Elective Abortion Predicts the Dehumanization of Women and Men Through the Mediation of Moral Outrage

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Abstract: This research addresses the important issue of abortion, still controversial in Western countries. It provides a new perspective by examining attitudes not to abortion itself, but to women and their partners who decide to have an abortion. Through two experimental studies, we expected and found that the decision to abort increased moral outrage toward a woman (Study 1 and Study 2) and her male partner (Study 2). Moreover, we found that the decision to abort reduced a woman’s (Study 1 and Study 2) and man’s (Study 2) humanness through the mediation of elicited moral outrage. These findings clarify the continuing prevalence and perpetuation of disparaging attitudes toward those who seek an abortion, and suggest many directions for future research.

Keywords: abortion, moral outrage, human nature, human uniqueness

“One million women in France have abortions every year. Condemned to secrecy they do so in dangerous conditions, while under medical supervision this is one of the simplest procedures.

We are silencing these millions of women. I declare that I am one of them. I declare that I have had an abortion.”


“Who got the 343 sluts from the abortion manifesto pregnant?”


In Western countries, abortion is a controversial and morally divisive issue. For this reason, even if it is legally permitted in several countries, it is often socially prohibited as well as harshly condemned from a moral point of view (Cockrill & Hessini, 2014). Extensive research has been conducted on attitudes toward abortion intended as a social issue (Arisi, 2003; Huang, Davies, Sibley, & Osborne, 2016; Rosenheck, Feigal, Brown, Barcellos, & Bender, 2016) showing that these attitudes change according to people’s education (Wang & Buffaio, 2004), political orientation (Hess & Rueb, 2005), religiosity (Esposito & Basow, 1995; Jelen, Damore, & Lamatsch, 2002; Misra & Hohman, 2000; Strickler & Danigelis, 2002), and gender-role attitudes (Huang et al., 2016; Osborne & Davies, 2009, 2012; Wang & Buffalo, 2004).

Beyond general attitudes toward abortion, little is known about people’s reactions toward specific individuals who choose to abort. A considerable amount of research has shown that women who abort encounter a worrying amount of stigmatization and marginalization that might impact their physical and mental health (APA Task Force on Mental Health and Abortion, 2008; Kumar, Hessini, & Mitchell, 2009; Major & Gramzow, 1999; Major et al., 2009; Norris et al., 2011). Yet, until now, little research has examined this stigma from the point of view of the perceivers, leaving individuals’ reactions toward social actors
involved in the decision to interrupt pregnancy largely unexplored. In this paper, we experimentally investigated attitudes toward women (and their partners) who obtain abortions by focusing on the crucial role of moral emotions such as moral outrage in affecting the perceived humanness of social actors involved in abortion decisions.

**Moral Outrage and Dehumanization**

Abortion is stigmatized for several reasons (see Norris et al., 2011), one of which is the harm it is supposed to provoke. Indeed, it is often considered by anti-abortion activists as the equivalent of the intentional murder of a human being (Pollit, 2014). Research conducted by MacInnis, MacLean, and Hodson (2014) found that higher estimations of pre-born humanness were associated with stronger opposition to abortion, regardless of participants’ political orientation. Moreover, Mikolajczak and Bilewicz (2015) showed that when a more humanizing lexical marker such as child (vs. fetus) was adopted to define the preborn, a stronger negative attitude toward abortion emerged.

The decision to abort – as a morally heated choice – appears an interesting context to examine moral outrage. Moral outrage is a reaction to the perceived harm inflicted upon others in violation of moral codes of conduct (Pagano & Huo, 2007). It is a constellation of affective responses (as well as cognitive and behavioral ones) which implies the attribution of responsibility to an agent who is to blame for perceived morally wrong behavior (Salerno & Peter-Hagene, 2013; Skitka, Bauman, & Mullen, 2004). What is interesting is that it focuses not on the victims, but on those who brought harm upon them (Montada & Schneider, 1989). Preliminary evidence shows that moral outrage toward a social target is associated with their perceived humanness. Examining people’s reaction toward criminal acts, Bastian, Denson, and Haslam (2013) found that experiencing moral outrage in response to people’s criminal actions is associated with their dehumanization. Dehumanization involves the categorization of individuals or groups as being outside of the human community and the perception of these individuals as totally or partially lacking the fundamental qualities that define human beings (Bain, Vaes, & Leyens, 2014; Haslam & Loughnan, 2014). Research has shown that the concepts of morality and humanness are strongly interrelated (Bastian, Laham, Wilson, Haslam, & Koval, 2011; Haslam, Bastian, Laham, & Loughnan, 2012; Pacilli, Roccati, Pagliaro, & Russo, 2016). What has been investigated up to now regards mainly whether and how the attribution of moral qualities to social targets changes according to their perceived humanness (Haslam, 2012). The perceived humanness of the targets of moral outrage instead has received scant research interest (see Bastian et al., 2013, for a relevant exception).

**Abortion and Stigma**

Women who abort often experience psychological distress for being devalued and denigrated by others (Major & Gramzow, 1999; Major et al., 2009). Despite the social relevance of this phenomenon, there remains a paucity of empirical evidence that analyzes this stigma from the point of view of the perceivers. Thus, while abortion stigma is broadly recognized as “a negative attribute ascribed to women [...] that marks them, internally or externally, as inferior to the ideals of womanhood” (Kumar et al., 2009, p. 628), it has been poorly examined from an empirical point of view. The little research conducted until now has shown that women with an abortion history are considered in a more negative way, that is, less desirable as wives or dating partners (Weidner & Griffitt, 1984) and negatively stereotyped for their disordered and immoral sexual lifestyle (Shellenberg, Hessini, & Levandowski, 2014).

The act of interrupting pregnancy, abortion corresponds to the choice of not having children in a particular moment of one’s life. We reasoned that interesting insights for the moral condemnation of women who abort could emerge from research on (negative) attitudes toward women who permanently choose not to have children, the so-called child-free women. A crucial component of negative attitudes toward child-free women lies in the aspiration to motherhood as a fundamental prescription in women’s lives (Turnbull et al., 2016). Indeed, research by Chrisler, Gorman, Marván, and Johnston-Robledo (2013) has shown that pregnant women and mothers of young infants were perceived more positively than women whose biological motherhood was not possible anymore (i.e., women who had hysterectomies or were postmenopausal). Therefore, negative social consequences occur when the motherhood prescription is violated: Women who voluntarily choose not to have children are perceived as egoistic and self-centered (Gillespie, 2000), and they experience criticism and hostility in their everyday lives (Mollen, 2006).

While there is a growing body of research on the stigmatization of child-free women, research on attitudes toward child-free men is scant. In contrast to motherhood, fatherhood generally has been considered as less central to define male identity (De Beauvoir, 1949; Turnbull et al., 2016). Nevertheless, the widespread Western pronatalist ideology which considers childbearing, regardless of gender, the desirable and inevitable outcome of adult life (Benatar, 2008; Graham, Hill, Shelly, & Taket, 2013) could affect child-free men as well. Ashburn-Nardo (2016) recently showed that both women and men who chose not to have children elicited more moral outrage (measured as feelings of anger, contempt, and disgust) which in turn affected their perception as being less psychologically fulfilled.
The Present Research

In the present research, we investigated for the first time whether the perceived humanness of the social actors involved in abortion could be affected by their decision to abort through the mediation of moral outrage. In two experimental studies, we asked participants to read one scenario where we stressed that the person/s who chose to abort (vs. not-abort) were going through a calm phase of their lives, so that the choice to abort was not determined by financial, psychological, or relational problems but “simply” by their intention of not having a child in that moment. Moreover, we chose to focus on a 36-year-old woman (and man) for two reasons. Firstly, we wanted to rule out that the perception of our target’s choice could be attributed to her young age or supposed psychological immaturity. Indeed, adolescents and young adults are generally considered as less skilled than adults in their capacity to take decisions and to manage themselves (Cauffman & Steinberg, 2000). Secondly, since there are cultural normative ideas about the timing of life transitions in general (Settersten & Hägestad, 1996) and about the proper age for parenthood in particular (Van Bavel & Nitsche, 2013), we wanted to examine the attitude toward a woman who made the choice to abort at an age close to a typical deadline age for motherhood (Mynarska, 2010).

We report how we determined our sample size, all data exclusions, all manipulations, and all measures in the studies (Simmons, Nelson, & Simonsohn, 2011).

Study 1

In this study, we investigated whether a woman’s decision to abort (vs. not-abort) affects how other women perceive her along several dimensions. In line with Mikołajczak and Bilewicz (2015), we were interested in examining whether the humanization of the lexical marker used to define the preborn, that is, child (vs. fetus), could affect the perception of the woman. Since prior research has provided evidence of moral outrage in response to violations of moral codes of conduct (Ashburn-Nardo, 2016; Huang, Osborne, Sibley, & Davies, 2014; Okimoto & Brescoll, 2010), we expected that people would experience stronger moral outrage (Hypothesis 1, H1) in response to women who decided to abort (vs. not-abort). We also expected that this effect would be qualified by the interaction with the lexical marker (Hypothesis 2, H2); such that stronger moral outrage would be shown toward a woman who decided to abort when the preborn was defined as a child (vs. a fetus).

While previous research has experimentally investigated the humanness of the preborn, no attention has been devoted until now to the perceived humanness of the woman who decided to abort. In Haslam’s (2006) model, two distinct meanings of humanness are defined: “human nature” and “human uniqueness,” from now on HN and HU, respectively. While the denial of HN results in the perception of the target as an inanimate object, lacking warmth and emotions, the denial of HU causes the target to be compared to an animal, lacking refinement and self-control. Women who abort challenge moral norms in two crucial areas of femininity: masculinity and sexuality (Hanschmidt, Linde, Hilbert, Riedel-Heller, & Kersting, 2016). Intuitively, women who abort can be described as heartless, since they challenge the normative dimension of caring for others that is present in the motherhood prescription. Thus, it is reasonable to think that they could be perceived as lacking warmth and emotions, and consequently as lacking HN. Similarly, other labels, such as “promiscuous” and “irresponsible,” are often applied to women who abort for their supposed out-of-control sexual lifestyle (Kumar et al., 2009); such women could be perceived as more similar to animals, with a consequent denial of HU. Therefore, we predicted that both HN and HU would be reduced by the decision to abort (vs. not-abort) (Hypothesis 3, H3), and that this effect would be qualified by the interaction with the lexical marker (Hypothesis 4, H4), with less HN and HU being attributed to women who aborted when the preborn was defined as a child (vs. a fetus).

We were further interested in examining how the decision to abort would affect the perception of women’s competence in professional life, more specifically, in traditional female professions (e.g., social worker) versus nontraditional female professions (e.g., computer technician). Traditional (vs. nontraditional) female professions are those based on stereotypical feminine traits, such as emotional and interpersonal orientation, concerns for others, interpersonal sensitivity, and the general tendency to assume other people’s perspective (Abele & Wojciszke, 2007; Bakan, 1966; Bem, 1974). While a lot of research has investigated the role of communal stereotypes in judging women unfit to occupy competence-dominated stereotypical male positions (for a review see Heilman & Parks-Stamm, 2007), the question whether a counter-stereotypical choice like abortion can decrease the perceived fit of a woman to perform traditional female occupations remains unanswered. Since the choice of abortion challenges the feminine prescription of nurturing and caring for others present in motherhood, we predicted that a woman who aborted (vs. not aborted) would be perceived as less suited to traditional (vs. nontraditional) female professions (Hypothesis 5, H5). Again, we expected that this effect would be qualified by the interaction with the lexical marker (Hypothesis 6, H6).
Finally, we expect that the decision to abort would affect women’s humanness through the mediation of moral outrage. Indeed, one way to deal with one’s moral outrage is to dehumanize the person responsible for the immoral act. Most research that focused on abortion and stigma has used people’s attitudes toward abortion as an outcome measure (Huang et al., 2016, 2014; MacInnis et al., 2014; Mikołajczak & Bilewicz, 2015). Therefore, in the current study, we decided to measure these attitudes as well and tested whether they would moderate the link between moral outrage and dehumanization. One might indeed expect that people who have strong negative attitudes toward abortion would feel especially morally outraged toward women who decide to have an abortion and perceive them as less human as a result. Therefore, we conducted a moderated mediation model in which we looked at this mediation effect at different levels of people’s attitudes toward abortion. Specifically, we hypothesized that the decision to abort would lower the attribution of humanness (both HN – Hypothesis 7, H7, and HU – Hypothesis 8, H8) to the woman through the mediation of moral outrage especially for those participants with strong negative attitudes toward abortion.

Finally, participants’ direct and indirect experiences with abortion, their religious affiliation, and their political orientation were measured in all studies and inserted as control variables in all analyses.

### Method

**Design and Participants**

Given that Bastian and colleagues (2013) measured moral outrage and humanness, we took the smallest effect size reported in that paper ($f^2 = .44$), to perform a power analysis via the Software G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). This analysis indicated that 70 participants were sufficient to obtain 95% power. In the end, 110 Italian undergraduate females completed an online survey ($M_{age} = 20.31, SD_{age} = 2.28$) for course credits. They were randomly assigned to one of four experimental conditions, based on a 2 (Woman’s Decision to Abort: abort vs. not-abort) × 2 (Lexical Marker: fetus vs. child) factorial design (see Table 1). Participants were verbally debriefed during the course.

**Procedure and Measures**

Participants read a scenario describing the story of Laura, a 36-year-old woman who discovered she was pregnant. According to the condition, the woman decided to abort (vs. not-abort) her preborn child (vs. fetus) within the first 90 days of pregnancy, in accordance with the limit allowed by Italian law. One question checked whether participants correctly remembered woman’s decision to abort.

All measures and manipulations in the study are disclosed1 (see Table 2, for information about the internal consistency of the measures).

#### Moral Outrage

Participants indicated to what extent the woman described in the scenario made them feel disapproving, angry, outraged, annoyed, and disgusted, on a scale ranging from 1 (= not at all) to 5 (= very much) (Ashburn-Nardo, 2016). Responses to these five items were averaged to form an index of moral outrage.

#### Human Nature and Human Uniqueness

Six items were used for each dimension (Bastian & Haslam, 2010). Participants were asked to indicate how much they thought that the woman described in the scenario was able to show six HN qualities (e.g., interpersonal warmth) and six HU qualities (e.g., self-restraint). Response options ranged from 1 (= not at all) to 7 (= very much). Indices of HN and HU were constructed.

#### Competence in Traditional Versus Nontraditional female professions

We constructed an *ad hoc* scale aimed to explore how participants considered Laura capable to perform eight different jobs: four traditional female (e.g., educator and social worker) and four nontraditional female professions (e.g., computer technician and commercial manager) with a 7-point rating scale from 1 (= not at all) to 7 (= very much). We calculated two different indices of ability, one for traditional female professions and one for the nontraditional female professions.

#### Positive Attitude Toward Abortion

The Attitudes toward Abortion Scale (Esposito & Basow, 1995; Hill, 2004) consisted in 9 statements describing a series of situations that might drive women to decide to

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1 The order of the measures was not counterbalanced. Nevertheless, both in Study 1, $F(1, 106) = 1.63, p = .204$, and Study 2, $F(2, 259) = 1.04, p = .353$, participants’ attitude toward abortion did not change according to the experimental condition.
tributed across conditions.

The majority of participants indicated to be Christians (65\%), had had a previous experience of abortion, and 65.1\% declared they did not have someone close who had aborted. The majority of participants indicated to be Christians (60.6\%), 21.1\% atheist, and 18.4\% belonged to other religions (or did not respond); these results were equally distributed across conditions.

<table>
<thead>
<tr>
<th>Table 2. Cronbach’s α of the measures adopted in Study 1 and Study 2</th>
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<tbody>
<tr>
<td>Study 1</td>
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<tr>
<td>Moral Outrage toward the Woman</td>
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<tr>
<td>Moral Outrage toward the Man</td>
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<tr>
<td>Woman’s Human Nature</td>
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<td>Woman’s Human Uniqueness</td>
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<td>Man’s Human Nature</td>
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<td>Man’s Human Uniqueness</td>
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<tr>
<td>Competence in TFP*</td>
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<tr>
<td>Competence in NTFP*</td>
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<tr>
<td>Positive Attitude toward Abortion</td>
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</table>

Notes. TFP = Traditional Female Professions, NTFP = Nontraditional Female Professions.

Perceived Moral Outrage, HN, and HU

All indices were analyzed separately in a 2 (Woman’s Decision: abort vs. not-abort) × 2 (Lexical Marker: fetus vs. child) analysis of variance (ANOVA). In all cases, only a main effect of decision emerged for moral outrage, F(1, 106) = 69.61, p < .001, ηp² = .40, HN, F(1, 106) = 60.26, p < .001, ηp² = .36 and HU, F(1, 106) = 8.66, p = .004, ηp² = .08, respectively. Research findings did not change when the indirect and direct experiences of abortion, participants’ religious affiliation, or their political orientation were included as covariates.

A closer look at the means in Table 3 shows that, as predicted, the decision to abort increased participants’ moral outrage (H1) and decreased the attribution of HN and HU (H3) to describe the female target. In any of these analyses, differently from what expected neither the main effect of the lexical marker (H2) nor the interaction between the lexical marker and the decision to abort (H4) reached significance (all ps > .17).

Woman’s Competence in Traditional Versus Nontraditional Female Professions

A repeated-measure ANOVA was conducted, with the type of profession as the within-participant variable (traditional vs. nontraditional female professions), and decision to abort and the lexical marker as between-participant variables. Again, research findings remained almost identical when the indirect and direct experiences of abortion, religious affiliation, or political orientation were included as covariates. A main effect of the type of professions emerged, F(1, 106) = 32.83, p < .001, ηp² = .24, as well as a significant interaction between the decision and the type of profession, F(1, 106) = 31.61, p < .001, ηp² = .23. As expected (H5), simple effect analyses showed that while no difference was present in the perceived competence in traditional (vs. nontraditional) female professions in the non-abortion condition, F < 1, a significant difference emerged in the abortion condition: F(1, 106) = 64.79, p < .001, ηp² = .38. Participants considered a woman who decided to abort as less competent to perform traditional female (vs. nontraditional female) professions (see Table 3). The main effect of the lexical marker and (contrary to H6) the interaction between the lexical marker and the decision to abort did not reach significance: Fs < 1.

Moderated Mediation Models

We tested two different moderated mediation models to examine the mediating role of moral outrage in explaining the link between the decision to abort on the attribution of HN and HU separately as a function of participants’ attitude toward abortion. Since the lexical marker did not affect any of our dependent variables, we did not consider
it in the model we tested. All the correlations between the key study variables are reported in Table 4.

Before testing the moderated mediation models, we tested for endogeneity of the mediator: In fact, since the mediator is not manipulated, one may question if the analysis is biased due to unobserved causes of the mediator that are correlated with unobserved causes of the dependent variable (Antonakis, Bendahan, Jacquart, & Lalive, 2010). Accordingly, we estimated the fully mediated model using instrumental variable estimators (via 2sls) with the aim of computing endogeneity tests. In the same analyses, we performed also tests for examining if the exclusion restriction/overidentification holds. These analyses were performed using STATA software (StataCorp, 2013, see also Garson, 2018). In particular, for testing the null hypothesis that the mediator was not endogenous, we considered in both mediated moderation models “previous indirect experience of abortion” and “age” as instrumental variables in the “ivregress 2sls” procedure of STATA: These two variables were not correlated with each dependent variable and thus with the disturbance term of the dependent variable (see Garson, 2018). For both models, the tests of endogeneity testing the null hypothesis that variables are endogenous and the tests of overidentification resulted nonsignificant. According to these preliminary results, we can conclude that the hypothesis of endogeneity of the mediator can be rejected and the exclusion restriction holds. Thus, the results of mediation and moderated mediation analyses (see below) can be interpreted meaningfully.

After these preliminary analyses, we tested two models (Model 7 in PROCESS; Hayes, 2013) where the decision (0 = not-abort, 1 = abort) was entered as the predictor, the attribution of HN (Figure 1A) or HU (Figure 1B) to the woman as the dependent variable, and moral outrage as a mediator. Moreover, in both models, we entered the positive attitude toward abortion as a moderator between the predictor and the mediator. Since we used scales with different anchors, we standardized all measures before testing the moderated mediational models. In both cases, the overall model was significant and the paths that linked the decision to abort and moral outrage, as well as the relationship between this latter variable and the attribution of HN or HU to the woman were statistically significant.

Following the procedure described by Hayes (2013) for estimating indirect effects, and checking whether the reduction in the direct effect may be attributed to our proposed mediator, we used bootstrapping with 1,000 resamples to compute 95% confidence intervals. Confidence intervals that do not contain 0 denote statistically significant indirect effects. In line with our predictions (H7 and H8), the results indicated that the indirect effect was significant in both models. Considering the moderated path from the decision to abort to HN or HU, the main effect of the attitude toward abortion was not significant, while the two-way interaction between the attitude toward abortion and the decision to abort was. Specifically, in both models, results showed that moral outrage mediated the relationship between the decision to abort and HN attributed to the woman for participants with low (b = −.96, SE = 0.23, 95% CI: LL = −1.4513; UL = −0.5413), medium (b = −.62, SE = 0.15, 95% CI: LL = −.9407; UL = −.3401), and high levels (b = −.28, SE = 0.10, 95% CI: LL = −.5184; UL = −.1033) of positive attitudes toward abortion, but the effect was stronger for those people who held strong negative attitudes toward abortion, as expected. A very similar pattern of results emerged for the attribution of HU for participants with low (b = −.74, SE = 0.26, 95% CI: LL = −1.2326; UL = −.2700), medium (b = −.48, SE = 0.17, 95% CI: LL = −.8196; UL = −.1793), and high levels (b = −.22, SE = 0.10, 95% CI: LL = −.4312;
Table 4. Correlations among key variables (Study 1)

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
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<th>2</th>
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<tbody>
<tr>
<td>1. Age</td>
<td>20.31</td>
<td>2.28</td>
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<td>2. Abortion decision(^a)</td>
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<td>-</td>
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<tr>
<td>3. Lexical Marker(^b)</td>
<td>-</td>
<td>-15</td>
<td>-11</td>
<td></td>
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<tr>
<td>4. Indirect Experience of Abortion(^c)</td>
<td>-</td>
<td>-0.16</td>
<td>-0.08</td>
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<tr>
<td>5. Political conservatism</td>
<td>4.86</td>
<td>1.98</td>
<td>-15</td>
<td>-0.17</td>
<td>-0.15</td>
<td>-0.07</td>
<td>0.06</td>
<td>0.04</td>
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<td>6. Positive Attitude toward Abortion</td>
<td>4.06</td>
<td>1.48</td>
<td>-0.04</td>
<td>-0.17</td>
<td>-0.16</td>
<td>-0.32</td>
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<tr>
<td>7. Woman’s Human Nature</td>
<td>4.66</td>
<td>1.21</td>
<td>-0.02</td>
<td>-0.16</td>
<td>-0.16</td>
<td>-0.26</td>
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<td>8. Woman’s Human Uniqueness</td>
<td>4.45</td>
<td>0.99</td>
<td>0.04</td>
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<td>0.02</td>
<td>-0.13</td>
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<td>-0.30</td>
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<td>-0.10</td>
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<tr>
<td>9. Moral Outrage toward the Woman</td>
<td>1.96</td>
<td>1.19</td>
<td>-0.20</td>
<td>-0.36</td>
<td>-0.19</td>
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<td>0.03</td>
<td>-0.35</td>
<td>-0.69</td>
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<tr>
<td>10. Competence in TFP(^d)</td>
<td>3.55</td>
<td>1.32</td>
<td>-0.12</td>
<td>-0.34</td>
<td>-0.12</td>
<td>-0.38</td>
<td>0.00</td>
<td>-0.60</td>
<td>0.42</td>
<td>-0.51</td>
<td>-0.51</td>
<td>-0.51</td>
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<tr>
<td>11. Competence in NTFP(^d)</td>
<td>4.51</td>
<td>1.32</td>
<td>-0.21</td>
<td>-0.37</td>
<td>-0.08</td>
<td>-0.16</td>
<td>0.17</td>
<td>-0.26</td>
<td>-0.09</td>
<td>-0.32</td>
<td>-0.32</td>
<td>-0.32</td>
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</tbody>
</table>

Notes. \(^a\)Abortion decision is coded: 0 = non-abortion and 1 = abortion. \(^b\)Lexical Marker is coded: 1 = child and 2 = fetus. \(^c\)Indirect Experience of Abortion is coded: 0 = no indirect experience and 1 = indirect experience. \(^d\)TFP = Traditional Female Professions, NTFP = Nontraditional Female Professions. *p < .05, **p < .01, ***p < .001.

Figure 1. The effect of the decision to abort on the attribution of Human Nature (A) and Human Uniqueness (B) to the woman. Moderated mediational models (Study 1; PROCESS Model number 7). *p < .05, **p < .005, ***p < .001. The reported effect between the Decision (independent variable) and Moral Outrage (mediator) refers to the interaction between Decision and Positive Attitude toward abortion. *All reported direct effects are controlled for the effect of the mediator.

UL = - .0591) of positive attitudes toward abortion, but again the effect was stronger for those people who held the most negative attitudes.

Discussion

Results of Study 1 showed that a woman’s decision to abort significantly increased feelings of moral outrage and reduced her perceived humanness. Moreover, the effect of the decision to abort on dehumanization was mediated by moral outrage for participants with low, medium, and high levels of negative attitudes toward abortion. Taken together, these results confirm the existence of a dehumanizing stigma toward women who decide to abort that strengthens the more people feel morally outraged by her decision. Interestingly, the decision to abort also lowers women’s perceived competence in traditional female professions likely because her decision violates one of the central female roles, that of motherhood. Instead, changing the lexical marker to define the preborn (fetus vs. child) did not change the perception of the mother. Likely, such a manipulation can change the perception of humanness of the preborn (Mikolajczak & Bilewicz, 2015), but not of the woman who decides to abort.

Study 2

Study 2 aimed to extend Study 1, examining the role of the male partner in the decision to abort. Measuring perceptions of both actors in Study 2 allowed us to test whether the moral consequences of bearing the responsibility of the choice to abort would fall equally on both partner’s shoulders. Considering the fact that no other study has analyzed the attitude toward men in the context of abortion, the aim of this study was to examine whether the type of decision (abort vs. not-abort) and the responsibility of the decision (responsibility of the woman vs. responsibility of...
the man vs. responsibility of the couple) could independently affect the attitudes toward the woman, the man or both partners.

In line with Study 1, we expected that participants would experience stronger moral outrage (H1) in response to the decision to abort and we aimed to explore whether this effect was qualified by the person responsible for this decision (woman vs. man vs. couple). Relative to the attribution of humanness, we predicted that both HN and HU would be reduced by the decision to abort (vs. not-abort) (H2) and, as above, we tested whether this effect was moderated by the person responsible for this decision (woman vs. man vs. couple).

As in Study 1, we were interested in examining whether the decision and, in this case, the responsibility of the decision to abort (vs. not-abort) would affect the perception of women’s competence in traditional female professions versus nontraditional female professions. Thus, we predicted that when the decision was to abort (vs. not-abort), the woman would be perceived as less capable to do traditional (vs. nontraditional) female professions (H3).

Again, we examined whether the decision to abort affected the attribution of HN and HU through the mediating role of moral outrage for the female and the male partner separately. Specifically, we hypothesized that the interaction between the decision and the responsibility produces an increase in moral outrage, which in turn elicits a lower attribution of humanness – in terms of HN and HU both for the woman (H4 for attribution of HN and H5 for attribution of HU) and the man (H6 for attribution of HN and H7 for attribution of HU).

In addition, we collected both male and female participants and added an evaluative measure that would allow us to show that the effects on dehumanization hold even when we control for people’s evaluative attitudes. As far as participants’ gender is concerned, we did not advance any specific hypotheses.

Method

Design and Participants

Based on the smallest effect size that we observed in Study 1 ($f^2 = .29$), GPower indicated that 157 participants were sufficient to obtain 95% power. We then advertised the online study and enrolled all students who made themselves available in exchange for course credits, reaching a total sample size of 302 participants.

Both male and female participants were randomly assigned to one of the six experimental conditions based on a 2 (Type of Decision: abort vs. not-abort) × 3 (Responsibility of the Decision: responsibility of the woman vs. responsibility of the man vs. responsibility of the couple) factorial design (see Table 5). A verbal debriefing was provided to participants at the end of data collection during the lessons. From the total of 302 questionnaires, 29 respondents were excluded. Among these 29 participants, only 4 of them replied to (less than half of) the questions while the remaining 25 did not reply to any of the questions of the study. More precisely, of these 25 respondents, 13 abandoned the survey after giving the informed consent without reading anything about the topic of the research and 12 read the scenario and answered only to the manipulation check. The 16 participants that read the scenario, but interrupted their participation early on, were equally distributed between the abortion and non-abortion conditions. In addition, 8 participants were discarded because they failed to correctly remember the experimental manipulation. The final sample was thus composed of 265 participants (174 females, $M_{age} = 20.77$, $SD_{age} = 2.00$).

Procedure and Measures

Participants read a scenario describing the story of Laura and Filippo, a couple in a stable and positive relationship. As in Study 1, Laura discovers to be pregnant. According to the conditions, the couple decided to abort (vs. not-abort) and the responsibility for the decision was that of the woman (vs. the responsibility of the man vs. responsibility of the couple).

All measures were identical to those of Study 1, except that a further dependent variable was added. Specifically, we asked participants to indicate the extent to which they felt favorable or unfavorable toward the woman and the man described in the scenario on a 9-point rating scale from 1 (= very unfavorable) to 9 (= very favorable). The internal consistency of the adopted measures is presented in Table 2.

Results

For all the dependent variables, a 2 (Target: judgment of the woman vs. judgment of the man) × 2 (Type of Decision: abort vs. not-abort) × 3 (Responsibility of the Choice: responsibility of the woman vs. responsibility of the man vs. responsibility of the couple) repeated-measure analysis of variance (ANOVA) was conducted. Correlations among the key study variables are presented in Table 6.

Given that neither a main effect of participant gender nor the interaction between participant gender and the conditions emerged on any of the dependent variables, this variable was omitted from any further analyses. Research

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4 Research findings did not change with the inclusion of these eight participants in the sample.
findings remained almost identical according to the inclusion versus exclusion of the direct and indirect experiences of abortion, religious affiliation, and political orientation as covariates.

Perceived Moral Outrage, HN, and HU
A significant three-way interaction including all variables emerged for all three dependent variables [moral outrage, abortion decision, decision toward abortion]. The three-way interaction between the type of decision, the responsibility of the choice, and the type of profession emerged significantly, $F(2, 259) = 33.45, p < .001, \eta^2_p = .21$. Simple effect analyses showed that when the responsibility of the choice was on the man, participants attributed higher competence in traditional female professions, her less competence in traditional female professions, the abortion compared to the non-abortion condition (see Figure 3 for moral outrage, HN, and HU).

Table 5. Number of participants by condition (Study 2)

<table>
<thead>
<tr>
<th>Specific condition</th>
<th>Responsibility of the decision</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision</td>
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<td>Man</td>
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<tr>
<td>Abortion</td>
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<td>46</td>
</tr>
<tr>
<td>Non-abortion</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>83</td>
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Table 6. Correlations among key variables (Study 2)

<table>
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<tr>
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<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>8</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
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<tbody>
<tr>
<td>1. Sex</td>
<td></td>
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<tr>
<td>2. Age</td>
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<td>3. Abortion decision</td>
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<td>-</td>
<td>.02</td>
<td>-.10</td>
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<tr>
<td>4. Indirect Experience of abortion</td>
<td>-</td>
<td>-</td>
<td>.15</td>
<td>.03</td>
<td>.01</td>
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<tr>
<td>5. Political conservatism</td>
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<td>2.12</td>
<td>-.10</td>
<td>.17</td>
<td>-.04</td>
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<td>7. Woman’s Human Uniqueness</td>
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<td>8. Woman’s Human Uniqueness</td>
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<td>1.11</td>
<td>.00</td>
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<td>9. Man’s Human Nature</td>
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<td>.05</td>
<td>-.34</td>
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<td>.23</td>
<td>.20</td>
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<tr>
<td>10. Man’s Human Uniqueness</td>
<td>4.27</td>
<td>1.29</td>
<td>-.01</td>
<td>.05</td>
<td>-.28</td>
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<td>-.12</td>
<td>.12</td>
<td>.22</td>
<td>.24</td>
<td>.87</td>
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<tr>
<td>11. Moral outrage toward the Woman</td>
<td>1.90</td>
<td>1.14</td>
<td>-.03</td>
<td>.00</td>
<td>.26</td>
<td>-.04</td>
<td>.21</td>
<td>-.27</td>
<td>-.59</td>
<td>-.55</td>
<td>-.07</td>
<td>-.03</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>12. Moral outrage toward the Man</td>
<td>2.17</td>
<td>1.35</td>
<td>.09</td>
<td>-.01</td>
<td>.27</td>
<td>.00</td>
<td>.14</td>
<td>-.24</td>
<td>-.18</td>
<td>-.11</td>
<td>-.68</td>
<td>-.64</td>
<td>.28</td>
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<tr>
<td>13. Competence in TFPa</td>
<td>3.78</td>
<td>1.68</td>
<td>-.02</td>
<td>.23</td>
<td>.07</td>
<td>-.02</td>
<td>.16</td>
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<td>.61</td>
<td>.11</td>
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<td>-.42</td>
<td>-.14</td>
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<td>14. Competence in NTFPa</td>
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<td>-.01</td>
<td>.19</td>
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<td>-.01</td>
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<td>.03</td>
<td>.08</td>
<td>.10</td>
<td>.03</td>
<td>.21</td>
<td></td>
</tr>
</tbody>
</table>

Notes. *Abortion decision is coded: 0 = non-abortion and 1 = abortion. **Indirect Experience of Abortion is coded: 0 = no indirect experience and 1 = indirect experience. *TFP = Traditional Female Professions, NTFP = Nontraditional Female Professions. *p < .05, **p < .01, ***p < .001.
When the responsibility of the choice was on the couple, participants attributed the woman less competence in traditional female professions in the abortion than in the non-abortion condition, and a greater competence in nontraditional female professions in the abortion compared to the non-abortion condition.

**Moderated Mediation Models**

We aimed to examine the mediating role of moral outrage, in explaining the effect of the decision to abort and the responsibility of the decision on the attribution of HN and HU to both partners. To test these hypotheses, we conducted four different moderated mediational models: one for each target and each type of humanness separately using the SPSS macro PROCESS (Model 7; Hayes, 2013). The analyses were conducted following Preacher and Hayes’ (2008) recommendations, calculating a bias-corrected 95% confidence interval (CI) for the indirect effect using a bootstrapping technique with 1,000 resamples.

As in Study 1, before testing the moderated mediation models, we tested for endogeneity of the mediator (Antonakis et al., 2010). Since Study 2 is far more complex than
Study 1, with the 4 different models that were tested, the endogeneity analyses were performed for each one of these different models (see Figure 4 for description of each model). In all models, we used the approach described by Garson (2018), the same we used in Study 1. In all these models, we considered “political orientation,” “age,” “previous direct experience of abortion” and “previous indirect experience of abortion” and “sex of participant” as instrumental variables (except for Model c where political orientation was not considered since it showed a significant albeit low correlation with the dependent variable) in the “ivregress 2sls” procedure of STATA: These variables were not correlated with the dependent variable and thus with its disturbance term (see Garson, 2018). In each moderate mediational model tested, the tests of endogeneity testing the null hypothesis that variables are endogenous as well as the tests of overidentification resulted nonsignificant.5 According to these preliminary results, we can conclude that the hypothesis of endogeneity of the mediator can be rejected and that the exclusion restriction holds in all models a–d. Thus, the results of mediation and mediated moderation analyses (see below) can be interpreted meaningfully.

After these preliminary analyses, we tested the model hypothesized. Again, we standardized all measures before testing the moderated mediational models. The first two models focused on the female target, and a new variable able to summarize the effect of the decision and responsibility was created in such a way that the condition in which the responsibility to abort was taken by the man. According to these preliminary results, we can conclude that the hypothesis of endogeneity of the mediator can be rejected and that the exclusion restriction holds in all models a–d. Thus, the results of mediation and mediated moderation analyses (see below) can be interpreted meaningfully.

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were statistically significant and are shown in Figure 4A–4D.

In all cases, results revealed that the paths linking the DR-WC or the DR-MC and moral outrage, as well as the relationship between this latter variable and the attribution of humanness to the female or the male partner were statistically significant. Moreover, as we hypothesized, the results indicated that the indirect effect of moral outrage in explaining the effect of the decision to abort and the responsibility of the decision on the attribution of humanness to both partners was significant. In all cases, the main effect of the attitude toward abortion as a moderator between the DR-WC or DR-MC and moral outrage was significant as well as the two-way interaction between the attitude toward abortion and the DR-WC or DR-MC. Specifically, and as we expected, results showed that the mediating effect of moral outrage in all models was stronger for those participants who had strong negative attitudes toward abortion. Nevertheless, the indirect effect of moral outrage was always significant in the case of the female partner on all levels of attitudes toward abortion for participants with low (b = −.26, SE = 0.06, 95% CI: LL = −.3747; UL = −.1534), medium (b = −.18, SE = 0.03, 95% CI: LL = −.2500; UL = −.1121), or high (b = −.10, SE = 0.03, 95% CI: LL = −.1611; UL = −.0499) levels of positive attitudes toward abortion when attributing HN or for participants with low (b = −.25, SE = 0.06, 95% CI: LL = −.3741; UL = −.1482), medium (b = −.17, SE = 0.04, 95% CI: LL = −.2538; UL = −.1131), or high levels (b = −.09, SE = 0.03, 95% CI: LL = −.1619; UL = −.0460) of positive attitudes toward abortion when attributing HU. When judging the male partner, instead, moral outrage significantly mediated the effect of the male partner’s decision to abort and the attribution of humanness to him when participants had strong negative (b = −.27, SE = 0.05, 95% CI: LL = −.3788; UL = −.1767) or intermediate (b = −.18, SE = 0.04, 95% CI: LL = −.2589; UL = −.1018) attitudes toward abortion, but not when they had positive attitudes toward abortion (b = −.08, SE = 0.05, 95% CI: LL = −.1842; UL = −.0165) when attributing HN and for participants with negative (b = −.27, SE = 0.06, 95% CI: LL = −.3827; UL = −.1664), intermediate (b = −.17, SE = 0.04, 95% CI: LL = −.2590; UL = −.0920), but not positive (b = −.08, SE = 0.05, 95% CI: LL = −.1779; UL = −.0066) attitudes toward abortion when attributing HU.

Discussion

Results of Study 2 nicely replicated and extended results of Study 1 showing that not only the female, but also the male partner elicited more moral outrage and was considered less human when the responsibility was on him and the decision was to abort (vs. not-abort). As in Study 1, the responsibility of the decision to abort negatively affected perception of the woman’s competence in traditional female professions.

We found that the effect of decision to abort on perceived humanness was mediated by moral outrage. For the female target, we replicated the pattern of Study 1, showing that the mediation model held for all levels of participants’ attitude toward abortion, albeit being stronger for those participants that had the most negative attitudes. Interestingly, for the male target, this pattern of relations was significant only for people who held strong negatives or intermediate attitudes toward abortion. For those people who held positive attitude toward abortion, instead, moral outrage does not mediate the tendency to dehumanize the man who decided to abort. As a matter of fact, more detailed analyses revealed that those participants who hold the most positive attitudes toward abortion do not feel morally outraged toward the man who decides to abort and only slightly dehumanize him more compared to the female partner who decides to not-abort. As such, these data suggest that these participants hold a double standard making harsher judgments toward the woman compared to the man.

General Discussion

The present research constitutes the first attempt to examine attitudes toward a woman or a man who decides to obtain an abortion. Although previous studies have demonstrated that women who abort are stigmatized, research has yet to systematically investigate in what this stigma consists and to what extent it is endorsed by perceivers. In order to deepen our understanding of this issue, we conducted two experimental studies. As expected, in Study 1, we found that participants perceived women who decide to abort to be both more animal and machine-like. Interestingly, the decision to abort affected the perception of a woman’s professional competence as well, leading to consider her as less able to perform traditional female jobs. Our results seem to indicate that the backlash effect, that is, the negative evaluation that agentic women undergo when they violate feminine prescriptions (Rudman & Glick, 2001; Rudman & Phelan, 2008), can be applied to the choice to abort as well. Indeed, challenging the feminine prescription of nurturing and caring weakens the fit that people generally perceive between stereotypical female traits and traditional female occupations. Therefore, this choice appears to have potential consequences not only in terms of the general perception of women but also in terms of their discrimination in professional life.
Study 2 replicated the results of Study 1 confirming the negative role of the decision to abort on female targets attributing them less humanness and perceived competence in stereotypical female jobs. Moreover, Study 2 showed these effects also in a male sample and demonstrated that the disparaging effects of the decision to abort extend to the father as well. These negative effects of the choice to abort on men are novel and can be explained by virtue of the Western pronatalist ideology. This ideology states that choosing not to have children is considered unnatural and a disgrace (Benatar, 2008; Graham et al., 2013). Indeed, the choice to abort could challenge this widespread social norm that assigns worth and legitimacy only to people – both men and women – who choose to procreate in their own lives.

In both studies, we confirmed the crucial role of moral outrage in the reduced attribution of humanness to women (Study 1 and Study 2) and men (Study 2) who decide to abort. When perceiving a supposed morally wrong action, people react with moral outrage against the perpetrator of that immoral action (Carlsmith & Darley, 2008). Our results show that the choice to abort (vs. not-abort) reduces perceived targets’ humanness to the extent that they feel moral outrage. These findings complement previous research that studied the experience of stigma in the personal lives of women who decide to get an abortion (APA Task Force on Mental Health and Abortion, 2008; Major et al., 2009), and provide evidence that the decision to abort negatively impacts the way they are perceived by social actors, reducing their perceived humanness.

Moreover, it is interesting to note that even if the mediation effect was stronger when attitudes toward abortion were negative, moral outrage significantly mediated the effect of the decision to abort on the humanness of women also for those individuals who held positive and intermediate attitudes toward abortion. One of the big differences between pro-choice and antiabortion supporters lies in their attitudes toward the legitimacy of abortion from a legal point of view, for the former it should be permitted, for the latter it should be prohibited. Still, both often tend to agree that abortion is in any case a negative event that should be avoided in people’s life (Pollit, 2014); abortion should be permitted from a legal point of view, but it should be discouraged through prevention. Our findings seem to capture this ambivalence showing that it can lead to moral outrage and dehumanized perceptions toward women who decide to abort also in pro-choice people. Interestingly, different results emerged for men, showing that our mediational model was not significant when participants’ attitudes toward abortion were positive. Therefore, a double standard seems to emerge where positive attitudes toward abortion somewhat protect men, but not women when they decide to abort.

Limitations and Future Research
In Study 1, no evidence was found for the role of the perceived humanness of the preborn in eliciting moral outrage and perceptions of dehumanization. It might be that such a manipulation can modify only the perceived humanness of the preborn (Mikołajczak & Bilewicz, 2015), but not of the woman who decides to abort, or it might be that our manipulation of perceived humanness using a lexical marker was too weak. We only used the word fetus versus child once in the whole scenario. Future studies should better and specifically examine the role of the perceived humanness of the preborn and the harm provoked by the decision to abort in eliciting moral outrage. Indeed, the perception of the woman/man who decides to abort who provoked as an “intentional agent” harm against a supposed “suffering patient” (the preborn) could be an interesting perspective to better examine whether moral outrage is elicited also by the supposed perceived pain felt by the fetus (Gray & Wegner, 2009). Another interesting question for future research could test and compare whether it is the act of ending life versus not-ending life that leads to outrage or the violation of societal expectations in terms of motherhood. Future studies should try to generalize our results involving a sample taken from the general population and test similar hypotheses cross-culturally.

Conclusions
In many countries, even if the legal right to abortion has been attained, there is still a lack of social and moral acceptance (Løkeland, 2004). Restrictions in the access to medical abortion services have been increasingly occurring, not only in Italy – the country where we conducted these studies – but also in several other EU countries and in the USA (Heino, Gissler, Apter, & Fiala, 2013). These increasing constraints make it even harder for women to obtain safe abortions and exert their reproductive rights. Abortion stigma plays a critical role in these constraints and in the medical marginalization of abortion care, contributing to generate unsafe or even lethal medical conditions for women (Kumar et al., 2009). A dangerous vicious circle can occur spreading the perception that women (and men) who have abortions are somehow not completely human, and as a consequence, they deserve to suffer and to be treated in an unfair or discriminatory way.

Stigmas can have profound psychological and interpersonal consequences for the persons who possess them (Major & Gramzow, 1999). As long as having an abortion will elicit moral outrage, abortion will be an extremely stressful event, not only because of the emotional load it inherently carries, but also because of the disparaging attitudes it elicits among perceivers.
Open Data/Materials
Electronic copies of the anonymized raw data, and all materials used to collect data in their original wording/language are archived in the online platform Open Science Framework and are available upon request.

Author Contributions
Maria G. Pacilli, Ilaria Giovanelli, Federica Spaccatini conceived and designed both studies; in Study 2 also Jeroen Vaes was involved. M. G. Pacilli, I. Giovanelli, F. Spaccatini collected the data of both studies. M. G. Pacilli, I. Giovanelli, F. Spaccatini, J. Vaes, and Claudio Barbaranelli had a significant input in the data analysis of both studies. M. G. Pacilli, I. Giovanelli, F. Spaccatini, and J. Vaes wrote the paper. All authors revised and approved the final version of the paper.

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