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Dirty jobs and dehumanization of workers

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The present study aims at expanding research on dehumanization in the work domain by exploring laypeople's dehumanizing perceptions towards stigmatized workers. Starting from Hughes' (1951, *Social psychology at the crossroads*, Harper & Brothers, New York; Ashforth & Kreiner, 1999, *Academy of Management Review, 24*, 413) concept of 'dirty work', the present research aims to demonstrate that the different types of occupational taint elicit distinct dehumanizing images of certain occupational groups. Employing a cluster analysis, the results showed that workers in the physical taint cluster were most strongly associated with biological metaphors, workers in the social taint cluster were perceived as most similar to objects, and workers in the moral taint cluster were perceived as most similar to animals. The theoretical and practical implications are considered.

In the modern society, work is a central aspect of human life: It represents one of the main sources of expression of personal identity and worth sense (Bandura, 1995; Cheney, Zorn, Planalp, & Lair, 2008; Erikson, 1959) and is a significant means of self-presentation and self-definition (e.g., Berkman, 2014). However, certain occupations are often accompanied by negative stigma that can be projected onto the workers. The sociologist Hughes (1951, 1958) defined the stigmatized work activities with the term of 'dirty work', by specifically referring to occupations that are perceived as disgusting, degrading, or immoral. Douglas (1966) extended the Hughes' work (1951, 1958) by explaining the social meaning of this conceptualization. The author posited that the notion of dirt is indeed a cultural construction: Work becomes 'dirty' when society deems it so. In this respect, the label 'dirty' in a work context involves physical dirt but also any other kind of dirt that society normally avoids, such as danger, crime, or immorality. In line with these considerations, Ashforth and Kreiner (1999) defined dirty jobs as connected with three different types of taint: physical, social, and moral. Physical taint occurs when an occupation is thought to be performed under particularly dangerous conditions (e.g., soldiers or firefighters) or is directly associated with dirt, garbage, and effluent (e.g., garbage collectors or sewer workers). Social taint arises when a worker occupies low-status and low-power positions and has a subordinate relationship with others (e.g., butlers or waiters). Finally, moral taint occurs when a worker is thought to employ methods that are deceptive or immoral (e.g., bill collectors or pawnbrokers).

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More recently, starting from the original theorization proposed by Hughes (1951, 1958), social psychologists and anthropologists focused their research on occupational dirt and identity dynamics (e.g., Ashforth & Kreiner, 2013; Ashforth, Kreiner, Clark, & Fugate, 2007, 2017; Bosmans *et al.*, 2016; Cassell & Bishop, 2014; Filteau, 2015; Johnston & Hodge, 2014; Kreiner, Ashforth, & Sluss, 2006; Meldgaard Hansen, 2016; Selmi, 2012). For example, Dick (2005) explained that being branded as a 'dirty worker' may imply a significant threat to the identity goal of seeing themselves in a positive light. Indeed, according to the author, dirt – in all of its meanings – symbolizes what society would like to exclude to maintain an agreeable order. For this reason, occupations characterized by certain defining features that violate physical, societal, or moral norms are perceived as tainted, and workers in these occupations are consequently stigmatized.

By extending the abovementioned literature on dirty jobs, the present research aimed to demonstrate that these tainted occupations may not only lead to stigmatization but also elicit a dehumanizing image of workers.

Dehumanization in the work domain

Dehumanization refers to the idea that people are denied their proper humanness (see Haslam & Loughnan, 2014). This process can be implicit, as in the case of the preferential attribution of human characteristics, such as complex emotions (e.g., Leyens *et al.*, 2000), to ingroups relative to outgroups (Buckels & Trapnell, 2013; Haslam, Loughnan, Reynolds, & Wilson, 2007). In other cases, dehumanization may be more blatant, as when groups are explicitly linked to non-humans through the use of metaphorical language (Volpato, 2012). Furthermore, dehumanization can assume different forms, such as objectification, animalization, and biologization, that is, the consideration of a certain group of people as more similar to objects, animals, or viruses rather than to human beings (Volpato & Andrighetto, 2015). Numerous studies about dehumanization, especially in terms of objectification and animalization, have mainly focused on exploring intergroup biases in a wide range of intergroup contexts (e.g., Paladino & Vaes, 2009; Vaes & Paladino, 2010; Valtorta & Volpato, 2018; Viki *et al.*, 2006). Less effort has been made to account for dehumanizing perceptions in the work domain: Only recently, social psychology has begun to investigate the phenomenon of workplace dehumanization. Gruenfeld, Inesi, Magee, and Galinsky (2008) examined objectification as a response to social power and found that in hierarchical work contexts, participants in high-power positions systematically objectified their subordinate partners by seeing them as mere instruments for the attainment of their purposes. Furthermore, Andrighetto, Baldissarri, and Volpato (2017; see also Baldissarri, Valtorta, Andrighetto, & Volpato, 2017) revealed that (factory) workers performing subordinate activities characterized by repetitive movement, fragmented activities, and other-direction were objectified by laypeople, that is, were perceived as instrument-like (vs. human-like) and as less able to experience human mental states. Valtorta, Baldissarri, Andrighetto, and Volpato (2019) focused on the more unexplored form of dehumanization: biologization. In particular, considering that people are associated with disease especially when are perceived as lacking hygiene and in physical contact with dirt (Faulkner, Schaller, Park, & Duncan, 2004), the authors found that the salience of dirty work environments characterizing physically tainted occupations elicited people's disgust towards workers. In turn, disgust increased the association of these workers with biological metaphors. Importantly, this pattern did not emerge for objectification and animalization.

Although several studies (e.g., Andrighetto *et al.*, 2017; Gruenfeld *et al.*, 2008; Valtorta *et al.*, 2019) have investigated dehumanization in the work domain, to date research has not provided a clear systematization of which occupational groups may be

associated with which corresponding dehumanizing images. To address this gap, starting from the concept of 'dirty work' (e.g., Ashforth & Kreiner, 1999; Hughes, 1951), the present study aims to show the association of different types of occupational taint with distinct dehumanizing perceptions of workers. Theoretical and practical literature on dehumanization and occupational taint (e.g., Davis, 1982; Goffman, 1963; Haslam, 2006; Henson, 1996; Kelman, 1976) suggests indeed that both dehumanization and tasks labelled as 'dirty work' involve denying a person identity, a perception of the person as an individual capable of making choices, and underrating one's personal dignity. Thus, the purpose of this study was to demonstrate that laypeople's perceptions of physically, socially, and morally tainted occupations are associated with corresponding dehumanizing metaphors. In particular, we first assumed that workers that perform physically tainted occupations would be biologized more, namely that biological metaphors would be associated more to these workers than to workers performing socially and morally tainted occupations. Our hypothesis is supported by previous research on biologization (Valtorta *et al.*, 2019), according to which focusing on a dirty work environment that typically characterizes physically dirty workers increased their biologization. Second, we assumed that social taint that usually defines the subordinate work activities should elicit an objectifying image of workers (see Andrighetto *et al.*, 2017; Gruenfeld *et al.*, 2008). In particular, we assumed that socially tainted occupations would lead to a greater perception of workers as objects than physically and morally tainted jobs. Finally, we supposed that morally tainted occupations would lead to a greater perception of workers as animals than physically and socially tainted occupations. Indeed, morality is one of the core dimensions defining human beings (Haslam, 2006), and perceiving others as lacking morality is an important antecedent of animalistic dehumanization (Kteily & Bruneau, 2017). For example, Pacilli, Roccato, Pagliaro, and Russo (2016) revealed that within the political domain, the perception of moral distance from political outgroups positively predicts their animalistic dehumanization. Therefore, it is plausible to imagine that in the work domain, occupations perceived as morally tainted are associated with an increase in animalized perceptions of people who perform these activities.

The present research

A preliminary study and a main study addressed our hypotheses. The preliminary study aimed to select the most salient tainted occupations in our research context (i.e., Italy). The main study used a sample of 27 occupational groups, namely the most frequent answers resulted from the preliminary study (for a similar procedure, see Fiske, Cuddy, Glick, & Xu, 2002). Participants were asked to evaluate the groups on physical, social, and moral taint. Each group, with its score on the physical, social, and moral taint dimensions, became a unit in cluster analyses. Reasonable cluster solution derived from standard decision rules. We compared clusters for distributions of groups across the entire space to examine whether physical, social, and moral taint perceptions would differentiate occupational groups. Furthermore, in order to demonstrate that physical, social, and moral taint perceptions are actually associated with the distinct work features described in the literature on dirty work (e.g., Ashforth & Kreiner, 1999), participants were asked to rate the main criteria used to define the three forms of stigmatization (i.e., physical, social, and moral taint): perceptions of dirty environment, subordination, and immorality. Finally, to test our main hypotheses about dehumanization, participants also rated the groups on items assessing dehumanizing perceptions.

Preliminary study

The occupational groups used in our studies were selected through a preliminary study aimed at identifying the most salient tainted occupations in the Italian context.[1] Thirty-three (18 females; $M = 32.36$, $SD = 15.94$) Italian undergraduates[2] were asked to list at least one Italian tainted occupation. Before answering, participants received the following definition of 'taint' borrowed from the literature (Bergman & Chalkley, 2007, p. 251): 'a characteristic or mark that is devalued in some social contexts, leading to prejudice against the person who possesses the mark'. Overall, participants reported 46 tainted occupations. We considered in the main study those that were listed by 6% ($N = 2$) or more of the respondents (for a similar criterion of inclusion see Fiske *et al.*, 2002). They were (in descending order) garbage collectors, politicians, janitors, gravediggers, teachers, bricklayers, prostitutes, call-centre workers, police detectives, state workers, bankers, insurance agents, dishwashers, caregivers, butchers, coroners, farmers, leaflet distributors, tattoo artists, hair stylists, waiters, blue-collar workers, nurses, secretaries, debt collectors, customs officers, and lawyers.

MAIN STUDY

Method

Participants and experimental design

One hundred and twenty-six (105 females) undergraduates at an Italian university participated in the study in exchange for partial course credit. Participants' age ranged from 18 to 53 years ($M = 23.66$, $SD = 5.82$). Each participant randomly rated 3 of the 27 groups.

Procedure and measures

Participants took part in an online study introduced as a task that involved 'impression formation' towards some occupations in the Italian context. Each participant rated the three groups on scales reflecting physical, social, and moral taint, the main criteria for work stigmatization, and dehumanizing perceptions.[3] In order to capture cultural perceptions of workers and to dispel any social desirability concerns associated with our use of explicit measures described below, respondents were instructed to express their judgements about how the considered workers are viewed by Italian society rather than by themselves (for a similar procedure, see Fiske *et al.*, 2002; Fiske, Xu, Cuddy, & Glick, 1999).

Physical, social, and moral taint

Participants were asked to assess the extent to which (1 = *not at all*; 7 = *extremely*), according to the perspective of Italian society, the occupational groups were physically, socially, and morally tainted. Before answering, respondents received a definition of each type of taint (Ashforth & Kreiner, 1999). In particular, participants were asked to rate the

[1] *Part of the data of this preliminary study has also been considered in Valtorta* et al. *(2019).*

[2] *Participants of the preliminary study were not included in the main study.*

[3] *The additional files for this article (i.e., the questionnaire, the group-level dataset, the individual-level dataset) are available at https://osf.io/yhj7k/.*

extent to which the workers were thought to work under particularly dangerous and dirty conditions (i.e., physical taint), to have a subordinate relationship with others (i.e., social taint), and to employ methods that are deceptive or immoral (i.e., moral taint).

Criteria for work stigmatization

Perceptions of dirty environment were measured using eight adjectives (dirty [sporco], degrading [degradante], dangerous [pericoloso], damaging [nocivo], clean [pulito] (R), deleterious [deleterio], harmful [dannoso], and refined [raffinato] (R); $\alpha = .85$) related to the work setting. Perceptions of subordination were measured using six adjectives (independent [indipendente] (R), subordinate [subordinato], subservient [sottomesso], dependent [vincolato], free [libero] (R), and autonomous [autonomo] (R); $\alpha = .94$) related to the work activity, and perceptions of immorality were measured using eight adjectives (immoral [immorale], dishonest [disonesto], polite [lecito] (R), indecent [indecente], corrupt [corrotto], honest [onesto] (R), virtuous [virtuoso] (R), and fair [corretto] (R); $\alpha = .89$) related to the work methods. Participants were asked to evaluate each of the presented occupational groups by rating on a 7-point Likert scale (1 = *not at all*; 7 = *extremely*) the extent to which, according to the perspective of Italian society, the work environment, work activity, and work methods were characterized by these adjectives borrowed from the literature concerning dirty jobs (e.g., Ashforth & Kreiner, 1999).

Dehumanizing perceptions

Dehumanizing perceptions of the workers were measured by employing words that recalled the three considered forms of dehumanization (i.e., objectification, animalization, and biologization). More specifically, respondents were asked to rate the extent to which, according to the perspective of Italian society, each worker was associated with these words (1 = *not at all*; 7 = *extremely*). Perceptions of each target as object-like were measured employing six object-related words (object [oggetto], tool [utensile], device [macchina], thing [cosa], instrument [strumento], and number [numero]; $\alpha = .91$) borrowed from previous research (e.g., Andrighetto *et al.*, 2017; Rudman & Mescher, 2012). Instead, perceptions of each target as animal-like (animalization) and virus-like (biologization) were measured using, respectively, four animal-related nouns (animal [animale], savage [selvaggio], primitive [primitivo], and beast [bestia]; $\alpha = .91$) and four virus-related nouns (virus [virus], contamination [contaminazione], filth [sporcizia], and contagion [contagio]; $\alpha = .90$) borrowed from the literature concerning dirtiness and dehumanization (e.g., Douglas, 1966; Savage, 2007; Speltini & Passini, 2014; Steuter & Wills, 2010; Tipler & Ruscher, 2014; Valtorta *et al.*, 2019).

After completing the scales, participants were asked questions about their demographics. At the conclusion of the study, all participants were thanked and fully debriefed.

Results

Two participants were excluded from the study because they did not complete the survey. The final sample considered for the analyses was of 124 participants. Each participant randomly rated three occupational groups, resulting in a total of 372 ratings for each scale.

Cluster analyses

To test the relevance of physical, social, and moral taint ratings in differentiating tainted work occupations, we examined their three-dimensional array in cluster analyses. To test the frequency of mixed combinations, we examined the distribution of groups into various clusters and assessed differences in physical, social, and moral taint ratings for each cluster.

To examine the structure of this three-dimensional space, we conducted two types of cluster analyses of the 27 groups (for a similar procedure, see Fiske *et al.*, 2002). We first conducted hierarchical cluster analysis (Ward, 1963, method, which minimizes within-cluster variance) to determine the best fitting number of clusters. In particular, we identified a plausible number of clusters using typical decision rules (Blashfield & Aldenderfer, 1988): Hierarchical cluster analysis produces an agglomeration schedule that specifies which cases or clusters have been merged in each stage and that provides coefficients indicating distances between each pair of cases or clusters being merged at each stage. According to Blashfield and Aldenderfer (1988), a jump (in coefficients) implies that two relatively dissimilar clusters have been merged. Thus, the number of clusters before the jump is the most reasonable estimate of the number of clusters. Therefore, we used the graphical technique of scree plot as the stopping rule for determining the ideal number of clusters. For our sample, the last large change came in the break between three and four clusters, so we adopted a four-cluster solution. We then conducted *k*-means cluster analysis (with the parallel threshold method) to determine which occupational groups fit into which cluster (see Figure 1).

One cluster included only one group: prostitutes. Another cluster comprised 10 groups: dishwashers, caregivers, garbage collectors, janitors, butchers, coroners,

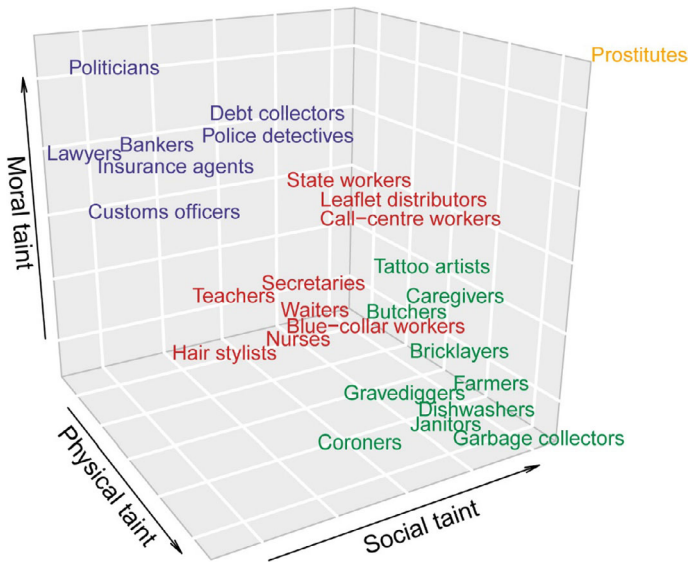

Figure 1. Four-cluster solution on a three-dimensional physical taint × social taint × moral taint space. The cluster with the highest stigmatization (i.e., prostitutes) is plotted in orange. Physical taint cluster is plotted in green; social taint cluster is plotted in red; and moral taint cluster is plotted in blue. [Colour figure can be viewed at wileyonlinelibrary.com]

gravediggers, farmers, bricklayers, and tattoo artists. Another cluster comprised nine groups: hair stylists, waiters, blue-collar workers, leaflet distributors, nurses, call-centre workers, teachers, secretaries, and state workers. The final cluster included seven groups: police detectives, debt collectors, customs officers, politicians, bankers, insurance agents, and lawyers.

In order to assess differences in physical, social, and moral taint ratings for each cluster, we compared the means for the four cluster centres. The cluster with the highest physical, social, and moral taint ratings ($M_{physical} = 6.47$; $M_{social} = 6.53$; $M_{moral} = 6.60$) was the one that included only one group (i.e., prostitutes).

Excluding the prostitute cluster (see Table 1), the cluster with the highest physical taint rating was the one that comprised dishwashers, caregivers, garbage collectors, janitors, butchers, coroners, gravediggers, farmers, bricklayers, and tattoo artists. This cluster significantly differed on the physical taint rating from all the other clusters (all ps $< .001$). Comparing the scores on physical, social, and moral taint of this cluster, matched pair t-tests revealed a significant difference between physical taint and moral taint ratings, $t(9) = 6.59$, $p < .001$, $d = 3.03$, but a non-significant difference between physical taint and social taint ratings, $t(9) = 2.08$, $p = .07$.

The cluster with the highest social taint rating was the one that comprised hair stylists, waiters, blue-collar workers, leaflet distributors, nurses, call-centre workers, teachers, secretaries, and state workers. This cluster significantly differed on the social taint rating from the moral cluster ($p = .001$) but did not significantly differ from the physical cluster ($p = .42$). Comparing the scores on physical, moral, and social taint of this cluster, matched pair t-tests revealed that social taint rating significantly differed from physical taint rating, $t(8) = 7.22$, $p < .001$, $d = 3.32$ and moral taint rating, $t(8) = 5.30$, $p = .001$, $d = 2.67$.

Finally, the cluster with the highest moral taint rating was the one that comprised police detectives, debt collectors, customs officers, politicians, bankers, insurance agents, and lawyers. This cluster's moral taint rating significantly differed from all the other clusters (all ps $< .001$). Matched pair t-tests revealed that this cluster centre's score on moral taint significantly differed from the physical taint score, $t(6) = 11.96$, $p < .001$, $d = 5.89$ and the social taint score, $t(6) = 8.01$, $p < .001$, $d = 4.04$.

Table 1. Physical, social, and moral taint means for each cluster

Cluster	Physical taint	Social taint	Moral taint
Dishwashers, caregivers, garbage collectors, janitors, butchers, coroners, gravediggers, farmers, bricklayers, tattoo artists	5.26_{aA}	4.31_{aA}	2.37_{aB}
Hair stylists, waiters, blue-collar workers, leaflet distributors, nurses, call-centre workers, teachers, secretaries, state workers	2.50_{bA}	4.74_{aB}	2.59_{bC}
Police detectives, debt collectors, customs officers, politicians, bankers, insurance agents, lawyers	1.86_{cA}	2.21_{bB}	4.97_{cC}

Note. Capital subscripts compare physical, social, and moral taint perceptions within clusters; small subscripts compare clusters within physical, social, and moral taint perceptions.

Criteria for work stigmatization

A MANOVA was conducted to analyse the difference between participants' perceptions of dirty environment, perceptions of subordination, and perceptions of immorality according to the cluster memberships (cluster: physical vs. social vs. moral). Considering that the cluster that included only one group (i.e., prostitutes) was the one with the highest physical, social, and moral taint ratings together, we decided to exclude it from the analysis.[4] The multivariate test revealed a main effect of cluster memberships, $\lambda = .43$, $F(2, 354) = 60.72$, $p < .001$, $\eta_p^2 = .34$. As reported below, univariate tests showed a significant effect of clusters on the three dependent variables.

Perceptions of dirty environment

The analysis showed a significant effect of cluster memberships, $F(2, 354) = 57.22$, $p < .001$, $\eta_p^2 = .24$, indicating that in the cluster with the highest physical taint rating, the work environment was perceived as dirtier ($M = 3.87$, $SD = 1.11$) than the work environment in the moral taint cluster ($M = 2.41$, $SD = 0.97$), $p < .001$, and the social taint cluster ($M = 2.94$, $SD = 1.01$), $p < .001$. Further, the work environment scores in the moral taint cluster and the social taint cluster significantly differed ($p < .001$).

Perceptions of subordination

The analysis showed a significant effect of cluster memberships, $F(2, 354) = 40.27$, $p < .001$, $\eta_p^2 = .18$, indicating that in the social taint cluster, the work activity was perceived as more subordinate ($M = 5.47$, $SD = 1.27$) than the work activity in the moral taint cluster ($M = 3.64$, $SD = 1.58$), $p < .001$, and in the physical taint cluster ($M = 4.35$, $SD = 1.69$), $p < .001$. Further, the work activity scores in the moral taint cluster and in the physical taint cluster significantly differed ($p = .001$).

Perceptions of immorality

The analysis showed a significant effect of cluster memberships, $F(2, 354) = 53.03$, $p < .001$, $\eta_p^2 = .23$, indicating that in the moral taint cluster, the work methods were perceived as more immoral ($M = 4.24$, $SD = 1.35$) than in the social taint cluster ($M = 2.91$, $SD = 1.06$), $p < .001$, and in the physical taint cluster ($M = 2.88$, $SD = 0.91$), $p < .001$. Further, the work methods scores in the social taint cluster and in the physical taint cluster did not differ ($p = .83$).

These results showed that our cluster solution accurately represented tainted work activities. In fact, we found that the cluster memberships were associated with different perceptions of the three main criteria used to define physical, social, and moral stigmatization. In particular, we found that perceptions of dirty environment,

[4] *By including in the analysis the cluster that comprised only the group of prostitutes, the same type of results for the physical, social, and moral taint clusters was obtained. In the cluster that comprised prostitutes, the work environment (*M *= 5.68,* SD *= 0.99) and the work methods (*M *= 5.78,* SD *= 0.71) were, respectively, perceived as dirtier and more immoral than the work environment and the work methods in the other three clusters (all* ps *< .001). Regarding the work activity, the group of prostitutes (*M *= 6.22,* SD *= 0.66) was perceived more subordinate than physical and moral taint clusters (all* ps *< .001), while the work activity scores in this cluster and the social taint cluster did not differ (*p *= .07).*

subordination, and immorality significantly differed among the respective types of taint (i.e., physical, social, and moral).

Dehumanizing perceptions

A MANOVA was then conducted to analyse the effect of the cluster memberships (cluster: physical vs. social vs. moral) on participants' dehumanizing perceptions of the workers. As in the previous analysis, we decided to exclude the cluster with the highest physical, social, and moral taint ratings together, that is, the cluster that included only one group (i.e., prostitutes).[5] The multivariate test revealed a main effect of cluster memberships, $\lambda = .64$, $F(2, 354) = 29.13$, $p < .001$, $\eta_p^2 = .20$. As reported below, univariate tests showed a significant effect of the cluster on each dehumanization score (see Figure 2).

Biologization

The analysis showed a significant effect of cluster memberships, $F(2, 354) = 18.08$, $p < .001$, $\eta_p^2 = .09$, indicating that the workers in the physical taint cluster were more biologized ($M = 2.31$, $SD = 1.59$) than the workers in the social taint cluster ($M = 1.50$, $SD = 0.94$), $p < .001$, and in the moral taint cluster ($M = 1.51$, $SD = 0.89$), $p < .001$. Further, the scores in the social taint cluster and the moral taint cluster did not differ ($p = .92$).

Objectification

The analysis showed a significant effect of cluster memberships, $F(2, 354) = 17.62$, $p < .001$, $\eta_p^2 = .09$, indicating that participants evaluated workers in the social taint cluster as more similar to objects ($M = 3.27$, $SD = 1.79$) than the workers in the moral taint cluster ($M = 2.15$, $SD = 1.27$), $p < .001$, and in the physical taint cluster ($M = 2.40$, $SD = 1.35$), $p < .001$. Further, the scores in the moral taint cluster and the physical taint cluster did not differ ($p = .22$).

Animalization

The analysis showed a significant effect of cluster memberships, $F(2, 354) = 30.57$, $p < .001$, $\eta_p^2 = .15$. Participants evaluated workers in the moral taint cluster as more similar to animals ($M = 2.59$, $SD = 1.68$) than the workers in the social taint cluster ($M = 1.48$, $SD = 0.89$), $p < .001$, and in the physical taint cluster ($M = 1.57$, $SD = 0.82$), $p < .001$. Further, the scores in the social taint cluster and the physical taint cluster did not differ ($p = .52$).

In line with our hypotheses, these findings revealed that occupational taint led participants' dehumanizing perceptions of targets. In particular, we found that workers in the physical taint cluster were biologized more than workers in social and moral taint clusters, workers in the social taint cluster were objectified more than those in physical

[5] *By including in the analysis the cluster that comprised only the group of prostitutes, the same type of results for the physical, social, and moral taint clusters were obtained. In the cluster that comprised prostitutes, the target was more objectified (*M *= 5.15,* SD *= 1.38), animalized (*M *= 3.93,* SD *= 1.96), and biologized (*M *= 4.60,* SD *= 1.68) than the workers in the other three clusters (all* ps *< .001).*

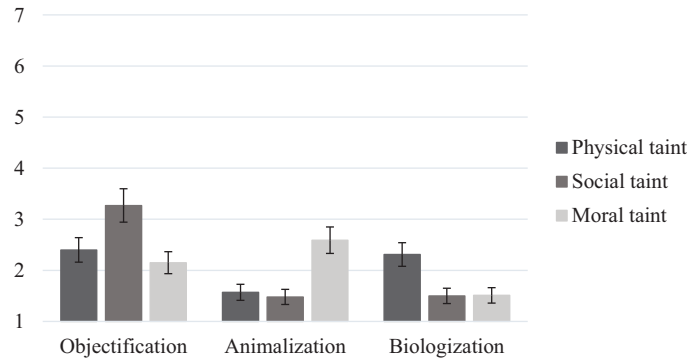

Figure 2. Dehumanizing perceptions as a function of the cluster memberships.

and moral taint clusters, and workers in the moral taint cluster were animalized more than workers in physical and social taint clusters.[6]

GENERAL DISCUSSION

The main aim of this study was to demonstrate that tainted occupations may not only lead to stigmatization but also elicit a dehumanizing image of workers. In particular, the purpose of this research was to examine how dehumanizing metaphors may be used within the work field and shape laypeople's perceptions of certain work-tainted targets. Through a cluster analysis, we provided evidence for the assumptions that physical, social, and moral taint perceptions are associated with distinct work features and different dehumanizing images. Specifically, our findings revealed that the physical taint cluster comprised 10 groups (e.g., janitors, garbage collectors) for which the work environment was perceived as dirtier and the workers were perceived as more similar to viruses than in social and moral taint clusters. The social taint cluster included nine groups (e.g., blue-collar workers, leaflet distributors). For these occupational categories, the work activity was perceived as more subordinate, and the workers were perceived as more similar to objects than in physical and moral taint clusters. Finally, the work methods used by workers belonging to the seven groups of the moral taint cluster (e.g., politicians, lawyers)

[6] *Considering that some of the occupational groups in the physical taint cluster (e.g., janitors) may operate in an environment characterized by viruses, we conducted a supplementary analysis in order to demonstrate that the main effect concerning biologization is not exclusively due to the association of the workers with their work environment. In particular, we conducted an additional analysis aimed at verifying the effect of the cluster memberships (cluster: physical vs. social vs. moral) on biologization by considering only the physically tainted workers that operate in an environment not characterized by viruses. Before conducting this analysis, we asked 22 participants (15 females,* $M = 32.68$, $SD = 11.38$*) to rate the extent to which (1 =* not at all; *7 =* extremely*) each considered worker in the physical taint cluster operates in an environment which has viruses. This post-test showed that four physically tainted occupational groups were perceived as operating in this kind of environment, as their single scores differed significantly from the midpoint (i.e., 4) of the scale: janitors (*$M = 6.23$, $SD = 1.07$, $t(21) = 9.80$, $p < .001$*), coroners (*$M = 5.50$, $SD = 1.33$, $t(21) = 5.26$, $p < .001$*), caregivers (*$M = 5.32$, $SD = 1.29$, $t(21) = 4.80$, $p < .001$*), and garbage collectors (*$M = 5.18$, $SD = 1.87$, $t(21) = 2.97$, $p = .007$*). Thus, we excluded from the supplementary analysis these workers and we considered the physical taint cluster as composed by dishwashers, butchers, gravediggers, farmers, bricklayers, and tattoo artists. Similarly to our main analyses, the effect of the cluster memberships (cluster: physical vs. social vs. moral) on participants' dehumanizing perceptions of the workers showed a main effect of cluster membership,* $F(2, 298) = 9.13$, $p < .001$, $\eta_p^2 = .06$*, indicating that the workers in the physical taint cluster were more biologized (*$M = 2.12$, $SD = 1.51$*) than the workers in the social taint cluster (*$M = 1.50$, $SD = 0.94$*),* $p < .001$*, and in the moral taint cluster (*$M = 1.51$, $SD = 0.89$*),* $p < .001$*. Further, the scores in the social taint cluster and the moral taint cluster did not differ (*$p = .92$*).*

were perceived as more immoral, and the workers themselves were perceived as more similar to animals than in physical and social taint clusters. Our analysis also revealed a fourth cluster which fell into a single group, the prostitutes. They were in fact perceived as an 'outlying' target having the highest physical, social, and moral taint ratings. These findings are in line with the theoretical assumptions proposed by Ashforth and Kreiner (2014), according to which prostitutes are among those occupations characterized by all the three forms of stigmatization. As reported by Harris and Fiske (2006), groups stereotyped as low in both warmth and competence (e.g., drug addicts and homeless people) fail to elicit activation of brain regions typically associated with viewing humans (e.g., medial prefrontal cortex). Starting from these findings, Haslam and Loughnan (2016) suggested that other similar targets seen as impure, tainted, or revolting – such as prostitutes – are particularly liable to be thoroughly dehumanized. Accordingly, it is important to note that our results showed that in the cluster that comprised prostitutes, the target was more objectified, animalized, and biologized than the workers in the other three clusters (see Note 5). For these reasons and considering that this profession seems to encompass in people's minds biological disease, subordination, and immorality, it is unsurprising that one cluster included only this occupational category.

We believe that our study makes a novel contribution in different ways. First, as far as we know, our findings provided the first empirical evidence of the taxonomy described by Ashforth and Kreiner (1999). In this regard, it is noteworthy that whereas previous literature on dirty work (e.g., Hughes, 1958; Kreiner *et al.*, 2006) has mainly focused on what physically, socially, and morally tainted activities have in common, we focused here on the differences among these forms of stigmatized occupations. More specifically, if we observe the comparison of the means for the cluster centres, our findings suggest that the moral taint cluster is particularly well-distinguished than the clusters concerning the two other forms of taint. This result confirms the theoretical assumptions proposed by Ashforth and Kreiner (2014), according to which if physical and social dirty work tend to be seen as more necessary than 'evil', then moral dirty work tends to be seen as more 'evil' than necessary. One largely unexplored but important difference between physical, social, and moral taint is indeed the degree to which the occupation is seen as necessary for society. As stated by Ashforth and Kreiner (2014), most physically and socially tainted jobs enjoy a 'necessity shield', a sort of protection against stigmatization threats based on the assertion that their jobs are necessary for society. This shield is not typically available to members of morally tainted occupations, whose methods may be questioned by significant portions of society.

Moreover, our findings might provide an interesting combined perspective between social psychological and organizational constructs. By integrating the assumptions regarding dirty occupations and dehumanization, it indeed revealed how certain features related to work environment and work activities could elicit different dehumanizing perceptions. In addition, by demonstrating the association of physical, social, and moral taint with the three main criteria used to describe dirty jobs (i.e., perceptions of dirty environment, subordination, and immorality), our findings empirically expand the sociological literature on stigma linked with dirty occupations (Ashforth & Kreiner, 1999; Hughes, 1958). Previous literature on dirty work (e.g., Hughes, 1958; Kreiner *et al.*, 2006) has focused on the commonalities of physically, socially, and morally tainted activities. As a result, this literature portrayed the dirty work as a sort of 'monolithic' category. We believe that our findings meaningfully extend this previous literature, by showing that the dirty work is indeed an articulated category in which the different forms of dirt occupations are well-distinguished, both in terms of the main criteria used to describe

them (Ashforth & Kreiner, 1999) and of dehumanizing perceptions. Showing these differences importantly enhances the understanding of the nature of dirty work itself.

Furthermore, our results complement research about dehumanization related to the work domain. For example, Loughnan and Haslam (2007) found that businesspersons, who are considered as cold and unemotional, are dehumanized in a mechanistic way. Instead, it has been found that subordinated jobs (Gruenfeld *et al.*, 2008) or critical task features, such as fragmentation (Andrighetto *et al.*, 2017), lead laypeople to objectify workers who perform these kinds of jobs. Otherwise, political outgroups are dehumanized in an animalistic way because of the perceived distance in the moral dimension (Pacilli *et al.*, 2016). In line with this evidence, first, our study confirms the role of subordinate activities and perceived morality in triggering dehumanizing perceptions by finding that socially tainted workers and morally tainted workers are, respectively, objectified and animalized. Furthermore, our research adds a tile to this negative picture of dehumanizing perceptions and their antecedents: We found, indeed, that physically tainted jobs, usually characterized by dirty work environments, led to biologization towards the workers.

Despite the novelty of our research, some limitations should be considered in interpreting our findings. The main methodological limitations concern the (explicit) measures that we employed in our study. First, it is noteworthy that the mean ratings of each dehumanizing perception (i.e., biologization, objectification, and animalization) were low in all conditions, indicating a weak association of the targets with virus-, instrument-, and animal-related words. Although participants were instructed to make the ratings on the basis of how the targets are viewed by Italian society, these results may have been affected by the participants' desirability concerns (e.g., Crowne & Marlowe, 1964; Nederhof, 1985). Moreover, it is important to note that the virus-related words had slightly different content than the animal- and object-related ones. In fact, they apply both to the subject of the work (e.g., garbage) and the nature of the worker (e.g., garbage man, gravedigger). Instead, the animal- (e.g., beast) and object-related (e.g., device) terms exclusively refer to the person performing the work. Considering that respondents were asked to rate the extent to which, according to the perspective of Italian society, each worker was associated with the words that recalled the three considered forms of dehumanization, we suppose that our measures for each dehumanizing perception are all applied to the person performing the work and not to the subject and the nature of the work. However, future research should replicate our findings by using more congruent dehumanizing terms.

Regarding the results on the comparison among the means of the cluster centres, we found that workers in the physical taint cluster are also rated as high on the social taint dimension. From our point of view, these findings represent the complexity of the reality in which physically stigmatized activities are usually subordinated; future research should support our findings by using different categories. In this respect, we believe that further studies could cross-culturally test our model: It is possible indeed that the association between tainted occupations and dehumanizing metaphors would be confirmed when tested in different countries, even if the occupations in each cluster could change according to the cultural context.

Furthermore, it is important to note that in the main study, participants were mainly female students. Future investigations could increase the generalizability of the present findings by using a more balanced sample across gender.

Finally, we believe that future research should test the role of relevant individual differences. In particular, it could be especially interesting to verify whether laypeople's

tendency to justify the system (Jost, Banaji, & Nosek, 2004) and the participants' socioeconomic status would shape their dehumanizing perceptions towards different occupational groups.

Conclusions

The present research contributes to the understanding of the process of workplace dehumanization. Considering that work is one of the central aspects of human life, understanding the conditions under which work becomes a source of dehumanization is a compelling task for scholars. According to Zawadzki (2018), dignity in the workplace is an inalienable component of humanity and usually depends on self-esteem and autonomy. In this regard, humanization in organization management plays a crucial role in protecting the dignity and well-being of individuals. In line with these considerations, there are examples of companies that try to break away from workers reification terminology: They change concepts such as 'human capital' or 'human resources' with less objectifying 'human relationship' or 'human capabilities' (Boselie, 2010). Moreover, some firms emphasize the importance of opinions of the lower level employees, their democratic representation, and decision-making capabilities regarding organization leadership (Hodson, 1996; Jałocha & Zawadzki, 2018; Valcour, 2014; Zawadzki, 2018). Such examples demonstrate the practical commitment of businesses to protecting dignity in the workplace. With this aim in mind, we hope that our findings and future investigations encourage social psychological and organizational research to join efforts in order to increase the comprehension of the impact of dehumanization on workers' identity and dignity.

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