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## When characters impact on dubbing:

 the role of sexual stereotypes on voice actor/actress' preferencesFabio Fasoli, Department of Psychology, University of Milano-Bicocca, fab.fasoli@gmail.com Mara Mazzurega, Center for Mind/Brain Sciences, University of Trento, mara.mazzurega@unitn.it Simone Sulpizio, Department of Psychology and Cognitive Science, University of Trento, simone.sulpizio@unitn.it

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Dubbing and stereotypes


#### Abstract

Dubbing is a procedure through which an original actor's voice is replaced with that of a voice actor, usually speaking a different language. Dubbing is not only an adaptation to language but also to cultural beliefs. Across 2 studies, we analyzed how some Italian participants would prefer a TV series' character to sound like. In Study 1, participants read a male/female character description that was manipulated according to gender and sexual stereotypes in order to be masculine, feminine or neutral. Next, participants were asked to indicate their preference for 3 voice actors/actresses who sounded heterosexual, gay/lesbian or ambivalent. Study 2 tested the interplay between a character's description and the voice of the English-speaking (gay/lesbian- vs. heterosexual-sounding) actor/actress who played the role in the original TV series on dubbing preferences.

The results of both studies showed that a character's description affected dubbing preferences. Participants preferred the gay/lesbian-sounding voice actor/actress to the counter-stereotypical character (i.e., a feminine man or a masculine woman) and the heterosexual -sounding voice actor/actress to the stereotypical character. Interestingly, at least for male targets, the original actor's voice itself affected the preference for voice actors in the same way. This work suggests that dubbing can maintain and reinforce stereotypes.


Keywords: dubbing, voice, stereotype, sexual orientation, gender

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In an episode of the last season of the TV series Will \& Grace, the gay character Jack McFarland finally realized his dream when he played the role of a police officer in a TV series. However, he was shocked when he discovered that his rather feminine voice had been dubbed with a very masculine and deep one. He immediately asked himself: "Why would anybody dub my voice?" With the present work we try to answer this question by experimentally investigating the impact of stereotypes on dubbing.

Movies are often assimilated into the target culture (Barra, 2009; Hatim \& Mason, 1997; Kilborn, 1993) by means of changing content and dialogues in order to adapt them to cultural beliefs and meet the audience's expectations. This is why, for instance, the Simpsons drink soda and eat beef, instead of beer and hot-dog in the Arabian version of the cartoon, or in Italy, Fran Drescher (character of The Nanny) is not Jewish but hails from a suburb of Rome (D'Ydewalle \& Pavakanun, 1995). Dubbing is another way to perform this adaptation. In many countries (e.g., Italy, France, Spain, Germany, Brazil, China, etc.) it is the common method of translating television broadcasts or movies, which implies the drop of the original soundtrack and re-voicing. Different from subtitling, dubbing implies the replacement of the original voice of the actor on the screen with that of a voice performer, usually speaking a different language (Cintas \& Orero, 2010). Dubbing not only permits an adaptation to the language but also to the culture of the country in which the movie or TV show is released (Danan, 1991).

Cultural beliefs go hand by hand with stereotyping and social expectations (Cuddy et al., 2009; Devine, 1989). In particular, gender beliefs include stereotypes about being masculine or feminine, providing attributes on how men and women should be (Kite, 2001). Although these stereotypes may be similar across cultures, their expression depends on societal norms (Glick, et al., 2004; Rees-Turyn, Doyle, Holland \& Root, 2008). It is well established that in Western societies the mass media, especially television, have proposed and portrayed genders according to stereotypes and traditional gender roles (Glascock, 2001; Lauzen, Dozier, \& Horan, 2008; Smith, Pieper, Granados,

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\& Choueiti, 2010). Hence, while men are usually presented as masculine, strong and powerful, women are portrayed as feminine, nice and caring, in family roles or as decorative, if not sexual, objects (Coltrane \& Adams, 1997; Eisend, 2010). Studies of advertisements have also demonstrated that voice matters and stereotypes play a role in deciding which gender should talk about what. Female products (e.g., cosmetics) are mostly associated with female voice-overs while the opposite emerges for typical male products (e.g., cars; Peak, Nelson \& Vilela, 2011). Interestingly, when asking individuals to assess advertisements, the product-voice gender match (e.g., a man talking about a typical male product) was judged as more appropriate than a mismatch, even though this did not necessary imply higher advertisement effectiveness (Rodero, Larrea, \& Vàzquez, 2013). Together, these studies suggest a stereotype-based use of voice by the mass media.

Men and women are not the only groups subjected to gender-related stereotyping on the screen. Gays and lesbians are too. According to Gender Inversion Theory (Kite \& Deaux, 1987), gay men are seen as feminine and as having those qualities that are typical of heterosexual women. On the other hand, lesbians are perceived as similar to heterosexual men as they exhibit male sex-typed qualities. If this is what lay people believe (see Madon, 1997), over the years the mass media have consistently portrayed gay and lesbian characters in such a stereotypical way (Benshoff \& Griffin, 2006; Fejes \& Petrich, 1993; Ivory, Gibson, \& Ivory, 2009; Linneman, 2008). In fact, gay characters were presented as effeminate and with qualities that are usually associated with heterosexual women (e.g., being emotional, good dressers).

Some of the qualities that are perceived to be informative about gayness are voice and prosody (Shelp, 2003). As a matter of fact, television and movies have paid attention to such cues when portraying gay characters. For instance, Cartei and Reby (2012) have found that some American actors feminized their voice (by altering their way of speaking) when playing gay characters in order to meet stereotypes that want gay men to speak more "like a woman". The voice sound may also matter in dubbing. Indeed, it has been noticed that, while gay characters were dubbed with a

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"naturalized" voice in Spain, in Italy they were re-voiced with an overemphasized camp voice (De Marco, 2006a; 2006b). This difference has been explained as a tendency to adapt to shared stereotypes representing gay men as feminine in Italian society through their dubbing voice. Nevertheless, to our knowledge, studies discussing dubbing as an adaptation to cultural beliefs and stereotypes are few and mostly descriptive leaving this issue under-researched (see Mera, 1999).

As television and movies are some of the main ways through which individuals acquire knowledge, especially about those groups they have little contact with, it is clear that the media plays a tangible role in establishing and reinforcing stereotypes (see Signorielli, 1989; Ward \& Friedman, 2006). This research contributes to show to what extent dubbing contributes to this phenomenon. If in the past dubbing may have played a role in creating such beliefs, nowadays it can be a tool to reinforce and maintain stereotypes about men being masculine and women being feminine as well as about gay men and lesbian women being "gender-inverted", as they possess gender-opposite qualities even in their way of speaking.

## Voice as a cue of gayness

Voice is a cue that individuals use to make inferences about the speaker. Research has shown that, by listening to someone speaking for a very little time (a few seconds) and pronouncing a few words or even single words, individuals are able to make judgments about the speaker's sexual orientation (Gaudio, 1994; Linville, 1998; Munson, 2007; Tracy, Bainter \& Satariano, 2015). Although this research suggested the existence of an accurate auditory gaydar, other studies have provided evidence that voice-based categorization is not always accurate: listeners distinguish between gay- and heterosexual-sounding voices regardless of the actual speaker's sexual orientation (Munson, McDonald, De Boe, White, 2006; Smyth, Jacobs, \& Rogers, 2003; Sulpizio, et al., 2015). Thus, rather than actual differences in gay and heterosexual voices, it is how the voice sounds in the listeners' ears that impacts their judgments. Vocal cues associated with heterosexuality and gayness are not universal but vary across languages. In English, it has been found that, in the case of male

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speakers, formant frequencies of some vowels and spectral features of sibilant $/ \mathrm{s} /$ are relevant in driving judgements about sexual orientation (Munson, 2007), while for women formant frequencies and (although with mixed evidence) pitch may be considered (Munson et al., 2006). When looking at Italian, research has shown that listeners base their judgment of male sexual orientation on spectral features of /s/ and, more importantly, on vowel duration and speaking rate; for female speakers, instead, the judgment is based on vowel formant frequencies (Sulpizio et al., 2016). According to how these acoustic cues are realized by a speaker, her/his voice is perceived either as more gay/lesbian- or heterosexual-sounding.

Interestingly, these voice-based inferences are made by listeners not only about speakers of the same but also of foreign languages. Sulpizio et al. (2015) showed that Italians and Germans process foreign and own-language speakers' voices in a similar way: Regardless of the language, they do make a distinction between gay- and heterosexual-sounding speakers.

The categorization of a voice as belonging to either a gay or a heterosexual person leads to several consequences, including stereotyping. Male gay-sounding speakers are perceived as less masculine and more likely to have feminine interests (e.g., ballet) than heterosexual-sounding speakers and vice versa for female speakers (Fasoli, Maass, Paladino, \& Sulpizio, 2015). Hence, by choosing certain types of voices, dubbing may become a subtle and effective tool for stereotyping and for cultural boundaries maintenance (Chion, 1999; Danan, 1991; Goris, 1993; Martin, 2002).

## Overview

Italy is a country where dubbing is pervasive and preferred to subtitling (Eurobarometer 2012a), and where gay stereotyping is perceived to be widespread (Eurobarometer, 2012b). Hence, Italy represents an appropriate context to investigate whether dubbing is a tool for stereotyping.

In the present research we experimentally examined for the first time actual dubbing preferences in a potential audience. In particular, we focused on dubbing preference for gender-stereotyped male and female characters. According to heteronormativity (Habarth, 2008; Nielsen, Walden, \&

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Kunkel, 2000), men have to be portrayed as masculine and women as feminine. In contrast, as suggested by the Gender Inversion Theory (Kite \& Deaux, 1987), gay men are portrayed as stereotypically feminine and lesbians as masculine, which is representative of the opposite gender. Dubbing may serve to maintain these expectations.

In Study 1, we manipulated the character's description in order to be stereotypically masculine, stereotypically feminine or non-gender-stereotyped. Then, we tested the preferences for voice actors/actresses who sounded heterosexual, gay/lesbian, or ambiguous. As a follow-up step, in Study 2 we explored whether being exposed to the voice of the English-speaking actor/actress to be dubbed affects dubbing preferences. Thus, we manipulated the character's description (stereotypically masculine vs. stereotypically feminine) and also the sexual orientation (gay/lesbian vs. heterosexual) conveyed by the voice of the actor/actress who played the character in the original English-language TV series.

## Study 1

This study aimed to test whether stereotypes conveyed by character description impacted dubbing preferences for voice actors/actresses whose voice varied in the way it sounded (namely gay/lesbian-, heterosexual- and ambiguous-sounding voices). We exposed participants to a character description that included stereotypical masculine or feminine features and varied the character's gender across Study 1a (male) and 1b (female). Moreover, to control that the effects were specifically due to the stereotypes conveyed by the descriptions, we included a non-stereotyped character condition in which no specific gender-stereotype was presented. On the one hand, a non-gender-stereotyped character could not advance any specific dubbing preference. On the other hand, it could still be considered as a prototypical man/woman (heterosexuality as default) and induce a preference for the voice actor/actress whose voice better represented the reference group and gender congruency (i.e., the heterosexual-sounding voice).

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Our predictions were based on gender beliefs (Kite \& Deaux, 1987), suggesting that a feminine man and a masculine woman were more likely to be perceived as gender-nonconforming and hence as gay/lesbian. We predicted that the audience would prefer a gay-sounding voice actor for a feminine rather than for a masculine and non-stereotyped male character, while the opposite was expected for a heterosexual -sounding voice actor (Study 1a). In contrast, a lesbian-sounding voice actress was expected to be preferred for a masculine rather than for a feminine and non-stereotyped female character, and vice versa for a heterosexual -sounding voice actress (Study 1b).

## Method

Participants of Study 1 a and $1 b$. Inclusion criteria for all studies were: a) completing all the survey parts, b) being a native Italian speaker, and c) being heterosexual. The final sample consisted of 86 ( 42 males, ranging in age from 18 to $60, M_{\text {age }}=22.41, S D=6.01$ ) participants in Study 1a, and of 89 ( 34 males ranging in age from 18 to $61, M_{\text {age }}=25.07, S D=9.48$ ) participants in Study 1 b .

## Materials.

Character description. Three different descriptive versions of the character were created. We manipulated the type of information provided by describing the character as a student who studied a typically masculine (i.e., engineering), feminine (i.e., foreign languages) or non-gender associated (i.e., political science) subject; as having personality traits commonly considered of men (e.g., adventurous, arrogant), of women (e.g., sensitive, gossiping) or of both (e.g., honest, late coming). We also described the actor/actress in the scene as performing activities such as watching a TV show that could be either stereotypically gender-based (e.g., soccer match vs. a musical) or not associated with any gender (i.e., news), and by saying that he/she was going out later for a beer (masculine), a cocktail (feminine) or a coffee (non-gender stereotypical). Except for this information, the text was always the same across conditions. ${ }^{1}$ In Study 1a the character was a man (Alessandro) and in Study 1b a woman (Alessandra).

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Voice actors and actresses. In Study 1a, 3 male speakers were chosen as potential voice actors. They all pronounced the same neutral sentence (i.e., "the dog runs in the park"), but varied the way their voice conveyed sexual orientation. Their selection was based on ratings from a study in which participants judged speakers' sexual orientation on a scale from 1 (exclusively heterosexual) to 7 (exclusively homosexual; see Sulpizio et al., 2015; Study 2a). We chose a heterosexual- ( $M=2.31$, $S D=1.19)$, an ambiguous- $(M=3.86, S D=1.27)$ and a gay-sounding speaker $(M=5.57, S D=.71$; each speaker was perceived differently from the others, $t \mathrm{~s}>8.54, p \mathrm{~s}<.001$ ). Acoustically, the speakers differed on durational measures such as speaking rate (measured as the ratio between total sentence duration and the number of syllables in the sentence; heterosexual -sounding: 6.66, ambiguous-sounding: 5.67, gay-sounding: 5.07) and mean vowel duration (heterosexualsounding: .06 s , ambiguous-sounding: .08 s , gay-sounding: .11 s$)^{2}$, which are as the main acoustic features on which Italian listeners categorized speakers as gay or heterosexual (Sulpizio et al., 2015).

In Study 1b, voice actresses were selected based on a pretest $(N=58)$ where speakers, pronouncing the same sentence as in Study 1a, were evaluated on a scale from 1 (exclusively heterosexual) to 6 (exclusively lesbian). Speakers were perceived as heterosexual- $(M=2.30, S D=$ 1.28), as ambiguous- $(M=3.42, S D=1.16)$, and as lesbian-sounding $(M=4.79, S D=.98$; each speaker differed from the others: $t \mathrm{~s}>5.38, p \mathrm{~s}<.001$ ), respectively. Looking at acoustic cues, we found that the three speakers differed on duration of /i/ (heterosexual -sounding: 09 s , ambiguoussounding: .077 s , lesbian-sounding: .073 s ), F2 of /e/ (heterosexual -sounding: 2020 Hz , ambiguoussounding: 2142 Hz , lesbian-sounding: 2049 Hz ), and /s/ center of gravity (heterosexual -sounding: 1274 Hz , ambiguous-sounding: 2510 Hz , lesbian-sounding: 2645 Hz ), which are the more sensitive cues driving sexual orientation judgments for Italian female voices (Sulpizio et al., 2016). Also, pitch range varied across speakers: the heterosexual showed the highest and lesbian the lowest value (heterosexual-sounding: 222.82 Hz , ambiguous-sounding: 175.91 Hz , lesbian-sounding: 160.5).

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Procedure. Participants were recruited via email sent to students' contacts, and by posting the questionnaire link on social networks (e.g., University Facebook groups). Participants were told that, as part of a European student project, a new TV series was produced for broadcast via the web. They were informed that the TV series needed to be dubbed and the questionnaire aimed to test audience preferences for voice actors/actresses. First, participants read a short description of the main character. Next, participants listened to three potential voice actors/actresses one at a time in a randomized order. Participants were informed that these voice actors/actresses were asked to speak in a spontaneous way. For each voice actor/actress, the participants indicated their preference by answering two items referring to whether the voice actor/actress was suitable to dub the character (i.e., "I think this voice actor/actress is suitable for the character"; "I think this voice actor/actress has the appropriate voice to dub the character") and a specific item referring to choice willingness (i.e., "I would not choose this voice actor to dub the character"). Answers were provided on a scale from 1 (completely disagree) to 7 (completely agree).

Then, participants were asked to indicate how they would like to see the character being portrayed physically. They were presented with two scales: The first scale consisted of 9 silhouettes ranging from a very thin to a very heavy body shape of men (Study 1a) and women (Study 1b; Stunkard, Sorensen, \& Schulsinger, 1983); the second scale was different for male and female targets. In Study 1a, we varied the muscularity which ranged from no muscles to a large definite figure with muscle mass (see Raudenbush \& Meyer, 2010), whereas in Study 1b we created a 5silhouettes' scale by increasing the size of breasts and hips to become a shapely body. Participants had to select which silhouette better represented how they would like the character to be portrayed. Finally, participants answered a few manipulation check items by reporting some personality traits of the character, by indication the TV show he/she was watching (i.e., "what was Alessandro/a watching in the described scene?") by choosing one of 5 options including those mentioned in each condition (i.e., news, soccer match, musical), and they indicated whether the character was

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heterosexual, bisexual or gay/lesbian. At the very end, and before reporting their demographic information (age, gender, sexual orientation and nationality), participants reported their agreement with items on the Attitudes Towards Gay Men scale (ATG, $\alpha=.85$ ) or Attitudes Towards Lesbian scale (ATL; $\alpha=.80$ ) (Herek, 1998). Answers were provided on a 7-point scale from 1 (completely disagree) to 7 (completely agree). ${ }^{3}$

## Results.

## Study 1a-male character

Manipulation check. The majority of participants (ranging from $73.9 \%$ to $90.5 \%$ of participants across conditions) correctly reported two or more (out of four) personality traits that corresponded with the character's description. Moreover, $96.6 \%$ of participants in the masculine, $77.8 \%$ of participants in the feminine and $89.7 \%$ of participants in the non-stereotyped condition correctly remembered the TV show that the character was watching (i.e., soccer match, musical and news, respectively). Finally, the character was perceived as heterosexual by $89.3 \%$ and $86.2 \%$ of participants in the masculine and non-stereotyped description conditions, respectively. In the feminine condition only half of the participants (46.4\%) perceived the character as gay/bisexual. ${ }^{4}$

Dubbing preference. An index of preference was calculated by averaging the three items ( $\alpha$ ranging from .87 to .96 ). This index was submitted to a 3 (Character description: masculine vs. feminine vs. non-stereotyped) x 3 (Voice actor: heterosexual - vs. gay- vs. ambiguous-sounding) ANOVA. The first was a between-participants whereas the second a within-participants factor. The analysis yielded a significant interaction between character description and voice actor, $F(4,166)=$ 6.98, $p<.001, \dot{\eta}^{2}{ }_{p}=.14$. Pairwise comparisons (Bonferroni correction) showed that the heterosexual -sounding voice was preferred when the character was described as masculine ( $M=$ 4.56, $S D=1.32$ ) rather than as non-stereotyped $(M=2.99, S D=1.68 ; p=.001)$ or feminine $(M=$ $3.60, S D=1.67 ; p=.07$ ). However, the ambiguous-sounding voice was preferred in the non-

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stereotyped ( $M=3.95, S D=1.70$ ) and feminine ( $M=3.46, S D=1.65$ ) conditions than in the masculine one ( $M=2.41, S D=1.12 ; p \mathrm{~s}<.01$ ). The gay-sounding voice was rated as more adequate for the feminine $(M=4.36, S D=1.97)$ than the masculine character $(M=3.07, S D=2.17 ; p=.06)$. No difference emerged between the non-stereotyped and the other two conditions ( $M=3.72, S D=$ 2.00; $p \mathrm{~s}>.60$; see Fig1a).

Looking at the data in a different way, we tested (Bonferroni correction) which voice actor was preferred for each character. When the character was described as masculine, the heterosexual sounding voice was preferred over the others ( $p \mathrm{~s}<.01$ ). For the non-stereotyped and feminine characters all the voice actors were rated as adequate equally ( $p \mathrm{~s}>.08$ ).

Physical appearance: Weight and Muscularity. A univariate ANOVA was conducted to test the impact of character descriptions on preference for physical appearance. Preferences for body shapes that varied in terms of weight and muscularity were tested separately. No difference was found on weight, $F(2,83)=2.33, p=.10, \dot{\eta}^{2}{ }_{p}=.05$. However, a description effect was found on muscularity, $F(2,82)=8.73, p<.001, \dot{\eta}^{2} p=.18$. Pairwise comparisons (Bonferroni) indicated a preference for a more muscled body when the character was described as masculine ( $M=4.52, S D=1.24$ ) rather than non-stereotyped ( $M=3.64, S D=1.16$ ) or feminine ( $M=3.21, S D=1.20 ; p \mathrm{~s}<.02$ ). No difference emerged between the last two conditions ( $p=.56$ ).

## Study 1b - female character

Manipulation check. The majority of participants (ranging from $60 \%$ to $70 \%$ of participants across conditions) correctly reported two or more traits associated with the character they were presented with. Participants also remembered correctly the TV show that the character was watching (percentage ranging from $82.1 .2 \%$ to $90.9 \%$ ). Regardless of how the female character was described, she was perceived as heterosexual (percentage of participants identifying the character as heterosexual ranging from $81.3 \%$ to $92.6 \%$ across conditions).

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Dubbing preference. As in Study 1a, participants' ratings were subjected to a 3 (Character description: masculine vs. feminine vs. non-stereotyped) x 3 (Voice actress: heterosexual- vs. lesbian- vs. ambiguous-sounding) repeated measures ANOVA. The analysis showed a main effect of the voice actress, $F(2,168)=15.02, p<.001, \dot{\eta}^{2} p=.15$. Overall, the heterosexual -sounding voice actress ( $M=4.26, S D=1.81$ ) was preferred over the other two (lesbian-sounding: $M=3.46 S D=$ 1.79; ambiguous-sounding: $M=3.00, S D=1.62 ; p \mathrm{~s}<.002$ ). This effect was qualified by an interaction with the character's description, $F(4,168)=8.97, p<.001, \dot{\eta}^{2} p=.18$. Pairwise comparisons (Bonferroni correction) showed that the heterosexual -sounding voice was rated as more appropriate both when the character was described as feminine $(M=4.83, S D=1.55)$ and non-stereotyped ( $M=5.02, S D=1.66$ ) than as masculine $(M=3.17, S D=1.63 ; p \mathrm{~s}<.001)$. The lesbian-sounding voice was judged as more appropriate when the character was portrayed as masculine $(M=4.25, S D=1.85)$ than both as feminine $(M=2.90, S D=1.67 ; p=.009)$ and nonstereotyped $(M=3.05, S D=1.49 ; p=.02)$ (see Fig 1b). No differences across conditions emerged for the ambiguous-sounding voice $\left(M_{\_}\right.$masculine $=2.73, S D=1.33 ; M_{\text {feminine }}=3.01, S D=1.64$; $M_{-}$non-stereotyped $=3.30, S D=1.91 ; p \mathrm{~s}>.57$ ).

Pairwise comparisons (Bonferroni correction) between voices in each condition were also performed. When the character was described as feminine, the heterosexual -sounding voice was preferred to both the ambiguous and the lesbian-sounding one ( $p \mathrm{~s}<.001$ ), whereas no difference emerged between the last two $(p=1.00)$. The same happened in the non-stereotyped condition, where the heterosexual -sounding voice actor was rated as more adequate than the other two ( $p \mathrm{~s}$ $<.001$ ). Finally, when the character was described in a masculine way, participants preferred the lesbian-sounding voice to both heterosexual - and ambiguous-sounding voice actors ( $p \mathrm{~s}<.04$ ).

Physical appearance: Weight and Body Shape. A univariate ANOVA was conducted including Character description as predictor of either weight or body shape. No effect of condition on weight,

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$F(2,86)=1.50, p=.23, \dot{\eta}^{2} p=.03$, and only a marginal effect on body shape, $F(2,86)=3.09, p$
$=.05, \dot{\eta}^{2}{ }_{p}=.07$, was observed. Participants attributed a higher value on the scale to the masculine $(M=3.55, S D=1.15)$ than to the feminine character $(M=2.82, S D=1.90 ; p=.05)$ whereas no differences emerged with the non-stereotyped character $(M=3.14, S D=1.87 ; p \mathrm{~s}>.52)$.

- Figure 1 -


## Discussion

Study 1 provides the first experimental evidence that a potential audience prefers to listen to voices that match the stereotypes conveyed by the characters, supporting both heteronormativity and gender beliefs. When the male character was described as feminine, participants preferred the gay-sounding voice actor. In contrast, the masculine male character was preferred to be dubbed by a heterosexual-sounding voice. The same was true for female characters: the lesbian-sounding voice was perceived as more appropriate for the masculine character and the heterosexual-sounding voice actress for the feminine character. Interestingly, the ambiguous voice was somehow perceived as not representative of the masculine male character, but was assessed as equally adequate for all the female characters. However, the ambiguous voice was never preferred over the others.

The results also showed that a male character being portrayed as stereotypically masculine, compared to a character with no gender specific traits (non-stereotyped condition), led to a stronger preference for the heterosexual-sounding voice actor. For a female character, being stereotypically feminine or non-stereotyped induced similar preferences for the heterosexual-sounding voice actress. This may suggest that it is especially the stereotypical masculine man that needs to maintain his hegemonic status represented by heterosexuality and masculinity even through voice (Habarth, 2008).

Importantly, these results emerged when no mention of the character's sexual orientation was made and even if participants had difficulties in identifying the character as gay/lesbian. Overall,

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participants preferred voice actors/actresses who support stereotyping, suggesting that nowadays dubbing is a subtle way for stereotype maintenance.

In addition, we found that a stereotypical description of the character affected the way in which the audience wanted to see the character physically portrayed on the screen. Being described as a masculine character increased the preference for a more muscular actor. This suggests that, at least for male characters, not only voice but also physical appearance may be a way to confirm stereotypes. However, no clear pattern for body shape emerged for the actress (the feminine one was preferred to have a slightly less shapely body than the masculine character), but this may be due to the measure we created: participants reported difficulties in seeing differences between the silhouettes and the one that was thought to be more shapely appeared slightly more robust than the others.

## Study 2

Usually the audience is only exposed to the dubbed voices. However, lately it is possible to choose to watch a movie or TV series in the original language, in which case the audience is exposed to the voice of the original actors/actresses. This is a slow but growing practice among Italians (from 2006, preferences for dubbing compared to subtitles decreased from $66 \%$ to $60 \%$, Eurobarometer, 2006, 2012a), especially among young people and those who frequently use the Internet (Eurobarometer, 2012a)

In some countries the voice of a gay character is "naturalized" through dubbing whereas in other countries dubbing emphasizes its effeminacy (De Marco, 2006a; 2006b). However, this happens because of the dubbing directors' decision and regardless of how the audience would like to hear the character speaking. Moreover, we do not know whether knowing the original voice of the actor/actress impacts the audience's dubbing preferences.

If dubbing serves to maintain stereotypes, dubbing preferences should be driven only by how the character is stereotypically described, regardless of the voice of the original actor/actress. That is, a

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masculine male character should be dubbed by a heterosexual-sounding and a feminine male character by a gay-sounding voice, and vice versa for a female character. However, as a voice carries information and elicits stereotypical inferences (Sulpizio, et al., 2015), being exposed to certain types of voices may also affect how the audience wants to hear the character dubbed. Indeed, the audience may consider the English-speaking actor/actress' voice relevant and try to maintain voice congruency through dubbing. We advanced the hypothesis that the voice of the original actor per se would affect dubbing preferences. In particular, we expected a higher preference for a heterosexual -sounding Italian voice actor/actress if the original English-speaking actor/actress also had a heterosexual voice and a preference for a gay/lesbian-sounding dubber if the original actor/actress also sounded gay/lesbian.

## Method

Participants of Study 2a and $2 b$. Based on the inclusion criteria (cf. Study 1), the final samples in Study 2 a and 2 b consisted of 117 ( 42 males, ranging in age from 18 to $48, M_{\text {age }}=24.53, S D=4.28$ ) and of 113 (31 males, ranging in age from 18 to $52, M_{\text {age }}=24.13, S D=4.85$ ) participants, respectively. ${ }^{4}$

## Materials.

Character descriptions. The same masculine and feminine characters as for Study 1 were used, albeit dropping the non-gender stereotyped condition.

Original English-speaking actors and actresses. In two pretests we asked participants to listen to sentences (4-5 sec) pronounced by English-speaking actors/actresses during interviews available on the web, and rate their sexual orientation on a scale from 1 (exclusively heterosexual) to 7 (exclusively homosexual). ${ }^{5}$ For study 2 a the voices of 24 famous men ( 12 self-identified as heterosexual and 12 as gay) were pretested ( $N=21,10$ males, $M_{\text {age }}=25.05, S D=4.03$ ). The voices of a gay (Rex Lee: $M=5.05, S D=1.16)$ and a heterosexual (Brad Pitt: $M=1.71, S D=.78$ )

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English-speaking actors were selected as their sexual orientation was correctly detected from their voice and as they were perceived differently from each other, $t(20)=10.46, p<.001$. Acoustically, the gay actor produced some vowels with higher F1 and F2 than the heterosexual actor (F1/a/: 512.66 vs. 642.97, F1 /i/: 394.28 vs. 509.05, F1/u/: 509.08 vs. 821.24, F2 /a/: 1566.76 vs. 1572.13, F2 /u/: 1236.81 vs. 1440.92, for gay and heterosexual actor, respectively; all measures are in Hz ); these cues were related to the listeners perception of male sexual orientation in English (e.g., Munson et al., 2006; Pierrehumbert et al., 2004).

For Study 2b, participants ( $N=24,4$ males, $M_{\text {age }}=28.57, S D=5.70$ ) listened to 18 voices of different women ( 9 self-identified lesbians and 9 heterosexual actresses). We selected a lesbian (Jodie Foster, $M=3.67, S D=1.32$ ) and a heterosexual actress (Cate Blanchett; $M=2.52, S D=.98$ ), who were perceived differently for sexual orientation from their voices, $t(20)=3.59, p=.002$. In this case, the lesbian actress produced some vowels with a lower F2 frequencies than the heterosexual actress (F2/a/: 1682.93 vs. 1728.42, F2 /o/: 1261.73 vs. 1332.15, for lesbian and heterosexual actress, respectively; measures are in Hz ), which is a feature associated with the perception of women's sexual orientation in English (Munson et al., 2006).

In order to avoid any effect due to recognition of the English-speaking actor/actress' identity, in the pretest we asked participants to indicate whether the speaker was an unknown or famous person and, in case, to indicate his/her name. The two selected actors were rated as unknown by $71.4 \%$ and $88.9 \%$ of participants whereas, for the two actresses, percentage ranged from $94.1 \%$ to $94.4 \%$. None of the participants who reported the speaker to be famous correctly identified him/her.

Actors/actresses were all Americans with the exception of Cate Blanchett who is Australian. Nevertheless, the majority of participants in the pretest indicated that both Cate Blanchett ( $69 \%$ of participants) and Jody Foster ( $63.6 \%$ of participant) had an American accent and, thus, perceived them as Americans.

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Voice actors and actresses. The exact same voice actors and actresses as in Study 1 were used. Procedure. The same recruiting strategy as for Study 1 was adopted with the difference that participation was in exchange for entering a prize draw (10 Euro vouchers). Participants were told that an American TV series about college students had been broadcast online and that it was going to be dubbed and transmitted in Italian. They were then provided with some information about this new TV series. In particular, they were asked to listen to the voice of the English-speaking actor/actress who played the main role and to read his/her character description. The order of presentation of description and the original actor/actress' voice was counterbalanced across participants. Next, participants reported their dubbing preferences by listening to the three Italian voice actors/actresses and by indicating their agreement with 4 items (i.e., the same 3 items of Study 1 and an additional item testing how enjoyable the voice was: "I think the voice of this voice actor/actress is pleasant") on a 7 -point scale from 1 (completely disagree) to 7 (completely agree). In addition, participants were asked to indicate how much they would like to see the character involved in some activities on a scale from 1(not at all) to 7 (completely). Among others, we included masculine and feminine sports (i.e., soccer, dance) and university clubs (i.e., mathematics, arts and theater). Finally, participants indicated their preference for the character's physical appearance by choosing one of nine pictures of male avatars that varied slightly on weight but also on muscularity (Study 2a) or body shape (i.e., breasts and hips; Study 2b). Avatars were created with 3D modeling software (Daz 3D Studio 4.7 from Daz3d.com) that permitted to modulate features of a basic male/female body (See Appendix B). The nine pictures represented the same Caucasian man wearing blue shorts ranging from very thin and not muscular at all to robust and muscular, or the same Caucasian woman wearing a blue tank top and underwear, ranging from a non-shapely to a very shapely body (weight, breasts and hips were manipulated) by constant increases. In the last part of the study participants completed some manipulation check measures: they indicated how much a list of traits, including the masculine and feminine ones used in the

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description's manipulation, described the character (answers from $1=$ not at all to $7=$ completely); they reported the TV program the character was watching in the scene they read, and rated the sexual orientation of both the character and of the English-speaking actor/actress on a scale from 1 (exclusively heterosexual) to 7 (exclusively homosexual). At the very end, but before their demographics (age, gender, native language, sexual orientation) and other information (number of gay friends, frequency in watching English movies in the original language, problems encountered with the audio files and images) were provided, participants completed the ATG ( $\alpha=.78$ ) or ATL scale $(\alpha=.77){ }^{6}$

## Results.

## Study 2a - Male character

Manipulation check. We first checked whether participants correctly remembered how the character was described. Participants attributed more masculine traits to the masculine ( $M=4.95$, $S D=1.24)$ than to the feminine character $(M=3.19, S D=1.08 ; t(116)=8.26, p<.001)$, while feminine traits were more associated with the feminine $(M=4.78, S D=1.34)$ than with the masculine character $(M=3.17, S D=1.08 ; t(116)=5.94, p<.001)$. Also, $74.5 \%$ of participants correctly remembered that the masculine character was watching a soccer match and $54.8 \%$ of participants remembered the feminine character watched a musical. Finally, we tested the perceived sexual orientation of both the character and the English-speaking actor. The feminine character ( $M$ $=3.51, S D=1.88)$ was perceived as more likely to be gay than the masculine character $(M=2.15$, $S D=1.45), t(116)=4.37, p<.001$, and also the gay English-speaking actor $(M=3.28, S D=1.79)$ was rated as more likely to be gay than the heterosexual actor $(M=2.51, S D=1.30), t(116)=2.70$, $p=.008$.

Dubbing preference. A 2 (Character description: masculine vs. feminine) $\times 2$ (English-speaking actor: gay vs. heterosexual) x 3 (Voice actor: heterosexual- vs. gay- vs. ambiguous-sounding) ANOVA, with the first two as between-participants and the other as within-participants factor, was

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performed on participants' dubbing preferences ( $\alpha$ ranging from .78 to .87 ). A main effect of the voice actor emerged, $F(2,226)=5.95, p=.003, \dot{\eta}^{2} p=.05$, with the heterosexual -sounding voice actor $(M=3.82, S D=1.58)$ being preferred overall to the ambiguous- $(M=3.31, S D=1.68 ; p$ $=.06)$ and the gay-sounding $(M=3.17, S D=1.50 ; p=.003)$ voice actors. This main effect was qualified by a significant interaction with character descriptions, $F(2,226)=7.14, p=.001, \dot{\eta}^{2} p$ $=.06$. Pairwise comparisons (Bonferroni correction) showed that the heterosexual -sounding voice was perceived as equally adequate for the masculine $(M=4.06, S D=1.69)$ and feminine character ( $M=3.60, S D=1.45 ; p=.14$ ). The same was true for the ambiguous-sounding voice actor ( $\left.M_{\text {_masculine }}=3.51, S D=1.86 ; M_{\text {_feminine }}=3.13, S D=1.49 ; p=.24\right)$. In contrast, the gay-sounding voice actor was preferred for the feminine $(M=3.63, S D=1.55)$ over the masculine character ( $M=$ 2.63, $S D=1.26 ; p<.001$ : see Fig 2a_character description).

When comparing the preferences for voice actors within each condition, it emerged that when the character was described as masculine, both the heterosexual -sounding ( $M=4.04, S D=1.69$ ) and the ambiguous-sounding voice actors ( $M=3.51, S D=1.86$ ) were preferred to the gay-sounding voice actor $(M=2.64, S D=1.55 ; p s<.02)$. No preferences emerged when the character was described as feminine ( $M_{-}$heterosexual $=3.60, S D=1.45 ; M_{\_}$gay $=3.65, S D=1.55 ; M_{\_}$ambigous $=3.13$, $S D=1.50 ; p \mathrm{~s}>.11)$.

Interestingly, an interaction between the English-speaking original actor and the voice actor also emerged, $F(2,226)=4.49, p=.01, \dot{\eta}^{2} p=.04$, suggesting that the voice of the original actor also influenced dubbing preferences. While heterosexual-sounding and ambiguous-voice actors were rated as both adequate to dub the heterosexual and the gay English-speaking actor ( $p \mathrm{~s}>.11$ ), the gay-sounding voice actor was preferred to dub the gay ( $M=3.53, S D=1.62$ ) over the heterosexual English-speaking actor ( $M=2.81, S D=1.29 ; p=.01$; see Fig 2a_original actor's voice).

Looking at the preferences among voice actors, the results showed that both the heterosexual- ( $M$ $=4.06, S D=1.59)$ and ambiguous-sounding $(M=3.54, S D=1.58)$ voice actors were preferred to

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the gay-sounding one ( $M=2.81, S D=1.29 ; p \mathrm{~s}<.01$ ) to dub the heterosexual English-speaking actor. When the English-speaking actor was gay, all the voice actors were judged as similarly appropriate to dub him ( $M_{-}$heterosexual $=3.57, S D=1.54 ; M_{\_g}$ gay $=3.53, S D=1.62 ; M_{\_}$amb $=3.08, S D$ $=1.76 ; p \mathrm{~s}>.11$ ). No additional effects or interactions were found, all $p \mathrm{~s}>.20$.

Activities. In the analyses we considered only activities that are stereotypically gender-marked (Sports: soccer and dance; University clubs: maths and arts/theatre). A 2 (Activity: Sport vs. Club) x 2 (Stereotypicality: masculine vs. feminine) x 2 (Character description: masculine vs. feminine) x 2 (English-speaking original actor: heterosexual vs. gay) ANOVA, with the first two factors withinparticipants and the others between-participants, was performed on participants' ratings. With regard to our hypothesis, the analysis yielded an interaction between character description and stereotypicality, $F(1,112)=9.79, p=.002, \dot{\eta}^{2} p=.08$, showing that participants wanted to see the feminine character perform more typically feminine $(M=4.10, S D=1.59)$ rather than masculine activities $(M=3.30, S D=1.33 ; p=.008)$, whereas almost no difference emerged when the character was described as masculine (feminine activities: $=3=3.49, \mathrm{SD}=1.36$ and masculine ${ }_{\text {activities }}: M$ $=4.16, \mathrm{~S} D=1.56 ; p=.08)$. Also, there was a significant interaction between the English-speaking original actor and stereotypicality, $F(1,112)=6.59, p=.01, \dot{\eta}^{2} p=.06$. The results showed that while no difference emerged for the heterosexual English-speaking actor ( $p=.15$ ), the gay actor led to a preference of the character to perform more feminine $(M=4.09, \mathrm{~S} D=1.62)$ than masculine activities $(M=3.44, \mathrm{~S} D=1.42 ; p=.03) .{ }^{6}$

Physical appearance: A 2 (Character description: masculine vs. feminine) x 2 (English-speaking actor: heterosexual vs. gay) ANOVA was run on physical appearance preferences. Only a marginal effect for the character description emerged, $F(1,113)=3.40, p=.07, \dot{\eta}^{2} p=.03$. Participants preferred a more muscular and heavier character when described as masculine ( $M=5.93, S D=$ $1.75)$ than as feminine $(M=5.69, S D=1.90)$. No other significant effect or interaction emerged ( $p \mathrm{~s}>.53$ ).

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## Results of Study 2b - female character

Manipulation check. The majority of participants (81.80\%) correctly remembered that the masculine character was watching a soccer match, whereas only $24.10 \%$ recalled the feminine character watching a musical. Nevertheless, this was only one of the many information factors manipulated in the description. More importantly, participants correctly associated traits according to the character's description: They attributed more masculine traits to the masculine character ( $M=$ 4.85, $S D=.82$ ) than to the feminine character $(M=3.12, S D=1.04 ; t(111)=9.21, p<.001)$, while feminine traits were associated more with the feminine character $(M=4.95, S D=1.00)$ than with the masculine character $(M=3.20, S D=1.15 ; t(111)=9.62, p<.001)$. Finally, we checked how the characters as well as the English-speaking actresses were perceived in terms of sexual orientation. When the character was described as feminine $(M=2.47, S D=1.20)$ she was more likely perceived as heterosexual than when she was described as masculine $(M=3.20, S D=1.88), t(111)=2.86, p$ $=.005$. Moreover, the analysis showed that the lesbian actress $(M=3.74, S D=1.49)$ was rated as more likely lesbian than the heterosexual one, $(M=2.98, S D=1.29), t(111)=2.88, p=.005$.

Dubbing preferences. An index of preferences was calculated by averaging ratings on the 4 items ( $\alpha$ ranging from . 83 to .86 ) and submitted to a 2 (Character description: masculine vs. feminine) x 2 (English-speaking actress: lesbian vs. heterosexual) x 3 (Voice actress: heterosexual vs. lesbian- vs. ambiguous-sounding) ANOVA, with the first two factors between-participants and the other within-participants.

A significant interaction between the character descriptions and voice actresses, $F(2,218)=$ 11.57, $p<.001, \dot{\eta}^{2}{ }_{p}=.10$, was found. Pairwise comparisons (Bonferroni correction) indicated that the heterosexual -sounding voice actress was preferred when the character was described as feminine ( $M=4.00, S D=1.68$ ) rather than as masculine ( $M=3.08 ; S D=1.40 ; p=.002$ ). However, the lesbian-sounding voice actress was preferred when the character was described as masculine ( $M$ $=3.90, S D=1.59)$ rather than feminine $(M=2.81, S D=1.33 ; p<.001$; see Fig. 2b). Finally, the

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ambiguous-sounding voice actress was seen as equally adequate to dub both the masculine and feminine characters. Looking at the data in a different way, we could see that when the character was described as feminine, the heterosexual -sounding voice actress was preferred over the other two ( $p s<.02$ ). In the case of the masculine character the lesbian-sounding voice actress was preferred only to the heterosexual -sounding $(p=.02)$ but not to the ambiguous-sounding one ( $p$ $=.08)($ Figure 2b).

In addition, a marginal main effect of the English-speaking actress emerged, $F(1,109)=3.53, p$ $=.06, \dot{\eta}^{2}{ }_{p}=.03$. Overall, voices were rated more appropriate when the actress was heterosexual ( $M$ $=3.59, S D=.80)$ than when she was a lesbian $(M=3.32, S D=.75)$. However, this did not significantly interact with the voice actress, $F(1,218)=1.56, p=.21, \dot{\eta}^{2}{ }_{p}=.01^{7}$.

Activities. The same analysis as in Study 2a was performed. A significant interaction between character and stereotypicality of activities, $F(1,109)=36.25, p<.001, \dot{\eta}^{2}{ }_{p}=.25$, was found. While a preference for seeing the feminine character perform feminine $(M=5.16, S D=1.51)$ rather than masculine activities $(M=2.63, S D=1.78 ; p<.001)$ emerged, no difference was found for the masculine character ( $M_{\text {feminine_activities }}=3.63, S D=1.66$ and $M_{\text {masculine_activities }}=3.97, S D=1.51 ; p$ $=.33$ ). No interaction with the English-speaking actress and stereotypicality of activities emerged, $F(1,109)=.47, p=.49, \dot{\eta}^{2} p=.004 .{ }^{8}$

Physical appearance: A 2 (Character description: masculine vs. feminine) x 2 (English-speaking actress: lesbian vs. heterosexual) between-participants ANOVA was run on preferences for characters' physical appearance. No significant effects emerged ( $F \mathrm{~s}<1.30, p \mathrm{~s}>.26$ ).

- Figure 2 -


## General Discussion

The mass media have an important role in maintaining and reinforcing stereotypes. It has been noted that content and dialogues are changed or adapted not only to the target language, but also to

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the culture of the country in which a movie or TV show is released. In doing so, this adaptation meets audience expectations and beliefs, even taking into account gender and sexual beliefs (Ranzato, 2012). Dubbing seems to be a tool that functions in a similar way, as shown by the fact that the media portray characters in a stereotypical way by playing with vocal cues. This happens by choosing voice actors/actress whose voices are congruent with a certain stereotype (DeMarco, 2006a) or by asking actors acting a gay role to alter their voice in order to meet the "effeminacy" stereotype (Cartei \& Reby, 2012). Starting with these observations, the present research, for the first time, experimentally investigated whether voice can be a tool to maintain stereotypes through dubbing. In particular, it examined audience preferences depending on the character's portrayal and if these preferences are affected by knowing the voice of the original actor/actress playing the role.

Overall, our findings show that how a character is stereotypically described influences the potential audience on their preference of the character's voice. As a matter of fact, in both studies we found that when a character was described as counter-stereotypical or "gender-inverted", namely a feminine man or a masculine woman, the audience preferred him/her to be dubbed by a gay/lesbian-sounding voice actor (see Kite \& Deaux, 1987). Interestingly, only with regard to male characters, we noticed a general tendency to avoid choosing a gay-sounding actor to dub a masculine character. This suggests that a masculine man cannot be represented as gender-atypical through voice. It is known that manliness and the preservation of typical male gender roles can be threatened by femininity cues (see Vandello \& Bosson, 2013). Hence, as it happens in other fields involving voice (e.g., radio; Rodero, 2002), even in dubbing there may exist a more salient necessity to preserve the masculine gender representation and to not "contaminate" it with a gay/feminine voice.

Study 2 not only replicated the pattern of Study 1 but also showed that, at least for male targets, the mere exposure to the original English-speaking actor's voice can affect their dubbing preference. A gay (vs. heterosexual) English-speaking actor increased the preference for a gay-

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sounding voice actor. Thus, not only characters convey stereotypes that affect dubbing preferences, but also the voices of the original actors who play that role in a TV series. However, this was only found for male actors, but not for female actresses. One possible explanation may be that the sexual orientation of the English-speaking actor was more easily recognizable than that of the actress (as suggested by pretest means and by research on auditory gaydar of male and female speakers (Peplau, Spaulding, Conley, \& Veniegas, 1999). Also, in our studies we found participants having more difficulties in rating the masculine female character as lesbian that they did with judging the feminine male character to be gay. This may reflect that stereotypes about gay men being feminine are more common and accepted, and that lesbian stereotypes are less pervasive or more various.

Furthermore, how the character is portrayed on screen affects how the audience wants to see him/her portrayed physically, and the activities he/she is involved in: A male masculine character is expected to be more muscular than a character described as feminine. Also, typically female activities were particularly reserved for a stereotypical feminine male character. In the same way, a feminine female character is expected to be engaged in feminine rather than in typically male activities. Interestingly, for female characters, no particular traits on how she should physically appear were found. This may be interpreted as a minor interest in the physical body shape of the character, because other cues may have been more important in communicating sexual orientation, for instance the clothes she wore or the posture she assumed (see Carrol \& Gilroy, 2002).

All in all, our research extends the current literature in several respects. Firstly, it showed that dubbing is a way to meet the audience's expectations and to maintain and reinforce cultural stereotypes and boundaries (see Chion, 1999; Danan, 1991). Specifically, our findings showed that the audience not only wants to hear voices that confirm the character's stereotypical description, but also would like to see him/her acting and (at least for male characters) being physically portrayed in a stereotype-congruent way. In so doing, dubbing and other aspects in movies and TV shows contribute to gender and sexual stereotyping. Masculine men need to sound heterosexual in the ears

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of the audience, whereas feminine men are better to be dubbed with a feminine/gay voice. Although this is not representative of reality, as men and women vary in the way they speak, regardless of their roles and sexual orientation, this confirms expectations and shared cultural beliefs.

Secondly, to our knowledge, previous studies observed differences in dubbing across cultures (DeMarco, 2006b), but no research has experimentally addressed the question of an audience's dubbing preferences and their relation to stereotypes. Indeed, while preferences between subtitling and dubbing have been tested at a broad level (Eurobarometer, 2012a), our work directly tested what a potential audience wanted to hear, depending on how the characters were portrayed. This allowed us to experimentally support the already suggested idea of dubbing as an instrument that aims to meet the audience's wishes and to show how voice can be used in this regard.

Thirdly, we investigated the impact of the character's description and of the actor/actress' voice to be dubbed. To our knowledge, no one has tested this topic before. Interestingly, our work suggests that these two aspects are not related: The way the character was described was not influenced by how the original actor sounded in determining dubbing preferences. One explanation could be that a potential audience may focus on what it will hear in the movie rather than think whether the dubbed voice reflects how the character sounded originally. Nevertheless, we found that the voice itself had an impact: Regardless of how the character was described, the potential audience tended to choose voice actors that matched the original sound of voice, probably to maintain a sort of coherence or to avoid losing the characteristics of the original movie (see Mera, 1998). In so doing, we add evidence that listeners make inferences about sexual orientation of foreign speakers (Sulpizio et al., 2015; Valentova, Rieger, Havlicek, Linsenmeier \& Bailey, 2011) and that, regardless of language differences (e.g., vowel reduction, number of phonemes, prosody, etc.), they refer to similar beliefs when thinking of gay and heterosexual voices of their own or foreign languages. Moreover, our work suggests that voice is not only an input that conveys information which listeners pick up to make inferences about the speakers, but also an outcome that

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can be used to influence individuals' perceptions and beliefs. As actors and actresses mold their voice in order to fake it in one or another way (Cartei \& Reby, 2012), producers can decide how to dub a character, enhancing or deconstructing stereotypes (e.g., by offering multifaceted characters with a different non-stereotypical voice, see Lenton et al, 2009). Hence, voice is an important tool that affects listeners in a subtle but effective way.

Finally, by examining both male and female targets, and gay/lesbian (vs. heterosexual) voices we extended previous literature on dubbing (DeMarco, 2006a; 2006b) and voice (Munson, 2007; Smyth et al., 2003; Sulpizio, Fasoli, et al., 2015) in relation to sexual orientation that has mostly focused on men. Here we showed that similar effects of dubbing emerged for male and female characters, indicating that stereotypes maintained through dubbing are not a peculiar phenomenon for men in movies and TV series.

As this work represents the starting point for experimental research on dubbing and voicerelated stereotypes, it presents some limitations and raises a number of issues that future research should address. Although enough to make judgments, participants in our studies have been provided with limited cues about the characters and speakers. This could explain the difficulties in judging the sexual orientation of these targets. However, as the observed effects may be due to the specific stimuli used in these studies, future research chould expose the audience to more details about the characters (e.g., his/her face and physical appearance) and to longer and larger voice samples of actors/actresses.

This work could be extended in several ways. For instance, it could be tested whether dubbing preferences change depending on speaking dialects of both the English-speaking and voice actors/actress. At the same time, future research could investigate preferences for other gendertypical hobbies (see Lippa, 2005), or explore the impact of the character's description on multiple non-verbal cues (e.g., face, gait, gestures, body shape; see Johnson \& Masumi, 2013). It would be interesting to examine dubbing preferences for gay/heterosexual characters in audiences of different

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sexual orientation, age, level of education and political orientation, as well as extend the research to characters of different nationality, ethnicity or age. Finally, comparing countries and cultures that do not share the same stereotypes and levels of prejudice towards the target, countries in which dubbing is pervasive and those in which both dubbing and subtitling are used, and audiences that do or do not watch movies in the original language would advance literature on dubbing.

To conclude, dubbing preferences go along with stereotypes. What the audience wants to hear is a voice that corresponds to the stereotypical portrayal of male and female characters. Therefore, dubbing is a way to reinforce and maintain stereotypes with all the implications that this involves (see Miller \& Lewallen, 2015).

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## Footnotes

${ }^{1}$ Items included in the descriptions were rated $(\mathrm{N}=29)$ on a scale from $1=$ typical of men, $4=$ typical neither of men nor of women, to 7 = typical of women. The items included in the masculine description were perceived as typically male ( $M=2.73, S D=.59$ ), those included in the feminine condition as more typically female $(M=5.04, S D=.55)$ and those in the non-stereotyped description were rated as neither typical of men nor of women $(M=3.79, S D=.32$; pairwise $t \mathrm{~s}>.9 .69, p \mathrm{~s}<.001)$.
${ }^{2}$ Acoustic measures were constructed using PRAAT software (Boersma \& Weenink, 2007). The onset and offset of each phoneme of interest in each word was marked in PRAAT by a coder. All acoustic analyses were done automatically in PRAAT using custom-written scripts, which made reference to these labels.
${ }^{3}$ In Study 1 both ATG and ATL were more negative in the neutral than in the masculine and feminine conditions ( $F \mathrm{~s}>3.00, p \mathrm{~s}<.06$ ). This is in line with literature suggesting that when there are no clues of stereotyping or discrimination (and thus no equality norm is salient) people are more willing to express prejudice (see Devine, 1989).
${ }^{4}$ In study 2a, on average participants had $7.06(S D=6.81)$ homosexual friends, and rarely watched movies in the original language ( $M=2.20, S D=.81$ ). Participants in study 2 b reported to have 3.57 ( $S D=14.69$ ) homosexual friends and seldom watched movies in the original language ( $M=2.47$ $S D=.94)$. No differences across conditions emerged on these variable.
${ }^{5}$ Participants guessed the name of the speaker and rated him on several dimensions including pleasantness. Selected actors/actresses were not correctly identified and were similarly pleasant with the exception of the lesbian actress $(M=2.26, S D=1.14)$ who was rated as less pleasant than the heterosexual one $(M=3.87, S D=1.14), t(22)=-5.76, p<.001$.
${ }^{6}$ Regarding attitudes, being exposed to a feminine male character (Study 2a, $F(1,113)=5.08, p$ $=.03, \dot{\eta}^{2} p=.04$ ) or a lesbian English-speaking actress (Study 2b, $F(1,109)=3.50, p=.06, \dot{\eta}^{2} p$

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$=.03)$ increased negative attitudes toward gay men and lesbian women, respectively. Hence, gender/sexual counter-stereotypical description or voice enhanced prejudice.
${ }^{7}$ In Study 1 and 2, analyses including only those participants who correctly remembered information provided in the descriptions or those who identify the character's sexual orientation according to the description led to the same pattern of results obtained when considering the full sample.
${ }^{8}$ Other significant effects were found: A main effect of activities, $F(1,112)=20.09, p<.001, \dot{\eta}^{2} p$ $=.15$, was qualified by an interaction with stereotypicality, $F(1,112)=83.67, p<.001, \dot{\eta}^{2}=.43$. Pairwise comparisons (Bonferroni correction) indicated that, regardless of experimental conditions, participants wanted to see a character perform football $(M=4.18, S D=1.93)$ more than being part of a Maths' club $(M=3.21, S D=2.01)$, but they preferred to see him being part of an Arts and Theater club $(M=4.90, S D=1.71)$ than doing ballet $(M=2.75, S D=1.97$; all $p \mathrm{~s}<.001)$.
${ }^{8}$ A main effect of Activities, $F(1,109)=8.70, p=.004, h_{p}^{2}=.07$, and Stereotypicality, $F(1,109)=$ 21.25, $p<.001, h_{p}^{2}=.16$, was found. These two factors interacted significantly, $F(1,109)=5.27, p$ $=.02, \dot{\eta}^{2} p=.05$, showing that participants preferred to see the character being part of the Arts and Theater club $(M=4.89, S D=2.23)$ than performing ballet $(M=3.94, S D=2.62 ; p<.001)$, while no difference between the masculine sport and club emerged $(p=.88)$.

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Dubbing and stereotypes
Figure 1. Interaction between Character description and Voice actor/actress preferences; Study 1a (upper part) and Study 1b (Lower part).

Study 1
a. Male character

b. Female character


Dubbing and stereotypes
Figure 2. a) Interaction between Character description and Voice actor preferences; Study 2a (upper part) and Study 2b (Lower part). b) Interaction between English-speaking actor/actress and Voice actor preferences.


## Dubbing and stereotypes

Appendix A-Male (a) and female (b) physical appearance scales used in studies 2a and 2b, respectively.
a)
b)



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