

Influence of Non-Verbal Visual Signals on Implied Prejudice towards Women with Visible Tattoos in a Sample of College Students

Ana Fernández¹, Scarlyn Caraballo² and Carolina Mora³
^{1, 2 and 3} Central University of Venezuela

Abstract: The present research aimed to determine the influence of glasses and sunglasses, used as non-verbal visual cues, on the implicit prejudice towards women with visible tattoos. The sample consisted of 30 university students, of both sexes and aged between 20 and 30 years. We worked with a quasi-experimental design, made up of three groups (two experimental and one control), subjected to an intervention and with a post-test only. For the measurement of implicit prejudice, the Implicit Association Test was used. The data collected were processed with the Friedman statistic, the result of which indicated that there were no statistically significant differences between any of the groups. However, new lines of research are discussed and suggested in relation to the principle of Endogroup identification that could underlie the use of non-verbal visual cues as an effective strategy for the reduction of prejudice.

Descriptors: implicit bias, nonverbal visual cues, glasses, tattooed women, college students.

Introduction

One of the main problems of a social nature that manifests itself worldwide and in multiple contexts is the persistence of prejudices, understanding these as unfavorable attitudes towards particular social groups, which lead to negative feelings, evaluations and perceptions of the people who belong to these groups (Ramírez, Estrada & Yzerbyt, 2016). In this sense, and due to its social relevance, the field of prejudice has been widely approached, from different perspectives, on various topics and with different research methodologies (Paluck & Green, 2009).

One of the edges that the study of prejudice has has been in relation to tattooed people, especially those with tattoos that are visible. Various investigations (Méndez, 2015; Timming, Nickson, Re & Perrett, 2017; Torrejón, 2015; Zestcott, Tompkins, Kozak, Livesay & Chan, 2018) allow to point out that tattooed people are conceived as a stigmatized group loaded with stereotypes, being these beliefs, knowledge and typical traits that are stored about specific groups, which are generally false, over-generalized and typically negative, such as the traits related to vandalism, incompetence and unkindness associated with tattooed people; Likewise, stereotypes are difficult to modify, even when there is disconfirming information about them, since information congruent with a stereotype is mostly remembered and better processed than incongruous information (Baron & Byrne, 2005; Zestcott et al, 2018). In this way, the way in which social information is processed, stored and integrated when forming stereotypes, consists in that people use one or more perceived attributes of the outgroup (in this case the tattoos of the tattooed people) to categorize them. Within a cognitive scheme where associated stereotypes are found, which is the cause of prejudice and discrimination towards said group (Miller, McGlashan & Eure, 2008; Zestcott et al, 2018).

In general, the possession of tattoos has been associated with groups such as soldiers, gang members, prisoners, criminals and circus workers, which in turn have been linked to stereotypes and negative characteristics such as aggressiveness, alcoholism, promiscuity, impulsiveness, dishonesty, the tendency to commit crimes, among others (Zestcott et al, 2018). It has even been shown that a tattoo can affect the judgments about the guilt of a defendant if he presents a visible tattoo, as reported by Funk & Todorov (2013) in an experiment that evaluated the judgments that people made about a defendant that he might or might not have a tattoo, yielding results that indicated a greater tendency to label the tattooed defendant guilty.

Similarly, it has been found that having tattoos can affect tattooed people in the workplace, since there is a tendency to avoid hiring people with this type of art on their skin, as pointed out by Méndez (2015), who made An investigation to know the perceptions of the participants towards individuals with visible tattoos in the work environment and found that the participants tended to rate photographs of tattooed individuals more negatively than those of the non-tattooed, answering questions about the estimate of the person's salary photography or how likely it would be to get a promotion, among others.

In this same line of research on tattoos and the workplace, the work of Baumann, Timming & Gollan (2016) stands out, who also analyzed the effect of the sex of the tattooed person in the workplace on attitudes to her. The results of the participants' ratings showed that the presence of a visible tattoo was a disadvantage for

employees regardless of the type of employment and that, with respect to the gender of the employee, when it comes to a tattooed woman, this is rated more negatively than a tattooed man, so it follows from these results that there is a double disadvantage in women: because of their sex and because of the possession of tattoos.

Likewise, works such as those by Broussard & Harton (2017) and Timming & Perrett (2017) have supported that negative stereotypes affect tattooed women more, pointing to them, for example, as unattractive, promiscuous and adept at drinking, such as indicated by Swami & Furnham (2007).

In another sense, it should be noted that most of the authors who have dedicated themselves to the study of prejudice towards this stigmatized group have focused only on explicit prejudice, leaving aside implicit prejudice, which is defined as a process that is automatically activated, a product of past experiences and that, although it operates unconsciously, influences the attitude towards tattooed women (Montes & Moya, 2006; Torrejón, 2015; Zestcott et al, 2018). In fact, one of the differences between both forms of prejudice lies in the way in which this attitude is expressed, the explicit component being a conscious, deliberate and controllable process, which allows moderating the response to the stimulus by analyzing the available information and considering the social norm; while the implicit attitudes represent an older component that arises through experience and socialization and that, in addition, is expressed in a non-conscious way, so it is not affected by desirability or social norm (Montes & Moya, 2006).

The implicit prejudice can be appreciated through different tasks and measures such as intergroup linguistic bias (where the undesirable traits of the stigmatized group are described in an abstract way to indicate that they are fixed traits and, on the contrary, the desirable traits of the group are described in a concrete form, indicating that these are only temporary); physiological measures (such as negative facial expressions resulting from muscle activity when viewing images of a stigmatized group); or measures based on reaction times such as the Implicit Association Test, better known as "IAT" (where lower latency when categorizing images of the stigmatized group together with negative adjectives indicates greater prejudice). These measures are powerful tools to evaluate this type of prejudice since, as they are implicit measures, the responses of the participants cannot be manipulated depending on social desirability (Montes & Moya, 2006). Although it has been little addressed, one of the investigations regarding implicit prejudice towards tattooed people is that of Zestcott, Bean & Stone (2017), who used an IAT and demonstrated that people hold implicit negative attitudes towards tattooed individuals, specifically, towards those who have tattoos close to the face.

Another research dedicated to evaluating the implicit prejudice towards tattooed people using an IAT is that of Torrejón (2015), which is important and innovative because, although there is a great diversity of studies that address prejudice towards tattooed people, the literature on strategies and interventions to reduce prejudice towards this group are very scarce. The intervention of Torrejón (2015), consisted of a technique to reduce said prejudice through the placement of non-verbal visual signals in tattooed people, understanding them as a type of sensory signals, such as signs, objects or gestures, which they are processed through sight and that, by substituting words, subtly project a message and provide information to interpret the perceived experience (Soto, Carstens & Burke, 2019; Torrejón, 2015). In this case, the visual signal used was the glasses, which were placed on the tattooed people, effectively achieving positive results by reducing the implicit prejudice of the participants towards tattooed men.

Torrejón (2015) points out various alternatives in relation to the mechanisms that would operate to reduce implicit prejudice, the most striking of which is that reading glasses would help to recategorize the individual, that is, to move the individual from a category (tattooed) to another (intellectual), which tends to present more positive stereotypes. Studies carried out from "psycho-optometry" (Terry, 1989 as cited in Torrejón, 2015), an area focused on the psychological effects produced by the use of glasses, have shown that people tend to evaluate people with glasses as more intelligent, reliable, hardworking, honest and successful than people without them (Harris, Harris & Bochner, 1982 as cited in Torrejón, 2015). The literature also suggests that glasses can reduce explicit prejudice, as demonstrated by the study by Brown, Henriquez & Groscup (2008 as cited in Torrejón, 2015), where the participants tended to qualify as innocent, to a greater extent, to Fictitious criminal defendants who wore glasses compared to those who did not wear glasses.

More recent studies have also supported the positive effect generated by glasses, finding that their use is more frequently associated with a higher status socio-professional group (Guéguen, 2015; Okamura, 2018a) and that, in women particularly, it is an indicator of elegance (Okamura, 2018b). These results confirm that a visual signal is sufficient to promote the activation of stereotypes associated with a group or social category, thus being able to generate a recategorization of the members of a particular group to another category, as indicated by Guéguen (2015) and Torrejón (2015).

Even taking this into account, Torrejón (2015) points out that future research should be considered aimed at verifying if the lenses are actually acting as a non-verbal visual signal to promote recategorization, or if they are having another effect as simply a distracting element on tattooing, so he proposes to contrast the effect of

glasses with that of other non-verbal visual cues that should not promote recategorization, such as sunglasses, on the implicit prejudice towards tattooed people.

Taking into account the aforementioned, the need to expand the existing literature in the field of prejudice towards people with tattoos becomes evident, specifically in the strategies and interventions implemented or designed to reduce it, which is why the present investigation is based on of Torrejón's findings (2015), trying to answer his question regarding the verification of whether glasses actually function as non-verbal visual signals that allow to recategorize tattooed people, or if they are only a distracting element.

Likewise, the present research is oriented towards reducing prejudice towards tattooed women, since the aforementioned studies (Baumann, Timming & Gollan, 2016; Broussard & Harton, 2017; Timming & Perrett, 2017) indicate that they are seen a lot more affected by this prejudice than tattooed men. Finally, emphasis is placed on the measurement of implicit prejudice through an IAT because few studies have taken this type of attitude into account when evaluating this issue, and because it is a way to avoid responses by social desirability that explicit measures could cause (Montes & Moya, 2006; Torrejón, 2015).

Problem Proposal

Based on what was previously mentioned about the existence of prejudice towards women, the lack of strategies designed to reduce prejudice, the little emphasis that has been placed on implicit prejudice towards this group and the research proposal suggested by Torrejón (2015) to further his findings, the question arises: What influence do glasses and sunglasses used as non-verbal visual cues have on the implicit prejudice towards women with visible tattoos?

Justification of the problem

This research has a broad theoretical value, since it allows filling a knowledge gap on intervention techniques to reduce prejudice towards the selected group, developing elements that were not previously worked on, such as the influence of various visual signals nonverbal information on reducing prejudice towards women with visible tattoos, which in turn will allow us to know the relationship between these variables. Likewise, it can promote the development of new hypotheses or lines of research regarding prejudice towards the group studied (Hernández, Fernández & Baptista, 2003).

In addition, this research has social relevance, since it aims to benefit tattooed women by seeking a strategy to reduce prejudice towards this sector of the population that is increasing and that is affected, not only in the daily life, but also in the workplace due to such prejudices, affecting their quality of life and opportunities; Therefore, the present research aims to develop a field of knowledge oriented towards improving the perception of tattooed women, allowing them to overcome the limitations that society imposes on them due to the possession of tattoos and the fact of being women (Hernández, Fernández & Baptista, 2003).

Finally, the research has methodological utility, since it will provide information on techniques to reduce prejudice towards women with visible tattoos, constituting a basis for future research in the area (Hernández, Fernández & Baptista, 2003).

Research objective

Determine the influence of glasses and sunglasses used as nonverbal visual cues on implicit bias towards women with visible tattoos.

Research Hypothesis

Hy: There will be statistically significant differences between the means of all groups (exposed to images of tattooed women with glasses, exposed to images of tattooed women with sunglasses and control) with respect to the level of implicit prejudice towards tattooed women.

Methodological framework

Variables

Independent variable: Non-verbal visual cues

Theoretical definition: These are sensory signals, such as signs (for example, wearing a necklace with a religious symbol), objects (for example, carrying a book) or gestures (for example, repeatedly looking at the clock during a conversation) that are processed through sight and that, by substituting words, subtly project a message and provide information to interpret the perceived experience (Soto, Carstens & Burke, 2019; Torrejón, 2015). In this investigation, glasses and sunglasses were used as non-verbal visual cues, used by tattooed women in the stimulus images of the intervention.

Operational definition: The non-verbal visual signals were manipulated by the method of modalities, using two variants of the same, these being glasses and sunglasses, which were presented to the experimental groups as appropriate. The control group had no exposure to this variable.

Dependent variable: Implicit prejudice towards women with visible tattoos

Theoretical definition: Prejudice is understood as a negative attitude or unfavorable evaluation towards the members of a group, which is based exclusively on belonging to said group (Baron & Byrne, 2005; Miller, McGlashan & Eure, 2008) and that can be implicit in nature, which implies that it is a prejudice that is activated in a non-conscious but automatic way and that can influence people's responses to the stimuli that activate it (Montes & Moya, 2006). In the particular case of this research, the negative attitude activated automatically is directed towards women with visible tattoos.

Operational definition: The implicit prejudice towards women with visible tattoos was evaluated based on the scores obtained in a response time task better known as the Implicit Association Test (IAT).

Controlled variables

Age: It is defined as the “time that a person or certain animals or plants have lived” (RAE, 2018). According to the findings of Zestcott et al (2018), there is a directly proportional relationship between the level of prejudice towards tattooed people and age, so the older the prejudice is. That is why the samples consisted only of “young adults”, an age category that includes people between 20 and 30 years of age (Bordignon, 2005), so that the ages were not so low that prejudice was minimal, not so high that prejudice was strongly expressed.

Sex: It is defined as the “organic condition, male or female, of animals, plants and human beings” (RAE, 2018). Diverse studies indicate that the evaluations made towards tattooed people may vary depending on the sex of the person making said evaluation, with men being more likely to consider their peers without tattoos as healthier than those with tattoos, the opposite case of women who perform these evaluations (Wohlrab, Fink, Kappeler & Brewer, 2008; Zestcott et al, 2018). Due to this, it was ensured that in all groups there were the same number of men and women.

Tattoo possession: Tattoos are understood as the pigmentation of the skin acquired voluntarily by injections of insoluble inks or other substances in the dermis (Otero et al., 2006); According to Zestcott et al (2018) and Broussard & Harton (2017), people who have tattoos tend to have more favorable implicit attitudes towards tattooed people than those who do not have tattoos, which is why the sample did not include people that they had tattoos.

Use of glasses: Glasses are transparent objects, usually made of glass, that are used in optical instruments to deflect the path of light rays and form images (RAE, 2018). According to Torrejón (2015), if tattooed and non-tattooed people share the use of glasses, Endogroup identification could be activated due to the fact that both groups have a common element such as glasses, making it possible for this identification to help reduce the implicit prejudice of those who do not have tattoos towards those who do. For this reason, people who wore glasses were not included in the sample.

Lack of familiarity with the IAT: The IAT is an instrument with which people do not usually have previous contact, so doubts and confusion often arise when answering it, directly affecting its results, as in Díaz's research, Guerrero & Mijares (2018). That is why before applying the IAT of this research, a previous practical demonstration was carried out with an IAT of different content from the research (flowers and insects), which served the participants to familiarize themselves with the phases of the instrument and to clarify doubts, so that they do not affect the results.

Kind of investigation

This was a quasi-experimental type investigation, since according to Hernández, Fernández & Baptista (2003), these are characterized by: 1) the direct intentional manipulation of the independent variable (non-verbal visual signals: glasses and sunglasses) ; 2) the measurement of the effect that the independent variable has on the dependent variable (implicit prejudice towards tattooed women); 3) the internal validity or rigorous control of the strange variables (age, sex, tattooing and use of glasses) and 4) a non-random sampling.

Research design

A design with only post-test and control group was used. It consisted of three non-randomized groups: a control group and two experimental groups; Each experimental group had a single exposure to the independent variable (non-verbal visual cues) in only one of its modalities, so that experimental group 1 was exposed to images of tattooed women with glasses and experimental group 2 to images of tattooed women with sunglasses; group 3 corresponded to the control group, which was not exposed to the independent variable (see Figure 1). A single measurement of the dependent variable of the post-test type was made to avoid the sensitization that a pre-test test could have caused in the participants (Hernández, Fernández & Baptista, 2003), since there was so little time to perform the intervention it was possible that the application of the pre-test could be remembered and influence the post-test measurement due to the effect of memorization.

$$\begin{array}{rcl} G_1 & X_1 & O_1 \\ G_2 & X_2 & O_2 \\ G_3 & — & O_3 \end{array}$$

Figure 1. Symbology of the research design according to Hernández, Fernández & Baptista (2003).

Sample and sampling

The sample consisted of 30 students from the Central University of Venezuela (UCV) of both sexes, distributed in equal parts of 15 men and 15 women, aged between 20 and 30 years old, who did not use glasses and who did not have tattoos. A non-probabilistic and convenience sampling was used (Hernández, Fernández & Baptista, 2003), since the subjects within the Central University of Venezuela who met the convenient and necessary characteristics to be participants were selected, in a non-random way of the investigation.

Environment and materials used

The environment in which the intervention was carried out was a computer lab with computers arranged in a semicircular way, adequately illuminated and ventilated and located in an area away from the constant traffic of people, guaranteeing a space free from sound interruptions that could generate distraction in the participants or interrupting the instructions of the research team.

From this laboratory, 10 computers were used to present the following materials:

- 1) three PowerPoint presentations with the stimulus images shown to the groups according to their condition: one with 10 photographs of tattooed women wearing glasses, another with 10 photographs of the same tattooed women but wearing sunglasses and another with images of nature to the control group;
- 2) A nature-themed test IAT to familiarize participants with the use of this instrument;
- 3) The research IAT and
- 4) An electronic questionnaire conducted with Google Forms to record the demographic data and informed consent of the participants. Additionally, 10 informed consent sheets were required for the women in the photographs used as stimulus images, thus complying with the ethical and professional nature of the research.

Measuring instrument

The Implicit Association Test (IAT), designed by Greenwald, McGhee & Schwartz (1998), is a measure based on reaction times that allows evaluating the implicit prejudice towards certain groups. It presents various stimuli that should be classified according to two response options in each of the five phases of the procedure, where phases 3 and 5 are crucial, since the final result of the IAT comes from the difference in response times between these moments divided by the standard deviation of the latencies for both tasks, which yields the so-called "algorithm D" that is automatically calculated by the program and accounts, according to the various latencies, of the level of prejudice of the participants (Tosi, Ledesma, Poó, Montes & López, 2017).

In the first phase of the IAT of this research, the categories related to images are presented, allowing the participant to become familiar with the categories "tattooed women" and "non-tattooed women". Phase two presents the categories related to qualifying adjectives, allowing the participant to learn the categories "positive words" and "negative words". The third phase consists of the compatible block, where the previous categories are presented together as follows: "tattooed women + negative words" and "non-tattooed women + positive words", so that the classification is made in a combined. The fourth phase is the same as the first but with each category presented on the opposite side of the first phase. The fifth phase consists of the incompatible block, where the categories are presented together again but in the following way: "tattooed women + positive words" and "non-tattooed women + negative words".

The IAT prepared for this research includes 10 images of non-tattooed women and 10 images of tattooed women; in addition to a list of 10 positive adjectives associated with non-tattooed women and 10 negative adjectives associated with tattooed women, which were selected from a survey of 20 university students, of both sexes, who were asked what words they considered that they described women with and without tattoos, of which those who presented more recurrently were selected.

For the validation of this instrument, two theoretical experts were evaluated, who evaluated aspects of the IAT such as the congruence of the images and adjectives with the categories to which they belong and the adequacy of the category names. In general terms, the instrument was considered optimal.

As it was an investigation of three related groups (two experimental and one control), an ordinal unit of measure in the dependent variable (implicit prejudice towards women with visible tattoos) and groups of less than 30 subjects, the non-parametric test was used. Friedman, because it is the statistic that best suits in order to determine if there are significant differences between the results obtained by the groups

Statistical procedure

All groups were first asked to complete the demographic questionnaire and give their informed consent. Next, each group was explained the instructions for use of the IAT and a sample test unrelated to the content of the research (IAT on nature: insects and flowers) was placed on them, so that they could put the instructions into practice. They will become familiar with the phases and the way to respond and doubts can be clarified before applying the IAT of the investigation.

Next, in the case of the experimental groups, they were shown a PowerPoint presentation with images of tattooed women with glasses or sunglasses, as appropriate to each group; and once the presentation was finished, the IAT of the investigation was applied. In the case of the control group, a PowerPoint presentation with images of nature was shown and the IAT of the investigation was applied.

Once the evaluation and data collection had been completed, the participants were explained the real objectives of the research, they were consulted about their experience as participants in the same and they were thanked for their collaboration in order to ensure compliance with ethical aspects relevant to the case.

Ethical aspects

To carry out this quasi-experiment, some ethical considerations were taken into account such as requesting, both the participants and the women who provided their photos for this work, to sign an informed consent where they would state that their participation or collaboration was voluntary, that they were aware that they could abandon the investigation at any time and that they knew that their data would be treated in a completely confidential way as indicated by the research team, this in accordance with the Code of Professional Ethics of the Psychologist of Venezuela (1981).

Likewise, accountability was taken into consideration, so the true purposes of the research were explained to the participants immediately after completing the data collection, since providing the true objective of the same before the application could sensitize them and affect the measures. Finally, the protection of the participants was guaranteed since the materials used in the present did not contain stimuli that could be considered aversive or that could cause them discomfort (Kerlinger & Lee, 2002).

Results

From the application of the Implicit Association Test (IAT), a set of scores was obtained that represent the level of implicit prejudice of the participants in each group (experimental and control). From these scores, a series of statistics was run through the SPSS data processing program for subsequent analysis.

Table 1.
 Descriptive statistics of the groups referring to the IAT post-test measures.

Groups	Descriptive		
	N	Media	Deviation
Control Group	10	,1728	,6576
Experimental Group1 (Glasses)	10	,1051	,5299
Experimental Group 2 (Lentes de sol)	10	,4926	,7296
Total	30	,2568	,6450

As can be seen in Table 1, each of the three groups formed in this research consisted of 10 participants balanced according to sex. It is also possible to observe that the mean of Experimental Group 1 ($\bar{X} = 1,051$) is lower than the mean of Experimental Group 2 ($\bar{X} = 4,926$) and that the mean of Control Group ($\bar{X} = 1,728$). In

this sense, it could be said that the group exposed to images of tattooed women with glasses obtained the lowest scores of the entire sample, while the group exposed to images of tattooed women with sunglasses obtained the highest scores; meanwhile, the scores of the control group are between these two groups. It is important to highlight that the trends described above are defined by changes of only tenths in the scores. Likewise, it could be affirmed that the scores in all the groups were homogeneous, since both in the Control Group (DT = .6576) and in the Experimental 1 (DT = .5299) and Experimental 2 (DT = .7296) groups the standard deviation (SD) scores did not even reach one point (see Table 1).

Table 2.
Friedman test for comparison of the post-test scores of the three groups.

Test Statistics	
N	10
square-Chi	.200
gl	2
Sig. Asymptotic	.905

After having observed differences between the means of the groups, it was necessary to carry out a Friedman test to know if these differences were significant or not. The result thrown by the statistical package SPSS X2 (2) = .200, $p > .05$ shows a significance higher than .05 with a confidence level of 95%, so it does not allow rejecting the null hypothesis of equality of means between groups, that is, non-verbal visual cues did not have a significant effect on implicit prejudice towards tattooed women.

Discussion of results

The present research set out to evaluate the efficacy of non-verbal visual cues, glasses and sunglasses, in reducing implicit prejudice towards women with visible tattoos, based on previous findings that allowed us to affirm that glasses were an effective visual means to promote said reduction (Torrejón, 2015). Such results could not be replicated in this research, since there were no significant differences between any of the groups. This means that, in general, nonverbal visual cues had no effect in reducing implicit prejudice towards tattooed women.

Among the reasons that could explain these findings, the means of the groups must be taken into consideration, which reflect the existence of low levels of implicit prejudice in each group, even in the group without exposure to any intervention, implying that the existing prejudice in the selected sample with respect to tattooed women, it was not present to a great extent, which could cause that the effect of the independent variable was not strongly evidenced. These low results should be evaluated carefully, since they could be due to other variables that may have influenced, such as the gender of the tattoos, the composition of the sample or previous contact with tattooed people, rather than the fact that this bias does not occur strongly in society, which at first glance would seem to explain the reason for the low results even in the control group.

In this way, the low scores could be due, on the one hand, to the genre of tattoos used in the images presented, because these corresponded, for the most part, to tribal tattoos and nature themes, these genres being less associated with the negative stereotypes that are held towards people with tattoos and which, in addition, generate a greater perception of trust towards the tattooed person than other types of tattoos, such as those related to violence or nudity (Timming & Perret, 2017).

On the other hand, these low levels of prejudice could be due to the characteristics of the sample, which was made up of young adults who were university students, mostly from the humanities, who according to Paluck & Green (2009) are especially exceptional when it comes to the expressions of prejudices, these being the ones who report less prejudice than the average individual has; and which, according to Guerrero & Zambrano (2013), tend to present lower levels of prejudice towards various outgroups compared to students from other careers such as engineering or agribusiness.

Finally, another factor that could have influenced the low results could be the previous contact that the participants had with tattooed people. Well, in today's society, the tattoo has acquired different forms of use, values and meanings, now being associated with the enhancement of body aesthetics, the affective world and the personal search for differentiation (Pérez, 2009). Likewise, the professionalization of tattooing, that is, its performance by people with more technical knowledge and the use of specialized instruments, produces an increase in confidence when tattooing (Pérez, 2009).

In addition, to this it must be added that in contemporary times there is no profile of the tattooed person, the tattoo travels through different economic and educational levels, through different social and work environments, different generations and activities, it does not discriminate by age or gender; In short, it is not

subject to a particular person, making its use increasingly varied and massive, which makes it difficult not to have any contact with them (Pérez, 2009). In this sense, it is possible that the participants, as individuals of this contemporary society who develop in a diversity of contexts and with a variety of people, have relatives, friends or acquaintances with tattoos, so contact with them on multiple occasions and contexts could lead to learning about them, a generation of affective ties, a reevaluation of the stereotypes held about this outgroup and, finally, a positive change in the behaviors directed towards them (Pettigrew, 1998).

Indeed, the association of contact and levels of prejudice is clearly exposed in the Contact Hypothesis postulated by Allport (1954 as cited in Joyce, 2017), who argues that direct contact with members of the outgroup would improve the attitudes that one has towards these, as long as four key conditions are met, namely: the status of equality within the contact situation, common goals, cooperative participation and support from the authorities, which are related to processes that function as mediators of change of attitudes, such as learning, behavioral change, bonding, and Endogroup reassessment (Pettigrew, 1998).

An extension of the contact hypothesis that also has great importance in explaining the low levels of prejudice in the sample is the media intergroup contact theory, according to which the contact between the in-group and the out-group occurs through the media, which would generate processes of linking, identification and learning about the outgroup, which would lead to an improvement in intergroup attitudes and emotions, negative stereotypes would be modified and more positive behaviors would be facilitated (Joyce, 2017). In this sense, it is evident how the public environment is invaded by a strong presence of the media, which implies an increase in the visible channels through which images of the individual and the social are projected and expressed, facilitating the diffusion and contact with styles and fashions of body art, making the tattoo a widely extended phenomenon (Walzer, 2016).

Similar to this, the rise of tattoo studios and famous tattooists with their own web pages works as a form of expression, extension and globalization of the presence of tattoos (Walzer, 2016). In the same way, the fact that famous people are tattooed produces in the people who follow and esteem them, a decrease in negative attitudes towards tattoos, and even interest in getting tattoos (Joyce, 2017).

This increase in the acceptance and use of tattoos could also be understood from the perspective of Bandura's social learning (1971 as cited in Hill, 2016), since the media portray famous models or characters of great esteem who, through from identification, they become role models who are valued positively. If those famous people, such as athletes, actors and singers towards whom you feel admiration and pride, wear tattoos, it may be possible that their behavior is imitated, which also helps DE stigmatization (Walzer, 2016). Thus, the media and celebrities who model body modification contribute to normalize and popularize the use of tattoos (Hill, 2016).

The aforementioned variables, namely, the gender of the tattoo, the characteristics of the sample and the previous contact with tattooed people, could have influenced the scores, generating an underestimation of the implicit prejudice actually present in society with respect to tattooed women. Given that, due to the characteristics of the tattoos or the sample, much more favorable scores could be obtained towards the Outgroup, these being not very representative of the population.

Thus, since the scores collected are so low and similar, it is more difficult to observe, if any, the effect that the independent variable, that is, non-verbal visual cues, can generate on the reduction of implicit prejudice; that is why, for future studies that choose to continue with this line of research, it is recommended to take into account:

- 1) The gender of the tattoo, including tattoos of various themes such as those referring to violence or nudity, so that they represent more of the tattoos that can be found in real life;
- 2) The composition of the sample, using not only university students and broadening the age range; and
- 3) The participants' previous contact with the Exogroup, which, although difficult to avoid, could be controlled taking as a reference the frequency or time of use of social networks and media through which body art is present; or selecting for the sample people who have neither family nor close friends tattooed. All this, in order to be able to obtain scores that are less biased and that make it possible to observe, if there are any, the effects of the independent variable with greater force.

In relation to the composition of the sample, it would be of great relevance to evaluate the effect of non-verbal visual cues on people in the personnel selection and recruitment area, because in these spaces there tends to be a great prejudice towards tattooed people, general (Baumann, Timming & Gollan, 2016; Méndez, 2015), much higher than that found in samples of university students, so the effect of the independent variable could be more strongly evidenced if it exists.

Así mismo, se recomendaría incluir el uso de pruebas pretest, de modo que sea posible conocer los niveles de prejuicio implícito de cada grupo tanto antes como después de la intervención, de forma que el análisis pueda realizarse de forma más exhaustiva; en conjunto con esto, se recomendaría optar por

investigaciones longitudinales más que transversales, que permitan un espacio de tiempo amplio entre el pretest y el postest para evitar los efectos de sensibilización y memorización que la pre prueba podría generar. Additionally, it would be recommended to increase the sample size and to use random sampling that allows to collect a more representative sample of the population of interest, and to ensure that the various extraneous variables are distributed in a similar way in all groups, in order to avoid biases and incorrect inferences about the population due to the characteristics of the selected sample.

On the other hand, it is important to note that, despite not being significant, it was possible to observe a small difference in the group means, since the levels of prejudice in the group with exposure to images of tattooed women with glasses were lower with respect to the control group and much lower with respect to the group exposed to images of tattooed women with sunglasses, which presented the highest levels of prejudice; this would imply that there may actually be an effect of the glasses in reducing prejudice that could be masked by the low levels of prejudice in the overall sample.

In fact, the result of this research is similar to that found by Díaz, Guerrero & Mijares (2018), who carried out a similar experiment, also obtaining the highest levels of prejudice in the group exposed to images of tattooed people with sunglasses, and the lowest level, in the group exposed to images of tattooed people with glasses, although these differences, as in the present investigation, failed to reach an important level of statistical significance.

However, it is interesting to observe that, in both investigations, the groups exposed to images of tattooed people with sunglasses obtained the highest levels of implicit prejudice, showing that in fact non-verbal visual cues do influence the implicit prejudice of a person or other way. This effect of sunglasses could be linked to the impediment that they produce on eye contact, since it is well known that this is an element of great relevance in non-verbal communication, since it functions as a regulator of the communicative act and, more still relevant, it becomes a way to express emotional and relational interests; Thus, when interpersonal contact is established, people who look their interlocutor in the eye are usually perceived in a more positive way than those who do not, a fact that generates mistrust (Cruz, 2003; Danziger, 1982 as cited in Sánchez, 2014; Domínguez, 2009).

Therefore, since eye contact facilitates greater empathy, tolerance and intimacy, it is possible that being interrupted by dark glass, its positive effects were nullified and feelings of distance and suspicion were generated, which lead to a more negative assessment of the person (Cruz, 2003; Danziger, 1982 as cited in Sánchez, 2014; Domínguez, 2009). In addition, to this it is added that the use of sunglasses is associated with the impression that the person appears to be someone important, such as a celebrity; as well as, they make her look mysterious, slightly evil and as if she is hiding something, stereotypes that increase the possibility of a more negative perception (Wilson, 2012).

Finally, although the present research has not been able to replicate the findings of Torrejón (2015) regarding the effectiveness of glasses to reduce the implicit prejudice towards tattooed people, this fact may be the product of the control of variables applied in the present investigation, specifically, referred to the control of the use of glasses by the participants.

In the initial research by Torrejón (2015), the participants tended to present lower levels of implicit prejudice towards a tattooed person wearing glasses than before this same person without glasses; However, in a second study carried out by the same author, it could be seen that this effect was partly mediated by whether the recipients or participants also wore glasses.

This second study indicated that participants, whether or not they wore glasses, tended to prefer non-tattooed people over tattooed people and tattooed people with glasses over tattooed people without glasses; However, when the participants wore glasses and were faced with a non-tattooed person without glasses and a tattooed person with glasses, they tended to have a preference towards the latter, while the subjects who did not wear glasses preferred the non-tattooed person without glasses (see Table 3).

Table 3.
Participants' preferences according to the use or not of glasses in the second study by Torrejón (2015).

		Encouragement images		
		Not tattooed VS Tattooed	Tattooed VS Tattooed with glasses	Not tattooed VS Tattooed with glasses
Partaker	Use glasses	Not tattooed	Tattooed with glasses	<i>Tattooed with glasses</i>
	Does not use glasses	Not tattooed	Tattooed with glasses	<i>Not tattooed</i>

In this way, it could not be affirmed that the effect of the glasses was completely due to recategorization, as the author would suggest, that is, by a process by which the glasses on a tattooed person would allow them to be changed from a negative category to a positive one. because these would activate positive stereotypes associated with professionalism, trust and honesty; since if so, in the latter case the participants should not have presented an important preference for one type of person or another, since the recategorization would have occurred and helped to reduce prejudice; Therefore, there must be another variable beyond the activation of positive stereotypes that would be influencing.

From the above, it can be deduced that, in Torrejón's (2015) research, an important process through which a more positive assessment of the tattooed person was led would not be recategorization (at least with respect to the group of participants with glasses), but could be explained by cross-categorization, a process that occurs when members of opposing groups realize that they share a common category of belonging (Paluck and Green, 2009); Thus, although the participants and the outgroup differ in several aspects (including the presence of tattoos), some of them present a similar element: the use of glasses, which makes them feel part of a common social entity.

These results can be evaluated from the theory of identity and social categorization of Tajfel (1984), which establishes that human beings divide their social world into two different groups: us and them, which refers to a social categorization. In this case, the participants with glasses would have established the us-them category based on the use of glasses or not, rather than based on the presence or absence of tattoos; thus, the tattooed people with glasses were not perceived as the outgroup, on the contrary, there was a process of Endogroup identification based on the use of glasses, understanding it as "that part of an individual's self-concept that derives from the knowledge of their belonging to a social group together with the evaluative and emotional meaning associated with said belonging" (Tajfel, 1984, p. 292). In this way, since the participants were aware of their similarity to people with tattooed glasses, more positive feelings and evaluations were activated in them than with those who did not have glasses.

Thanks to the present investigation, what was expressed above could be really verified, because in this study the use of glasses by the participants was considered as a variable to control, not accepting people who used glasses in any of the groups. By not including this type of people in the sample, it was not possible for the Endogroup identification process and cross-categorization to take place, and therefore, it is explained why the use of glasses as non-verbal visual cues did not produce a decrease significant of the implicit prejudice towards tattooed women; Likewise, the important role played by Endogroup identification in reducing prejudice is glimpsed, as indeed happened in Torrejón's (2015) research with those participants who wore glasses.

In light of these findings, an answer can be given to the question that Torrejón (2015) asked and guided this research, referring to whether glasses served as a tool for recategorization or as a distraction element. It is inferred, then, that the effectiveness of glasses in reducing prejudice, rather than being due to recategorization due to the activation of positive stereotypes associated with intellect, success, professionalism, trust and honesty; or due to a simple distracting effect on the tattoo, it could be due to the identification process that occurs between the recipient and the tattooed individual when both wear glasses. In the case of individuals who do not wear glasses, it is not yet clear what is the underlying mechanism for them to prefer tattooed people with glasses at one time and not at others, since the present investigation did not yield significant results that shed light about this.

Therefore, future research should compare the effect of glasses as non-verbal visual cues in groups of participants with and without glasses, so that the aforementioned findings regarding the role of Endogroup identification can be thoroughly corroborated; as well as evaluating what are the underlying mechanisms that make glasses sometimes produce a decrease in implicit prejudice in participants who do not use reading glasses and therefore cannot be identified Endogroup.

Likewise, it is proposed that for later studies the use of different and more varied visual signals that allow a similar Endogroup identification process, which seems to be one of the main causes of the positive reduction of prejudice, is proposed, so that continue to design strategies that can be used to reduce stigma towards the outgroup referred to here.

Conclusions

Among the main social implications derived from the findings of this research, is the broadening of knowledge about the process through which non-verbal visual cues could lead to a decrease in prejudice towards tattooed people, since it is not only considers that it could occur through recategorization, but also through the Endogroup identification process, which in turn makes cross-categorization possible, which also leads to a reduction in prejudice.

Thus, this research shed light on a new way of reducing prejudice that should be considered in future research, thus opening an innovative line of research for future studies aimed at testing the role that various non-

verbal visual cues would play in Endogroup identification; Well, they are feasible, far-reaching and fast-executing elements, so if their effectiveness for Endogroup identification were corroborated, such a finding would be fruitful to combat in a practical way the prejudice towards tattooed people present in society which could be achieved by various mass media, such as television, billboards and other media.

A second implication has to do with the fact that prejudice towards tattooed women is configured as a current problem and of great social relevance due to the consequences it produces, but which, on the other hand, does not receive the attention it deserves. Since, although today women have a greater participation in different areas compared to past decades, they are still discriminated against in many spheres of social life, since they are often associated with stigmatizing characteristics that affect perception and the treatment directed towards them (INADI, 2018).

The situation becomes drastically complex when it is added that tattooed women are even more stigmatized, being considered as unattractive, vulgar, promiscuous and addicted to drinking, a perception that becomes more negative as the number of tattoos increases (Swami & Furnham, 2007). This negative view of the tattooed woman can affect both their self-esteem and the abuse and injustices that they could suffer from others, as well as their possibility of insertion in different social environments (INADI, 2018; Swami & Furnham, 2007).

Additionally, continuing to study and design strategies to mitigate this prejudice towards tattooed women is highly relevant and socially important, given that the negative stereotypes that frame tattooed people can make them suffer from employment discrimination, leading to lower chances of being hired or to be accepted in their work environment due to the presence of tattoos on their body (Baumann, Timming & Gollan, 2016; Méndez, 2015; Miller, McGlashan & Eure, 2008), which implies great disadvantages for this stigmatized group that can affect their quality of life by living in a society that does not accept people who use their skin as a canvas.

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