoughby, 2005; Winter et al., 2009),

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impacting their life quality, job opportunities, mental and physical wellbeing (Harcourt, 2006). Associated with low family and friends support, these attitudes lead to high levels of stress, self-hatred, anxiety and depression in transgender men and women, as well as low self-esteem (Bockting et al., 2020; Macedo, 2018; Taylor et al., 2020; Zeigler-Hill & Shackelford, 2020).

It is then crucial to further investigate the variables that are associated with attitudes towards transgenders, and their predictive value. Therefore, our study aims to investigate if there is an association between attitudes toward both transgender men and women, and empathy, self-esteem, religiousness, and age. We also aim to determine the collective and unique explanatory power of these variables in predicting attitudes toward both transgender men and women. Finally, because the ATTMW Scale had not been previously used with a Portuguese-speaking population, we also aim to translate and validate this scale into European Portuguese, allowing it to be used in future research and practical settings, including clinical assessment. We have four hypotheses.

Hypothesis 1. Individuals with higher levels of empathy will have less negative attitudes toward both transgender men and women.

Hypothesis 2. Individuals with higher levels of self-esteem will have less negative attitudes toward both transgender men and women.

Hypothesis 3. Individuals with higher levels of religiousness will have more negative attitudes toward both transgender men and women.

Hypothesis 4. Older individuals will have more negative attitudes toward both transgender men and women.

Method

Participants

Our initial sample included 632 participants. After excluding participants that responded to less than 50% of the questions ($n = 21$), participants under 18 years old ($n = 2$), and participants whose nationality was not Portuguese ($n = 71$), our final sample consisted of 538 participants. Participants age ranged from 18 to 66 years old ($M = 27.27$; $SD = 10.38$). Regarding sex, 431 (80.11%) were female and 106 (19.70%) were male. In terms of gender identification, 414 (76.95%) were females, 121 (22.49%) were males, 2 (.37%) were non-

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binary, 1 (.19%) was demiboy, and 1 (.19%) was transgender. Concerning sexual orientation, 464 (86.25%) were heterosexual, 44 (8.18%) bisexual, 21 (3.90%) homosexuals, 6 (.56%) pansexual, and 1 (.19%) asexual.

Most participants ($n = 331$; 61.52%) said they were currently involved in an intimate relationship, whereas 208 participants (38.66%) said they were not. Regarding marital status, 426 (79.18%) were single, 67 (12.45%) were married, 22 (4.09%) were in a de facto union, 21 (3.90%) were divorced and 3 (.56%) were widowed. The majority of the participants ($n = 444$; 82.53%) had children, whereas 95 (17.66%) were not parents. As for the socio-economic level (SEL), 331 (61.52%) were from a medium SEL, 133 (24.72%) were from a medium-low SEL, 58 (10.78%) were from a medium-high SEL, 16 (2.97%) were from a low SEL, and 1 (.19%) was from a high SEL. Most of the participants ($n = 322$; 59.85%) lived in a city, 121 (22.49%) lived in a villa, 93 (17.29%) live in a village, and 3 (.56%) lived in another context. Participants assessed their level of religiosity using a 7-point Likert scale (1 - "not religious"; 7 - "extremely religious"), resulting on a average of 2.96 ($SD = 1.61$). Most of the participants 394 (73.23) identified as Catholic, 68 (12.64%) Atheist, 13 (2.42%) Agnostic, 7 (1.3%) Buddhist, 2 Evangelic, 4 Spiritism, 1 (.19%) Jehovah's Witnesses, 1 (.19%) Protestant, 1 (.19%) Pagan, 1 (.19%) Polytheist and 1 (.19%) Prognostic. In terms of academic qualifications, 184 (34.20%) had a bachelor degree, 180 had a high school education (33.46%), 212 had a master's degree (39.41%), 35 had a PhD (6.5%), 10 (1.86%) had a middle high school education (grades 7-9), and 3 (.56%) had an elementary high school education (grades 1-6).

The majority of the participants did not have close friends ($n = 442$; 82.16%) or family members ($n = 471$; 87.55%) from the LGBTI group, whereas 97 (17.47; %) referred they did have close friends, and 66 (12.27%) they did have family members from that group. Participants did not receive monetary compensation, and were recruited through personal and institutional e-mails, online social networks (e.g., Facebook), and the University of Minho evolutionary psychology research group webpage.

Measures

Socio-demographic questionnaire.

Participants answered several demographic questions, including sex, gender, age, nationality, place where they lived (village, villa, city), sexual orientation, marital status,

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socioeconomic level (low, medium-low, medium, medium-high and high), educational qualifications, religion, religiousness (on a 7-point Likert scale), if they were involved in an intimate relationship, if they had children, and if they have close LGBTQIA++ friends or family.

Attitudes Toward Transgender Men and Women (ATTMW) Scales. (Billard, 2018; Portuguese version translated and validated by Guimarães, Dionísio & Arantes, sub¹)

The ATTMW is a scale that measures the attitudes toward transgender woman and men. It is constituted by two subscales, one related to attitudes toward transgender men (ATTM), and one focused on attitudes toward transgender woman (ATTW). Each subscale has 12 items, and uses a 7-point Likert scale, from 1 (*Totally Disagree*) to 7 (*Totally Agree*). Sample items include “*Transgender men will never really be men*” and “*Transgender women are defying nature*”. Average scores are calculated for each subscale, with higher values indicating attitudes more negative towards transgender men and women. In the original study (Billard, 2018), CFA confirmed the single-factor structures of both subscales. In addition, analyses confirmed the scale's reliability ($\alpha = 0.94 - 0.98$, $\omega_h = 0.84 - 0.87$).

Interpersonal Reactivity (IR) Index (Davis, 1980, 1983; Portuguese version translated and validated by Limpo, Alves, Castro, 2010)

The IR Index measures empathy on a multidimensional view of 24 affirmations divided for four sub-scales: perspective taking, empathic concern, personal distress and fantasy. Participants have to evaluate each item using a 5-point Likert from 0 (*Strongly Disagree*) to 4 (*Strongly Agree*). Sample items include “*I often have tender, concerned feelings for people less fortunate than me*” and “*I tend to lose control during emergencies*”. Alpha Cronbach's on the original scale (Davis, 1980) was 0.70 to 0.78 and in the Portuguese version (Limpo, Alves & Castro, 2010) it was 0.74 to 0.83 for the different subscales, demonstrating a good internal consistency.

Rosenberg self-esteem scale (RSES; Rosenberg, 1965; Portuguese version translated and validated by Pechorro, Moroco, Poiares & Vieira, 2011).

¹ In order to develop the current study, we translated and validated to Portuguese the ATTMW Scale, and the resulting manuscript has been submitted to the journal “*Avaliação Psicológica*” (Guimarães, Dionísio & Arantes [sub]. Evidências de validade da versão portuguesa da Escala de Atitudes em Relação a Homens e Mulheres Trans. *Avaliação Psicológica*)

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This scale was used to assess the self-esteem of the participants. It consists of 10 items and includes a 4-point Likert scale, from 0 (*Strongly disagree*) to 4 (*Strongly agree*). Sample items include “*On the whole, I am satisfied with myself*” and “*I take a positive attitude toward myself*”. Average scores were obtained by adding these items together after reversing the inverted items. Higher scores on the scale indicate higher self-esteem. In terms of psychometric values, the RSES demonstrates good internal reliability ($\alpha = .88$, Rosenberg, 1986; $\alpha = .79$, Pechorro & Moroco, 2011).

Procedure

Since the ATTMW Scale (Billard, 2018) had not been previously translated and validated to the Portuguese population, the standard procedure for adapting scales in cross-cultural research were followed (Geisinger, 1994). The instrument was carefully translated into European Portuguese and language adequacy for all items was discussed. After that, the translated instrument was translated back to English by a bilingual researcher and compared with the original one. No major discrepancies were noted. All items from both instruments were discussed in our research lab for linguistic and theoretical.

Participants did not receive monetary compensation, and were recruited through personal and institutional e-mails, online social networks (e.g., Facebook), and the website of the Evolutionary Psychology Group from the University of Minho. They answered first to the socio-demographic questionnaire, followed by the Attitudes Toward Transgender Men and Women (ATTMW) Scale, Interpersonal Reactivity (IR) Index, and Rosenberg self-esteem scale (RSES), in a counterbalanced order. Participants’ responses were recorded anonymously on an Internet webpage using Qualtrics software from the Qualtrics Research Suite (www.qualtrics.com).

Statistical Analysis

The collected data were placed in an Excel[®] file and imported into the statistical software Statistical Package for Social Sciences[®] (IBM SPSS[®]; version 27). Analyses were conducted with Statistical Package for Social Sciences (SPSS; v. 27), and included: i) correlations to evaluate the associations among variables, namely empathy, self-esteem, ATTM, ATTW, age and religiosity; ii) *t* tests to examine sex differences, and differences

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between participants with and without divorced parents, with and without LGBTQIA+ friends, with and without LGBTQIA+ family members, with and without children, and with and without a romantic partner; iii) unidirectional analyses of variance (ANOVA) to investigate possible differences between participants with different educational backgrounds, marital status, socioeconomic levels, places of residence, and religions. In addition, confirmatory factor analyses were performed using AMOS software (v. 20). As recommended by Hu and Bentler (1999), we reported several indices of model fit, namely the Comparative Fit Index (CFI), χ^2 , Tucker-Lewis index (TLI), Normed Fit Index, and Bollen's Incremental Fit Index (IFI). A criterion of $p < 0.05$ was used for significance tests.

Results

Since the ATTMW has not been previously translated and validated to Portuguese, initially we investigated the psychometric properties of the translated instrument. First, analyses of the instrument' sensitivity via frequency tables and distributions of the data showed that all items had good sensitivity (i.e., all response categories were represented in the sample).

Second, construct validity was assessed by exploratory and confirmatory factor analyses, after confirming the factorability of the data through the Bartlett sphericity test ($p < .001$, for both subscales) and Kaiser-Meyer-Olkin test (ATTM: .95; ATTW: .94). A principal component factor analysis with Varimax rotation performed on each subscale produced single-factor structures of the ATTM and the ATTW subscales. This is consistent with the original study (Billard, 2018), that analyzed items regarding transgender men and transgender women separately to develop two independent subscales.

The single-factor structure accounted for 60.24% of the variance in the ATTM and 62.58 in the ATTW. All items had a loading $\geq .33$ in the ATTM and $\geq .65$ in the ATTW (see Table 1).

Table 1

Saturation Values.

Item	EFA Loading
ATTM 1. Transgender men will never really be men.	0.860

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ATTM 2. Transgender men are not really men.	0.784
ATTM 3. Transgender men are only able to look like men, but not be men.	0.883
ATTM 4. Transgender men are unable to accept who they really are.	0.764
ATTM 5. Transgender men are trying to be someone they're not.	0.784
ATTM 6. Transgender men seem absolutely normal to me.*	0.331
ATTM 7. Transgender men are denying their DNA.	0.805
ATTM 8. Transgender men cannot just "identify" as men.	0.784
ATTM 9. Transgender men are misguided.*	0.840
ATTM 10. Transgender men are unnatural.	0.780
ATTM 11. Transgender men don't really understand what it means to be a man.	0.840
ATTM 12. Transgender men are emotionally unstable.*	0.712
<hr/>	
ATTW 1. Transgender women will never really be women.	0.834
ATTW 2. Transgender women are only able to look like women, but not be women.	0.806
ATTW 3. Transgender women are not really women.	0.818
ATTW 4. Transgender women are trying to be someone they're not.	0.863
ATTW 5. Transgender women are unnatural.	0.779
ATTW 6. Transgender women don't really understand what it means to be a woman.	0.843
ATTW 7. Transgender women cannot just "identify" as women.	0.797
ATTW 8. Transgender women are unable to accept who they really are.	0.779
ATTW 9. Transgender women only think they are women.*	0.651
ATTW 10. Transgender women are defying nature.*	0.740
ATTW 11. Transgender women are denying their DNA.	0.812
ATTW 12. There is something unique about being a woman that transgender women can never experience.*	.748
<hr/>	

The single-factor structures of the ATTM and the ATTW subscales were confirmed through CFA using the AMOS software (v. 27). More specifically, a CFA was initially run on the ATTM (Figure 1). The fit of the model was good, $\chi^2(54) = 427.60$, $p < 0.001$, comparative fit index

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(CFI) = 0.91, Tucker-Lewis index (TLI) = 0.87, Normed Fit Index (NFI) = .90, and Bollen's Incremental Fit Index (IFI) = .91. Then, a CFA was run on the ATTW (Figure 2). The fit of the model was also good, $\chi^2(54) = 636.26$, $p < 0.001$, comparative fit index (CFI) = 0.87, Tucker-Lewis index (TLI) = 0.81, Normed Fit Index (NFI) = .86, and Bollen's Incremental Fit Index (IFI) = .87.

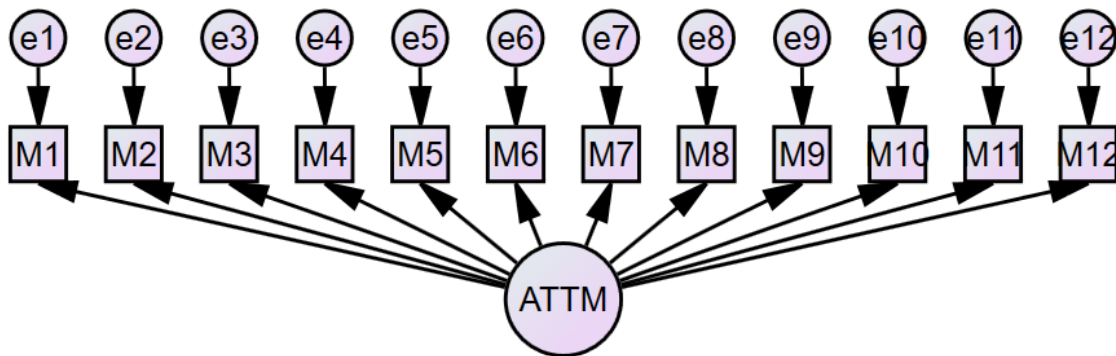


Figure 1. Factorial Confirmatory Analyses (ATTM)

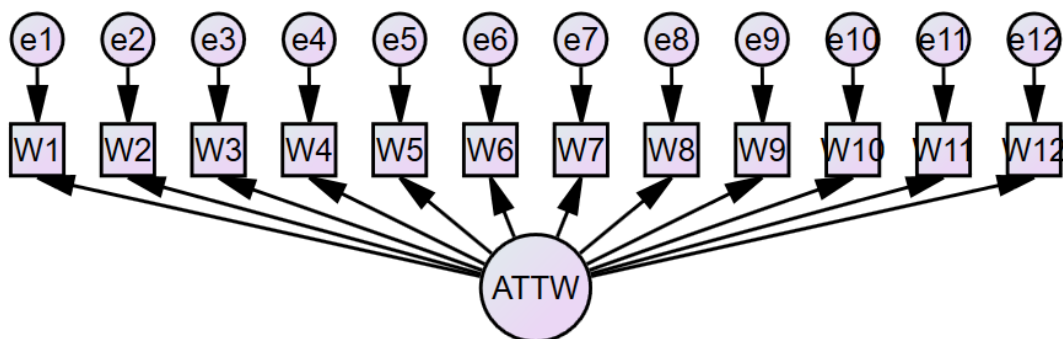


Figure 2. Factorial Confirmatory Analyses (ATTMW)

Third, the instrument revealed good internal reliability (ATTM: $\alpha = .93$; ATTW: $\alpha = .94$). Also, the Cronbach's did not increase considerably when any items were removed, confirming that all items should be retained for the scale.

Fourth, distributions for individual variables were examined and averages compared with the original study. Results showed that participants in our study scored lower than participants in the original study ($M = 3.5$; $SD = 1.9$; $n = 238$) in the ATTM subscale, $t(340) = 10.85$, $p < .001$.

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Similarly, our participants also scored lower than participants in the original study ($M = 2.05$; $SD = 1.2$; $n = 538$) in the ATTM subscale, $t(340) = 10.85$, $p < .001$.

Correlational analyses

Table 2 shows the correlation between age, religiousness, empathy, self-esteem, Attitudes Toward Transgender Men (ATTM), and Attitudes Toward Transgender Woman (ATTW). Age was positively correlated with self-esteem ($r = .26$, $p = .00$), ATTM ($r = .12$, $p = .01$), and ATTW ($r = .11$, $p = .02$), and negatively correlated with empathy ($r = -.12$, $p = .01$). That means that older individuals tend to have higher self-esteem, more negative attitudes toward both transgender men and transgender women, and less empathy. Religiousness was positively correlated with empathy ($r = .15$, $p = .001$), ATTM ($r = .11$, $p = .02$) and ATTW ($r = .10$, $p = .03$). These results show that individuals that are more religious have a tendency to be have more empathy and more negative attitudes toward both transgender men and transgender women. Empathy was negatively correlated with ATTM ($r = -.24$, $p = .00$) and ATTW ($r = -.25$, $p = .00$), showing that individuals that have higher levels of empathy, tend to have less negative attitudes toward transgender men and women. Self-Esteem was positively correlated with ATTM ($r = .10$, $p = .04$), showing that individuals with higher levels of self-esteem tend to have more negative attitudes toward transgender man. Finally, ATTM was positively correlated with ATTW ($r = .94$, $p = .00$), showing that individuals that express more negative attitudes toward transgender men also tend to express more negative attitudes toward transgender women.

Table 2

Correlational Analyses between empathy, self-esteem, ATTM, ATTW, age and religiosity

Variable	1	2	3	4	5	6
Age	–	0,005	-,117*	,258**	,123**	,106*
Religiousness		–	,151**	0,049	,108*	,104*
Empathy			–	-0,048	-,238**	-,251**
Self-esteem				–	,099*	0,084
ATTM					–	,937**

ATTW

—

* $p < .05$, ** $p < .01$, *** $p < .001$

Regression analyses predicting ATTM and ATTW

The zero-order correlations presented above demonstrate that age, religiousness, and empathy were associated with ATTM and ATTW. Self-esteem was only associated with ATTM and not ATTW. However, because some of these variables were low-to-moderately intercorrelated, it was of interest to determine the collective and unique explanatory power of these variables. Therefore, we performed multiple regression analyses wherein the subscales of the ATTMW (i.e., ATTM and ATTW) were each simultaneously regressed onto these four predictor variables. Analyses are presented in Table 3. The model measured the variables collectively explained approximately 9% of the total variance in ATTM (8.5%) and ATTW (9.2%). The standardized regression coefficients (β s) for the specific variables indicated that religiousness and empathy were the stronger predictors of all criterion variables. These patterns support the deduction that religiousness and empathy were the strongest and unique predictors of negative attitudes towards transgender men and women.

Table 3

Multiple regression models predicting ATTM and ATTW

Variable		ATTM		ATTW	
		β	P	β	P
Model	Age	.076	.106	.068	.151
	Religiousness	.134	.004	.142	.002
	Empathy	.134	.004	.142	.002
	Self-esteem	-.243	.000	-.262	.000
	Model r^2	.058	.217	.047	.318
		.085		.092	

* $p < .05$, ** $p < .01$, *** $p < .001$

Sex differences

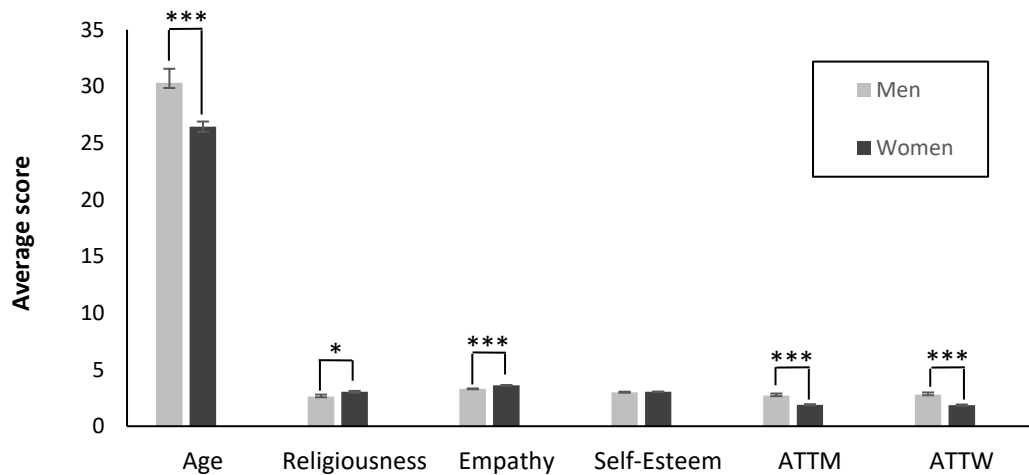
In order to investigate possible sex differences, independent t tests were conducted (see Figure 3). Results showed that male participants tended to be older ($M_{age} = 30.31$, $SD = 12.79$),

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less religious ($M_{religiosity} = 2.63, SD = 1.68$), and less empathic ($M_{empathy} = 3.29, SD = .44$) than female participants ($M_{age} = 26.44, SD = 9.39, M_{religiosity} = 3.04, SD = 1.58, M_{empathy} = 3.6, SD = .47$), $t(134.34) = 2.93, p < .001$, $t(533) = -2.36, p < .05$ and $t(463) = -5.685, p < .001$, respectively. On the other hand, males tend to point higher in ATTM ($M_{ATTM} = 2.71, SD = 1.65$) and ATTW ($M_{ATTW} = 2.79, SD = 1.80$) than females ($M_{ATTM} = 1.89, SD = 1.01, M_{ATTW} = 1.86, SD = 1.05$), $t(101.48) = 4.426, p < .001$ and $t(99.86) = 4.625, p < .001$, respectively.

Figure 3

Sex Differences



* $p < .05$; ** $p < .01$; *** $p < .001$; Note. Average scores of ages, religiosity, empathy, self-esteem, ATTM and ATTW, shown separately for males (light gray) and females (dark gray). Bars indicate + 1 SE.

Literacy differences

Unidirectional ANOVAs were performed to examine possible differences in age, religiosity, empathy, self-esteem, ATTM and AATTW depending on educational background of the participants (see Figure 4). Results showed a significant effect of age, $F(5,530) = 32.811, p < .001$. Post-hoc Bonferroni tests showed that participants who only completed the third cycle tended to be older ($M = 31.50, SD = 13.142$) than participants that finished high school ($M = 22.51, SD = 7.921$), $p < .05$, and younger than participants that completed a PhD ($M = 42.60, SD = 10.07$), $p < .01$. In addition, participants who finished high school tended to be younger

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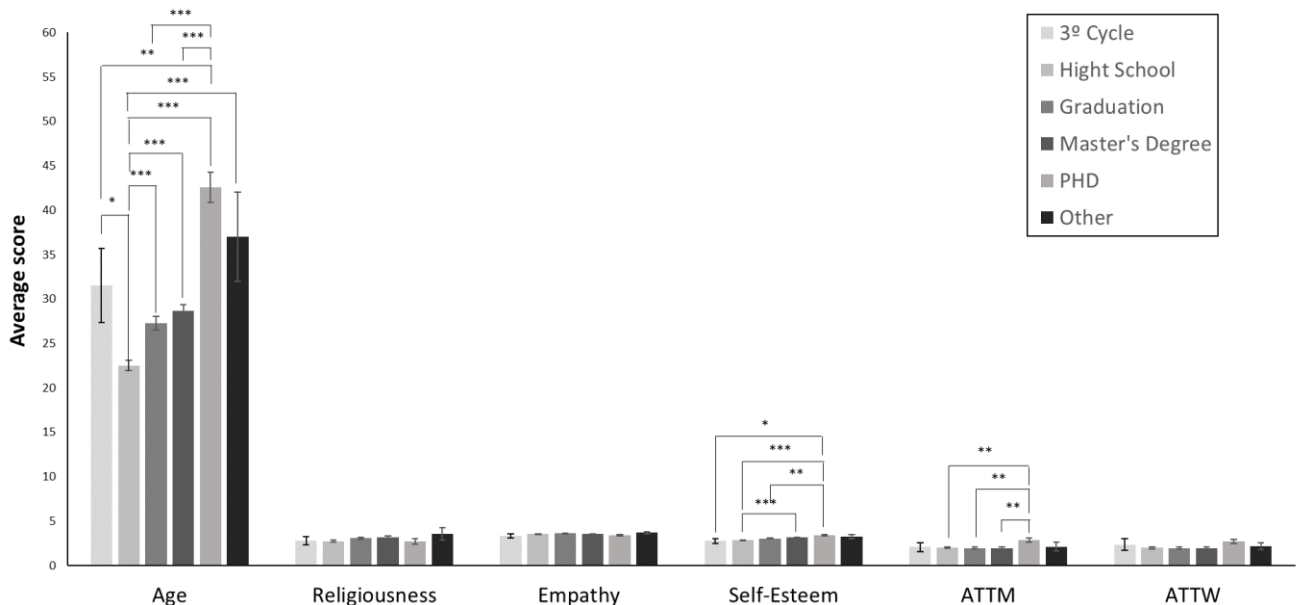
($M = 22.51$, $SD = 7.921$) than those who completed graduation ($M = 27.31$, $SD = 10.51$), $p < .001$, a master's degree ($M = 28.69$, $SD = 6.96$), $p < .001$, PhD ($M = 42.60$, $SD = 10.07$), $p < .001$, or other ($M = 37.00$, $SD = 13.279$), $p < .001$. Finally, participants who had a PHD ($M = 42.60$, $SD = 10.07$), tended to be older than those who had a graduation ($M = 27.31$, $SD = 10.51$), $p < .001$, and a master's degree ($M = 28.69$, $SD = 6.96$), $p < .001$.

Results also showed a significant effect of self-esteem, $F(5,462) = 8.11$, $p < .001$. Post-hoc Bonferroni tests showed that participants who completed a PHD ($M = 3.42$, $SD = .48$) tended to have higher self-esteem than those who completed the third cycle ($M = 2.77$, $SD = .77$), $p < .05$, high school ($M = 2.845$, $SD = .61$), $p < .001$, and graduation ($M = 3.02$, $SD = .50$), $p < .01$. Similarly, individuals with a master's degree ($M = 3.16$, $SD = .54$) tended to have higher self-esteem than those who completed high school ($M = 2.845$, $SD = .61$), $p < .001$.

Moreover, results showed a significant effect of ATT_M, $F(5,455) = 3.124$, $p < .01$. Post-hoc Bonferroni tests showed that participants who completed a PHD tended to have more negative attitudes towards transgender men ($M_{ATTM} = 2.88$, $SD = 1.20$) than participant that completed high school ($M_{ATTM} = 2.00$, $SD = 1.18$), $p < .01$, graduation ($M_{ATTM} = 1.97$, $SD = 1.18$), $p < .01$, and a master's degree ($M_{ATTM} = 1.97$, $SD = 1.09$), $p < .01$.

Figure 4

Literacy Differences



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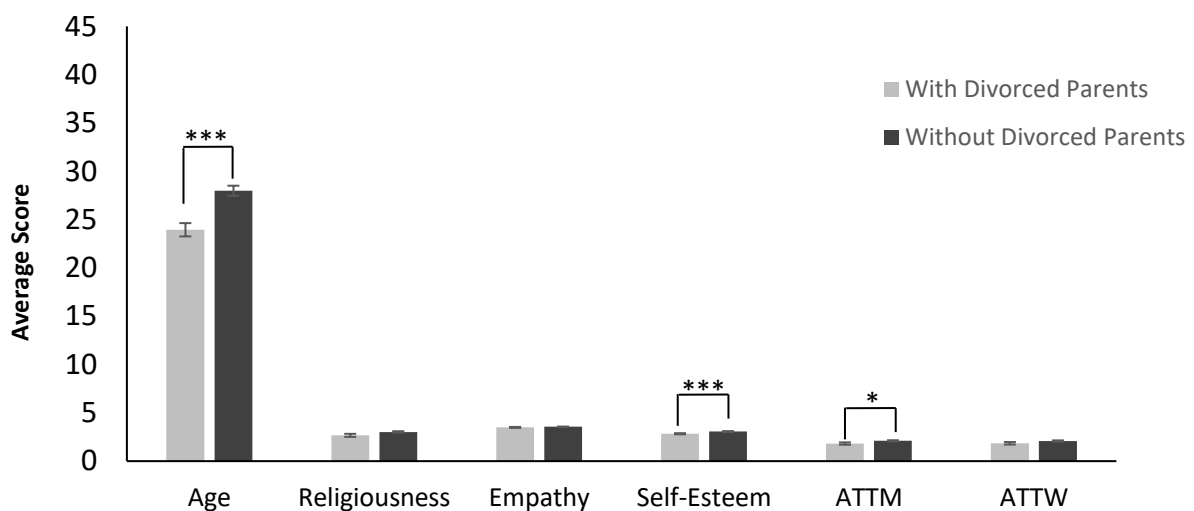
* $p < .05$; ** $p < .01$; *** $p < .001$; Note. Average scores of ages, religiousness, empathy, self-esteem, ATTM and ATTW, shown separately for literacy degree completed. Bars indicate + 1 SE.

Participants with and without divorced parents

In order to assess if there were any differences between participants whose parents got divorced and those whose parents did not get divorced before they were 18 years old, independent t -tests were conducted (Figure 5). Results showed that participants who had divorced parents tended to be younger ($M_{age} = 23.95$, $DP = 6.75$), to have less self-esteem ($M_{self-esteem} = 2.84$, $DP = .55$) and to have less negative attitudes towards transgender men ($M_{ATTM} = 1.82$, $DP = 1.14$), than those who did not have divorced parents ($M_{age} = 27.99$, $DP = 10.88$; $M_{self-esteem} = 3.06$, $DP = .57$; $M_{ATTM} = 2.10$, $DP = 1.21$), $t(217.43) = -4.692$ and $p < .001$, $t(468) = -3.42$ and $p < .001$, and $t(460) = -2.01$ and $p < .05$.

Figure 5

Participants with or without divorced parents' differences



* $p < .05$; ** $p < .01$; *** $p < .001$; Note. Average scores of ages, religiousness, empathy, self-esteem, ATTM and ATTW, shown separately for participants with divorced parents (light gray) and non-divorced parents (dark gray). Bars indicate + 1 SE.

Participants with and without LGBTQIA+ friends

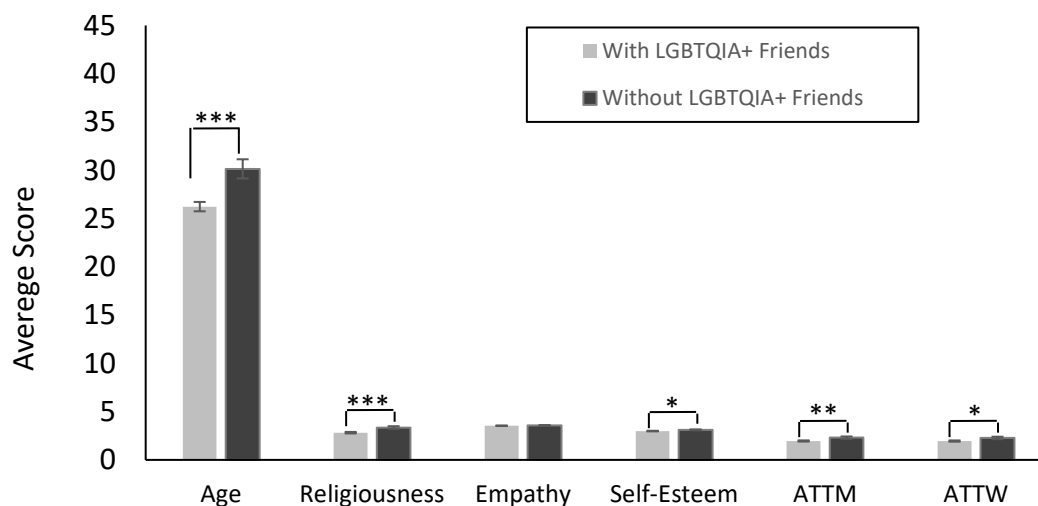
An independent t -test showed that participants who had LGBTQIA+ friends' (lesbian, gay, bisexual, transgender, queer, intersexual, asexual, with another sexual orientation or

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gender identity friends') tended to be younger ($M_{age} = 26.24$, $DP = 9.56$), less religious ($M_{religiousness} = 2.82$, $DP = 1.57$), with higher self-esteem ($M_{self-esteem} = 2.99$, $DP = .59$), and less negative attitudes towards transgender men ($M_{ATTM} = 1.96$, $DP = 1.12$) and transgender women ($M_{ATTW} = 1.95$, $DP = 1.22$), than those who did not have LGBTQIA+ friends ($M_{age} = 30.14$, $DP = 11.98$; $M_{religiousness} = 3.35$, $DP = 1.63$; $M_{Self-Esteem} = 3.11$, $DP = .52$; $M_{ATTM} = 2.30$, $DP = 1.39$; $M_{ATTW} = 2.27$, $DP = 1.40$), $t(216.34) = -3.532$, $p < .001$, $t(531) = -3.465$, $p < .001$, $t(468) = -2.06$, $p < .05$, $t(177.96) = -2.43$ and $p < .01$ and $t(193.11) = -2.27$ and $p < .05$, respectively (Figure 6).

Figure 6

Participants with or without LGBTQIA+ friends' differences



* $p < .05$; ** $p < .01$; *** $p < .001$; Note. Average scores of ages, religiousness, empathy, self-esteem, ATTM and ATTW, shown separately for participants with LGBTQIA+ friends (light gray) and without LGBTQIA+ friends (dark gray). Bars indicate + 1 SE.

It is important to note that further unidirectional analyses were conducted in order to investigate if there were any differences between participants with different marital status, socioeconomic levels, places of residence, and religions. However, no significant effects of ATTM or ATTW were obtained ($p_s > .05$). Moreover, additional t tests were performed to examine possible differences between individuals with and without children, with and without

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a romantic partner, and with and without LGBTQIA+ family members. Results showed no significant differences between these groups regarding ATTW or ATTW scores ($p_s > .05$).

Discussion

Transgender subjects often feel discomfort and fear due to the discrimination they suffer throughout their lives (Bettcher, 2014). The study on transphobic attitudes has been the subject of much attention and debate, including by movements fighting for LGBTQIA+ rights that aim to sensitize the population and help changing their behavior (ILGA, 2019; Zerbinati & Bruns, 2019) and the recognition of hate crimes as an autonomous criminal figure (ILGA, 2019). Therefore, it is crucial to investigate the variables that are associated with attitudes towards transgenders, and their predictive value. The present study aimed to analyze the relationship between negative attitudes towards transgender men and women, and age, religiosity, empathy, and self-esteem.

Results showed that individuals with high levels of empathy have less negative attitudes towards transgender men and women. These results are consistent with hypothesis 1. These data are in accordance with the literature, which indicate the influence of empathy as positive and reductive of prejudice towards minorities, such as homosexuals (Hund & Thomas, 2015; Miklikowska, 2018; Walters & Rehman, 2013). Research has shown that empathic persons are generally more tolerant and understanding (Norton & Herek, 2013; Pettigrew & Tropp, 2006; Prusaczyk & Hodson, 2019), and that the knowledge of transgenders' life stories may help to increase empathy (Harley et al., 2020).

Our second hypothesis was that individuals with high levels of self-esteem would have less negative attitudes towards transgender men and women. However, our data did not show a significant correlation between these two variables. According to Ostrowsky (2010), the relationship between self-esteem and attitudes towards specific social groups is still uncertain. Whereas some authors claim that low self-esteem leads to discriminatory behaviors in an attempt to seek a sense of superiority (Silva et al., 2017), resulting in possible prejudice (Jordon et al., 2005), and transphobia (Willoughby et al., 2010), others claim that high self-esteem promotes arrogance and negative social relations (Bushman et al., 2009). A possible explanation for the prejudice verified towards trans men when the subjects have a high self-esteem may be the conservative educational background of the Portuguese population, based on the social hierarchy where the man is superior to the woman, persisting

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transgender men (female to male) as usurpers of a status considered higher (Nagoshi et al., 2008).

In addition, our results showed that Individuals with high levels of religiousness have more negative attitudes towards transgender men and women, which is consistent with hypothesis 3. These data are in accordance with prior research that showed that more religious people tend to have more prejudiced and discriminatory behavior stemming sexual and gender identity diversity (Nagoshi et al., 2008; Rowniak, 2015). If we analyze religiosity through the conservative policies of gender roles, transgender men and women are considered as a violation of norms, values and beliefs (Whitley, 2009), generating more intolerance, greater social distancing, and transphobic behaviors (Willoughby et al., 2010).

Our data also showed that older individuals have more negative attitudes towards transgender men and women. This result is consistent with our fourth hypothesis, and with previous studies (Jain, 2019; King et al., 2009; Norton & Herek, 2013). These transphobic behaviors in older individuals may be due to their traditional education (Nagoshi et al., 2008), lack of opportunity to know people outside their restrictive group of friends and family (Bagci et al., 2019), and by a decrease of empathy that occurs as people age (Che net al., 2014).

Moreover, our results showed that religiousness and empathy were the strongest and unique predictors of negative attitudes towards trans men and women. These results support the idea that individuals with high levels of religiosity and lower levels of empathy have a tendency to have negative attitudes towards trans men and women.

Additionally, we found that men have more negative attitudes towards transgender than women, which is congruent with existing studies (Carrol et al., 2012; Nagoshi et al., 2008). However, it should be noted that men had more negative attitudes towards transgender women (male to female) and women towards transgender men (female to male). According to the literature, it should be expected that both sexes would have more negative attitudes towards transgender women (Daley et al., 2007). However, higher scores toward trans men may be justified by the conservative ideology of gender roles and social status that transgender men try to achieve (Nagoshi et al., 2008).

Our data revealed that people who completed a PHD tended to have more negative attitudes towards trans men than participant that completed high school, graduation, or a master's degree. According to the literature, it would be expected that the higher the

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education background the fewer negative attitudes they would have. Our results can be partially explained by two variables, namely age and self-esteem. More specifically, as participants with a PhD are older ($M = 42.60$, $SD = 10.07$), they tend to be less empathic (Chen et al., 2014), and to have a more defined self-concept which leads to an increased self-esteem (Albuquerque & Oliveira, 2002).

Our data also showed that participants who had divorced parents tended to have less negative attitudes towards trans men than those who did not have divorced parents. This result may be partially explained by the age of the participants, once individuals with divorced parents before they reach 18 years of age were younger than those who did not have divorced parents – and younger people tend to be less prejudiced.

Results showed that people with LGBTQIA+ friends tended to have less negative attitudes towards trans men and trans women than those who did not have LGBTQIA+ friends. Prior contact with LGBTQIA+ population allows tolerance and understanding (Norton & Herek, 2013; Prusaczyk & Hodson, 2019), and could influence people's attitudes toward transgender population (Pettigrew & Tropp, 2006). Participants with no LGBTQIA+ friends have more transphobic attitudes toward transgender men than transgender women, probably due to social distancing, as well as from the lack of opportunity to know the perspective of others (Bagci et al., 2019).

Our data revealed the Portuguese version of the ATTMW has good sensitivity, a factorial structure similar to the original version, and high internal reliability. These results show that the ATTMW Scale can be used with Portuguese-speaking population, which will contribute to the development of future research in the area and to the knowledge development in practical settings, including clinical assessment.

One limitation of this study is the use of the terminology the higher the education background, as some people may not be familiar with it, which may have contributed to the fact that some participants have given up filling out the questionnaire. The sample was heterogeneous, covering men and women of different ages, genders, sexual orientations, socio-economic levels, family structures, religious beliefs, educational levels and relationships with LGBTQIA+ people. However, it was a convenience sample, since the data were collected online through the Qualtrics software, being accessible only to a part of the population that has internet and social networks, which does not make it representative of the entire

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Portuguese population (Miot, 2011; Wachelke et al., 2016). It is also important to mention the limitations of self-report measures, such as social desirability, possible difficulties in understanding the instructions and questions, and potential deficits in the subject's introspective capacity, which may condition their answers. Finally, this was a cross-sectional study, and thus participants were questioned at a single point in time. It would be noteworthy to conduct a longitudinal study in order to investigate if negative attitudes towards transgender men and women decrease if we exposed participants to awareness-raising actions and training sessions to increase empathy.

In summary, our study analyzed the relationship between negative attitudes towards transgender men and women, and age, religiosity, empathy, and self-esteem, and the explanatory power of these variables in predicting attitudes towards trans men and women.

Among other results, we showed that religiousness and empathy were the strongest and unique predictors of negative attitudes towards trans men and women, indicating that individuals with high levels of religiosity and lower levels of empathy have a tendency to have negative attitudes towards trans men and women. Given that this is an important controversial issue in combating violence and hate crimes against trans men and women, it is essential to promote protective legislation and a continuous fight on the defend human rights. In addition, it is crucial to have a more informed and inclusive education in schools, and the re-education of religious people who oppose the diversity of sexual orientations and non-conforming identities, in order to understand the importance of well-being, empathy and respect for all. In this way, these findings can be applied in clinical, forensic, sports, organizational and research contexts, promoting positive interpersonal relationships, mental health and physical health of trans and other members of the LGBTQIA+ community. If we have a broader understanding of the variables that are related with attitudes towards transgender, such as empathy and religiosity, professionals may be able to work more effectively in trying to decrease the prejudiced and discriminatory behavior towards transgenders. For example, they may do awareness-raising actions to sensitize the population (including highly-religious individuals) for the importance of treating transgenders as equal, with respect and consideration. They can also do intervention sessions to increase empathy, and consequently to decrease negative attitudes towards transgenders.

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ANEXOS



Universidade do Minho

SECSH

Subcomissão de Ética para as Ciências Sociais e Humanas

Identificação do documento: SECSH 009/2017

Título do projeto: *Behavioral and Neurobiological Mechanisms of Physical Attractiveness (EEG)*

Investigador(a) responsável: Joana Arantes, Escola de Psicologia, Universidade do Minho (Orientadora)

Outros investigadores: Farid Pazhoohi, Escola de Psicologia, Universidade do Minho e Diego Pinal, Escola de Psicologia, Universidade do Minho (Orientador)

Subunidade orgânica: Escola de Psicologia, Universidade do Minho

PARECER


A Subcomissão de Ética para as Ciências Sociais e Humanas (SECSH) analisou o processo relativo ao projeto intitulado "*Behavioral and Neurobiological Mechanisms of Physical Attractiveness (EEG)*".

Os documentos apresentados revelam que o projeto obedece aos requisitos exigidos para as boas práticas na investigação com humanos, em conformidade com as normas nacionais e internacionais que regulam a investigação em Ciências Sociais e Humanas.

Face ao exposto, a SECSH nada tem a opor à realização do projeto.

Braga, 21 de março de 2017.

O Presidente

 Digitally signed by PAULO
MANUEL PINTO PEREIRA
ALMEIDA MACHADO
Date: 2017.03.22 09:40:01
.Z

Paulo Manuel Pinto Pereira Almeida Machado