


Social Psychology

Prejudice Towards Sex Workers Depends on the Sexual Activity and Autonomy of Their Work, Hobbies and Daily Activities

Dax J. Kellie¹ ^a, Khandis R. Blake², Robert C. Brooks¹

¹ Evolution & Ecology Research Centre, and School of Biological, Earth and Environmental Science, University of New South Wales, Sydney, Australia, ² Melbourne School of Psychological Sciences, The University of Melbourne, Victoria, Australia

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Women are more likely than men to be sexualized, objectified and dehumanized. Female sex workers experience stigma and violence associated with these judgements at far higher rates than other women. Here, we use a pre-registered experimental design to consider which aspects of sex work – the level of sexual activity, earned income, or perceived autonomy of the work – drive dehumanization. A first group of participants ($N = 217$) rated 80 vignettes of women varying by full-time employment, hobbies and interests on humanness. These ratings were subtracted from the ratings of a second group of participants ($N = 774$) who rated these same vignettes which additionally described a part-time job, hobby or activity that varied in sexual activity, income earned and autonomy over one's actions. We find that women and especially men dehumanize women they believe are engaging in penetrative sex. We also find that women's autonomy of, but not their income from, their sexual activity increases dehumanization. Our findings suggest that opposition to women's ability to pursue casual sex and generalizations about the exploitative conditions of sex work may drive the harshest negative prejudice towards female sex workers and, by similar mechanisms, women's sexuality in general.

Introduction

Women's sexuality is suppressed more intensely and through more varied means than men's. From associations of female virginity with purity (Manalastas & David, 2018; Valenti, 2009) to cultural practices such as female genital cutting (Berg & Denison, 2013; Howard & Gibson, 2019) and mandatory religious veiling (Blake et al., 2018), women in a wide variety of societies are stifled in their ability to enjoy, express and control their own sexuality both physically and psychologically (Baumeister & Mendoza, 2011; Valenti, 2009). Social norms dictate that women should regulate their sexual behavior and, from a young age, women are communicated messages of sexual restriction (see Baumeister & Twenge, 2002). As a result, women are judged more negatively than men for appearing sexually open or behaving promiscuously (Crawford & Popp, 2003; Reiss, 1967; Tate, 2016).

Female sex workers receive particularly strong negative stigma associated with promiscuous sexual behavior (Sprankle et al., 2018; Vanwesenbeeck, 2001). At least since the early 19th century, female sex work has been politically and socially discussed as an issue of social disorder, unwieldy female sexuality, and unrestricted sexual autonomy (Anderson, 2002; Sanders & Brents, 2017; but see Gauthier,

2011). These discussions often associate sex workers with sexually transmitted diseases, violence and drugs (Cusick, 2006; Sanders & Brents, 2017) and spur stereotypes that sex workers are shameless, dirty and unattractive (Ruys et al., 2008; Whitaker et al., 2011; Wong et al., 2011). Female sex workers are frequently disregarded and physically abused (Okal et al., 2011; Shannon et al., 2009), even by law enforcement officials (Jorgensen, 2018; Rhodes et al., 2008). Governments throughout the world regularly implement and enforce policies that criminalize sex work at the expense of protecting the human rights of sex workers (Sanders & Campbell, 2014). This tendency in government policy to separate the rights of sex workers from the rights of all other individuals reflects the strength and ubiquity of anti-sex-work biases.

The limits of female sex work resist narrow or universal definition. Some sex work places women in vulnerable or exploited positions where sex is exchanged as a means of survival (Wojcicki, 2002a, 2002b). Other sex work is conducted privately, autonomously and, in some cases, entrepreneurially with high profit margins (Bleakley, 2014; Cunningham & Kendall, 2011; Holt et al., 2016). Beyond the traditional definitions of sex work, many careers, hobbies, activities and interests that are not commonly considered

sex work may also include aspects of sex, nudity or intimacy, and involve exchanges that classify as transactional in nature (see Drenten et al., 2020). In the current research, we utilize variation in the level of sexual activity, income earned, and autonomy of many sex and non-sex work activities to investigate experimentally the factors that increase prejudice towards and stigmatization of female sex workers.

Prejudice Against Sex Work and the Dehumanization of Women

Perceiving and treating another person as less than fully human, a process known as *dehumanization* (Haslam, 2006), involves fundamentally denying that a person has a mind capable of thoughts and intentions and that they deserve moral treatment (Haslam et al., 2013; Haslam & Loughnan, 2014; Nussbaum, 1999). Upon viewing or meeting another person, research suggests that people make judgements of how much “mind” the person has (H. M. Gray et al., 2007). People intuitively separate their judgements into two distinct dimensions of mind: *mental agency*, a person’s ability to think, make decisions and commit to their intentions, and *mental experience*, a person’s ability to feel emotions like joy, sadness and embarrassment, and sensations like pain and pleasure (H. M. Gray et al., 2007; Waytz et al., 2010). Upon viewing or meeting another person, research suggests that people also make judgements of how much “moral status” the person has (K. Gray & Wegner, 2009). Like perceptions of mental capacity, people intuitively separate judgements of moral status into two comparable dimensions: *moral agency*, a person’s ability to knowingly commit good or bad actions to another person, and *moral patiency*, a person’s ability to knowingly receive good or bad actions committed to them (K. Gray & Wegner, 2009). Attributing another person less mental capacity or less moral status often parallels the comparison of that person to non-human entities such as animals, robots or objects (Boudjemadi et al., 2017; Haslam & Loughnan, 2014; Heflick & Goldenberg, 2009; Loughnan et al., 2014; Morris et al., 2018). For some people, these dehumanizing perceptions can justify that a person or group is treated inhumanely.

Dehumanization is a phenomenon that is often associated with prejudice (see Haslam & Loughnan, 2014; Haslam & Stratemeyer, 2016). For example, implicit racial comparisons of African-Americans with apes (Goff et al., 2008) and endorsements that immigrants receive the death penalty (Markowitz & Slovic, 2020) are outgroup prejudices found to involve dehumanization. Female sex workers frequently experience a kind of generalized and undifferentiated stigma that is characteristic of outgroup prejudice (Vanwesenbeeck, 2001). In addition, research demonstrates that sexualized women are dehumanized more than non-sexualized women (Morris et al., 2018; Puvia & Vaes, 2013, 2015; Vaes et al., 2011) and perceivers are more willing to harm (Arnocky et al., 2019; K. Gray & Wegner, 2009) and less morally concerned for these dehumanized, sexualized women (Bevens & Loughnan, 2019; Loughnan et al., 2013; Waytz et al., 2010). Women, especially women who are associated with stereotypes of promiscuity, may therefore be vulnerable to negative effects linked to dehumanization.

Suppression of Female Sexuality and Sex Work

Both men and women dehumanize sexualized women (Heflick et al., 2011; Heflick & Goldenberg, 2009; Loughnan et al., 2013; Morris et al., 2018; Puvia & Vaes, 2013; Vaes et al., 2011). However, men’s and women’s reasons for dehumanizing women are suggested to differ (Morris et al., 2018; Vaes et al., 2011) and, in the case of female sex workers, these differences may reflect underlying motivations of female sexual suppression. One line of reasoning suggests that women who pursue casual sex, and especially women who autonomously engage in sex work, undermine societal and institutional structures intended to regulate women’s sexual behavior (e.g., Pazhoohi et al., 2017; Strassmann et al., 2012) and increase men’s certainty of paternity (Smuts, 1992, 1995). Thus, men’s prejudice towards female sexuality may emerge from men’s negative reactions to a loss of societal control (see Travis & White, 2000), or an evolved reaction to growing risks of paternity uncertainty (Smuts, 1995).

Alternatively, the strength of men’s negative attitudes towards female sexuality, especially of female sex workers, may depend on a man’s relative position within the dating market hierarchy. Compared to women, men experience lower biological costs of child birth and early child care (Penn & Smith, 2007; Trivers, 1972) and, as a result, men tend to have a greater preference for unrestricted sociosexuality, on average (i.e., a willingness to engage in uncommitted relationships; Penke & Asendorpf, 2008; Simpson & Gangestad, 1991). Men with higher attractiveness, status, resources and prestige are often regarded to have higher “mate value” (i.e., they are more desirable sexual partners) and these men are more likely than men of lower “mate value” to succeed at attracting multiple sexual partners (Betzig, 1993; Penke & Denissen, 2008; Schmitt et al., 2003). Low mate value men, however, may instead favor a restricted sociosexuality (Gavrilets, 2012; Penke & Denissen, 2008). These men may express more negativity towards women who pursue uncommitted sexual opportunities because they increase the prevalence of promiscuous behavior in the community and raise the risk of sexual infidelity within their own relationships. This negativity may be especially strong in areas where the cost of infidelity is more severe (Scelza et al., 2019). Therefore, rather than all men holding prejudice towards female sexuality, men who have lower mate value or possess lower sociosexuality may hold stronger negative opinions of women who engage in casual sex, especially of female sex workers.

Another line of reasoning suggests that women may oppose and stigmatize female sex work in order to suppress women who increase men’s sexual opportunities or who propagate negative stereotypes of their own gender. Female sex work, which increases the availability of sex in a local dating market, undermines the ability of women who desire commitment or marriage to secure a long-term relationship (Baumeister & Twenge, 2002; Baumeister & Vohs, 2004). In economically unequal areas where women benefit most from the social and financial securities of a committed relationship, evidence shows that women hold stronger anti-promiscuity attitudes (Price et al., 2014). Women with stronger anti-promiscuity attitudes may perceive female sex workers as an “out-group” from whom they desire to

distance themselves via dehumanization (Puvia & Vaes, 2013; Vaes et al., 2011). Accordingly, such women may hold disproportionately dehumanizing views of female sex workers.

Experimentally Disentangling Sources of Prejudice

The transactional nature of sex work, and its relation to other forms of sexual transaction, are of particular interest both to general theories of the suppression of female sexuality and to the strong observed prejudice towards female sex workers. Is prejudice toward, dehumanization of, and, ultimately, the attempt to suppress sex workers due to the direct exchange of money involved in sex work? Or is it the sex act itself, conducted outside the bounds of long-term commitment or marriage, rather than the money, that prompts dehumanization? Finally, is the degree of autonomy, and preconceptions that sex workers are exploited by clients, brothel-owners and pimps, salient? The notion that sex workers are ‘prostituted’ has a long history, and there has been a resurgent insistence by anti-sex feminists on using this term (Bindel, 2019; Dines, 2010; Dworkin, 1997; MacKinnon, 1989; Richardson, 2018), despite strong opposition by many sex workers and sex work advocates who stress their autonomy and agency in choosing their work (e.g., Call Off Your Old Tired Ethics, Scarlet Alliance; also see Abel et al., 2010; Leigh, 1997; Weitzer, 2018). Here we attempt an experimental disentangling of the effects of sex acts, its relation to money earned, and autonomy of choice, on the judgments people make about the mental capacity and moral status of fictional women depicted in brief vignettes. We test pre-registered predictions derived from a variety of theories in order to test ideas about attitudes to sex work and, more generally, the suppression of women and women’s sexuality.

Level of required sexual activity

An opposition to women’s ability to pursue casual sex may drive broader negative prejudice towards women’s sexuality. Women that are assumed to have more casual sex are subject to greater dehumanizing perceptions (Kellie et al., 2019) which associate with more negative or harmful treatment. For example, research shows that people are more willing to withhold resources from, gossip about, and act aggressively towards women they think are likely to have casual sex (Arnocky et al., 2019; Blake et al., 2016; Muggleton et al., 2019; Reynolds et al., 2018). Furthermore, when institutions and policies aim to restrict others’ sexual freedoms, men and women who live sexually-exclusive, marriage-centered lifestyles are more likely to support these policies (Pazhoohi et al., 2017; Weeden et al., 2008; Weeden & Kurzban, 2013, 2014), especially when they target groups assumed to be more promiscuous (Pinsof & Haselton, 2016, 2017). Therefore, some men’s and women’s disapproval of women who pursue casual sex may fuel a broader willingness to suppress female sexuality in general.

Income

Hostility towards women’s ability to exchange sex for

income may also explain negativity towards female sexuality. Sex work can provide young women opportunity to earn a higher income than young women who pursue non-sex work (Arunachalam & Shah, 2008; L. Edlund & Korn, 2002; Sahni & Shankar, 2016), especially work conducted in private (e.g., private escorts) or offering emotional intimacy (e.g., a “girlfriend experience”) which can more than double the wages earned from a single shift (Holt et al., 2016). The opportunity to earn money through sexual exchange is not limited to sex work; women can also engage in other sexualized labor whereby women can feign sexual interest or offer sexualized appearance in exchange for income (e.g., Drenten et al., 2020). However, by exchanging sex for money, sex workers are suggested to violate one of the most powerful taboos in western cultures (Rubin, 1984), ostensibly exchanging honor and marriageability for money or other benefits (L. Edlund & Korn, 2002; Pheterson, 1993). Therefore, negativity towards female sexuality may stem from disapproval towards women who gain benefits in exchange for their sexualized appearance or sexual behaviour.

Autonomy

The perception that many female sex workers partake in various sexual activities under exploitative conditions may lead others to dehumanize them. A large focus of previous research has been on street ‘prostitution’ (Cusick, 2006) and the victimization and harms of sex work and sex trafficking (Ditmore, 2008; Doezema, 2002). Such conditions strip women of their agency and, as a result, exploited female sex workers are often discussed as devoid of sexual agency and power over their consent to sex (Miriam, 2005). Consequently, the perception that female sex workers are exploited and lack agency as a result of their work may increase dehumanization.

That some women autonomously choose to partake in sexual activities, however, may also drive negative perceptions of these women. Women from a wide variety of social positions autonomously choose to engage in sex work as a flexible, relatively well-paid work to earn supplemental wages, often used to pay for education (Bleakley, 2014; Hardy & Sanders, 2015; Sagar et al., 2015). Women’s pursuit of sexual opportunities may increase perceptions of their agency and empowerment (see Ringrose et al., 2013; also see Vanwesenbeeck, 2009), two characteristics associated with humanness (H. M. Gray et al., 2007; Gwinn et al., 2013; Haslam & Loughnan, 2014). As a result, independent sex workers may be viewed as more human than women working under exploitative conditions. Alternatively, the perception that some women autonomously choose to pursue sexual opportunities and thereby undermine important social structures, may result in more negative perceptions of these sexually agentic women (see Rudman et al., 2013).

Experimental Design and Hypotheses

This experiment is based on the use of replicate vignettes, each describing a fictional woman. Male and female participants rated a subset of the vignettes, answering questions about the woman depicted in each vignette to measure the participant’s perception of that woman’s mental capacity and moral status. We manipulated the vignettes

to vary the nature of the fictional women's sexual activity, and the financial and autonomous nature of their depicted part-time jobs or hobbies. We applied a 4 (Sexual activity: Penetrative sex, Nudity, Sex-associated, Non-sex) \times 2 (Income: income or no income) \times 2 (Autonomy: autonomy or exploited) within-subjects experimental design. Hypotheses for this experiment were preregistered and can be found on the Open Science Framework (<https://osf.io/uytp6/>).

Patriarchal control to increase paternity certainty

According to this hypothesis, men attempt to restrict women's sexual expression through behaviors associated with male jealousy (Daly et al., 1982; also see Scelza et al., 2019) and support for institutions that restrict female promiscuity (Strassmann et al., 2012; Weeden & Kurzban, 2013), ultimately because men wish to ensure paternity certainty (Smuts, 1992, 1995). Under this explanation, we would expect men to hold more negative views towards women, particularly women whose work or hobbies involve non-marital sex. We would also expect men to hold more negative views of women who commit to work or hobbies involving autonomous sexual intimacy, and who earn income from sex. Therefore, we would predict two three-way interactions (sex of participant \times level of sexual activity \times autonomy; sex of participant \times level of sexual activity \times income), whereby work that involves more sexual activity and is autonomous or pays income will have a strong negative effect on men's attributions of humanness compared to women's attributions of humanness, and compared to work that is non-sex, unpaid or exploitative.

Sexual strategies and costs of pregnancy

According to this hypothesis, men experience lower costs of child birth and early child raising than women, and this difference leads men, especially men of higher "mate value", to be more likely to pursue casual sex opportunities than women (Penn & Smith, 2007; Schmitt et al., 2003). However, men with lower "mate value", or men more interested in pursuing long-term relationships, may be more likely to hold negative views of women who behave openly to extramarital sexual opportunity than men with higher "mate value". Under this explanation, we would expect mate value and sociosexuality (i.e., people's willingness to engage in uncommitted sex) to be strong predictors of views towards women's sexual behavior. Therefore, we would predict that men more strongly dehumanize women (a main effect of sex of participant) and that mate value and sociosexuality significantly correlate with ratings of humanness, whereby work with high levels of sexual activity is rated more negatively by women and especially men with low mate value and low sociosexuality compared to women and men with high mate value and high sociosexuality.

Desire for distance from sex workers

According to this hypothesis, women who prefer long-term or marital commitment may have stronger desires to distance themselves from the out-group of women they believe to pursue casual sex opportunities (see Baumeister & Vohs, 2004; Vaes et al., 2011). Under this explanation, we

would expect women to more strongly dehumanize women who engage in either work or pastimes that involve sex or nudity. Therefore, we would predict a two-way interaction (sex of participant \times level of sexual activity) driven by a strong negative effect of higher levels of sexual activity on women's ratings of mental capacity and moral status compared to men's ratings.

Methods

Preregistration and Refinements thereof

Methods, materials and an analysis plan were pre-registered and can be found on the Open Science Framework (<https://osf.io/uytp6/>), and here we report all measures, manipulations and exclusions. After preregistration, but prior to recruiting participants, we made two changes to the research plan, (1) adding a "baseline" measure of the experimental vignettes we used in our experimental manipulation, and (2) recruiting extra participants for our study.

Our experimental vignettes comprised randomly allocated information about each fictional woman's job, hobbies and interests, as well as a single sentence that constituted the experimental manipulation (see below). Our pre-registration stated that we would collect ratings and analyze differences between these vignettes. After running several dummy data collection runs, we decided to conduct an additional, separate survey of vignettes that excluded the single experimental manipulation sentence to provide "baseline" ratings of each vignette. By comparing the experimental vignette, which included the manipulation, and the "baseline" vignette, which excluded the manipulation, we were better able to determine the effect of the manipulation and control for the variation introduced to the study by our use of multiple vignettes. We determined that we required a sample of at least 200 participants to complete a "baseline" vignette survey to ensure a minimum of 40 participants rated each of the 80 "baseline" vignettes.

Our pre-registered power analysis suggested that a sample of 400 participants was necessary for a power of 0.8 to detect medium-sized effects (Cohen's $d = 0.40$). Anticipating ~25% of data to be removed due to participants not meeting exclusion criteria, we originally estimated that we would recruit 500 participants for the experimental survey. After dummy testing, but prior to recruitment, we decided to recruit 750 participants for the experimental survey as well as 250 for the additional "baseline" vignette survey. We made this decision in anticipation that the sexual nature of some vignettes within the experimental survey would result in a higher number of participants electing to withdraw from the survey, and possibly the introduction of more random error than we had initially anticipated. We recruited participants for both surveys simultaneously, such that participants were randomly allocated to complete either the experimental survey or the "baseline" vignette survey, in order to limit sample differences and to avoid recruiting the same participants for both surveys.

Participants

We recruited participants using Amazon Mechanical Turk (MTurk), which continues recruiting participants until

a predetermined number of participants complete the survey. In order to restrict bot and non-human accounts from accessing the survey, prior to beginning the survey, participants were required to complete a robot CAPTCHA task and an additional photo identification task in which they identified the emotion depicted by characters in a photo using an open-response answer. Participants were also asked to identify a valid US state as their current state of residence. A total of 1,376 participants responded to our invitation “to participate in an online survey on attitudes to the labor force” and attempted the survey. A combined 385 participants were excluded from data analysis; 194 participants were excluded for not passing initial demographic and robot verification, 33 participants were excluded for not passing an attention check within the survey, and 51 participants were excluded who withdrew from the survey prior to completion.

The final sample comprised 991 men and women ranging from 18 to 71 (512 men, 479 women, $M_{age} = 36.4$, $SD_{age} = 10.9$), with MTurk approval ratings of more than 98%, and residing in the USA. Participants were paid \$2.00 USD to complete a 15-minute survey (a rate of \$8.00 per hour). Of these 991 participants, 774 (390 men, 384 women) completed the experimental survey and 217 (122 men, 95 women) completed the “baseline” vignette survey, explained below.

The majority of participants had completed an undergraduate university degree (48.1%), a postgraduate degree (18.2%) or received a diploma (16.5%), with 13.3% of participants indicating high school as their highest level of education, 37% selecting that they had an unlisted level of education, and 1 participant choosing not to answer. Most participants identified their ethnicity as Caucasian/White (75%), with the remaining participants selecting their ethnicity as African American/Black (6.4%), Hispanic (5.2%), East Asian (4.5%), Mixed (2.8%), South East Asian (2.8%), Native American (1.2%), Indian/Pakistani/Nepalese (0.5%), Middle Eastern (0.5%), or another unlisted ethnicity (0.3%). A large proportion of participants selected that they were in a long-term relationship (34.6%) or married (20.2%), with remaining participants indicating they were single (2.3%), recently single (0.9%) or in an open relationship (0.5%), though 41.5% of participants selected their relationship status as “Other”. The majority of participants identified as heterosexual (91%) with 4.7% identifying as homosexual, 4.1% identifying as bisexual, and 1 participant electing not to answer. Participants ranged in political orientation with 54.1% identifying as liberal, 31.5% identifying as conservative and 14.4% identifying as moderate.

Fictional Woman Vignettes

“Baseline” vignette

There were 80 ‘baseline’ vignettes in total. Within each vignette, the same information was provided about one fictional woman: her name, full-time job, number of siblings, main hobby and interests. One name, one full-time job, a sibling number, one main hobby and two interests were randomly allocated to each vignette in order to create variation within our experiment similar to that of real-life. In ad-

dition, one dislike (negative statement) was added within each vignette for added realism, detailing something that each fictional woman was unhappy with in her full-time job, family relationships, hobbies or interests. Women’s names were acquired by selecting an assortment of one hundred most common baby names of the 1990s and 2000s in the USA, UK and Australia. Full-time jobs varied widely in type, professional level, and average income. Hobbies and interests varied in type, topic, introversion, extraversion, and required physical activity. Number of siblings ranged from 0 to 3, with all possible combinations of brothers and sisters. A group of participants rated each vignette (without the experimental manipulation included) to calculate a “baseline” average rating for each fictional woman vignette. Our experimental manipulation compared ratings to this baseline vignette with the same vignette plus the additional sex work information, ensuring that only variability within vignettes (i.e., the manipulation below) and not variability between vignettes (i.e., hobbies, interests, siblings, name, job) could affect our results.

Experimental manipulation vignettes

Our experimental manipulation was an additional part-time job or hobby of the fictional woman matching one combination of variables of interest (see supplementary material for a full list of all part-time job or hobby manipulations). The part-time job or hobby statement was allocated to one of the “baseline” vignettes drawn at random without replacement. The manipulation was always the final sentence of the vignette. For example, one of four possible vignettes participants rated with a part-time job manipulation of penetrative sex, income and high autonomy was:

Anna loves ping pong and plays against her friends a couple nights a week [*Hobby*]. She works mainly as a cashier at a gas station [*Full-time job*], though she doesn’t like how long her commute is to work each day [*Dislike*]. She has one younger sister who she lives very close to [*Siblings*]. She likes trying to learn new skills [*Interest 1*]. She also enjoys going on picnics in the summer [*Interest 2*]. She earns extra income working as an independent sex worker (an escort/call girl), managing her own advertisements, appointments and meeting places for offering sexual services [*Manipulation: penetrative sex, income, autonomy*].

In total, there were 16 vignettes with penetrative sex manipulations (like the one about Anna, above), 16 vignettes with nudity manipulations (e.g., cam girl, topless waitress, art school muse), 16 vignettes with sex-associated activity manipulations (e.g., sex tip column writer, Instagram model, sports team cheerleader) and 32 vignettes with non-sex manipulations (actor, yoga instructor, hotel receptionist). This design was used to ensure that at least 40% of the vignettes had no sexual content. Additionally, there was one “control” vignette that all participants viewed which described an “average” woman with an unrelated part-time job. Thus, there were a total of 81 different vignettes. To calculate the effect of the manipulation sentence on perceptions of the fictional woman, we subtracted the average rating of the “baseline” vignette from each participant’s rating of the vignette including the manipulation.

Of the 80 vignettes that included a manipulation, 40 vignettes had a manipulation that earned the fictional woman extra income, whereas the other 40 vignettes had a manipulation that earned her no extra income. Similarly, of the 80 vignettes that included a manipulation, 40 vignettes had a manipulation that was exploitative in nature towards the fictional woman, whereas the other 40 vignettes had a manipulation that offered autonomy to the fictional woman. This design was to ensure that participants viewed an equal split of vignettes from each of the two income conditions and two autonomy conditions.

Procedure

Participants were randomly allocated to view only one of the possible vignettes within each treatment combination, which resulted in participants rating 15 vignettes each. The first vignette read by all participants was the “control” vignette to ensure that all participants’ ratings began at a similar starting point. Participants were then randomly allocated 14 vignettes of the remaining 80 to read and rate one-at-a-time. Of these 14 vignettes, 4 were penetrative sex condition vignettes (one for each income and autonomy condition combination), 4 nudity or sex-associated condition vignettes (randomly selected across all income and autonomy condition combinations), and 8 non-sex condition vignettes (randomly selected across all income and autonomy conditions). We decided on these proportions (a) to ensure a sufficient number of answers to our penetrative sex condition vignettes because this condition represents the most important group for our hypotheses, and (b) to have participants read a greater number of non-sex condition vignettes which provides some disguise for the experimental manipulation, and (c) to manage the length of the survey in order to limit negative effects of mental fatigue on experimental validity (Galesic & Bosnjak, 2009; Herzog & Bachman, 1981; Hopstaken et al., 2015; Lavrakas, 2008). They rated the vignettes on humanness, then completed demographic questions of SOI and mate value. After completing the survey, participants were thanked and debriefed.

Measures

Indices of Mind and Moral Attribution

All mental and moral attribution dimensions were assessed using a 7-point Likert scale (1 = Not at all; 7 = Extremely). Mental agency and mental experience of each fictional woman were assessed using the two items with the highest factor loadings from the shortened agency scale and the shortened experience scale, respectively (Blake et al., 2016; H. M. Gray et al., 2007). Mental agency items were “How capable do you think this person is at exercising self-restraint over desires, emotions, or impulses?” and “How capable do you think this person is at telling right from wrong?” Mental experience items were “How capable do you think this person is at feeling afraid or fearful?” and “How capable do you think this person is at feeling physical or emotional pain?”. Moral agency and moral patency of each fictional woman were each assessed using the two items with the highest factor loadings from the moral perceptions scale (Blake et al., 2016; Holland & Haslam, 2013).

Moral agency items were “How much do you believe this person’s achievements and actions are due to their thoughts and intentions, rather than luck and circumstances?” and “In general, how responsible do you think this person is for their actions in life?” Moral patency items were “How bad do you think you would feel if someone took advantage of this person” and “How bad do you think you would feel if you manipulated this person?”.

Following our pre-registered methods, we used a Principal Components Analysis (PCA) to test whether indices of mental and moral dimensions of agency and patency clustered separately or together. Our pre-registration dictated that we would analyze each dimension separately only if all four mental and moral dimension measures had an eigenvalue equal to or greater than 1.0. This decision was based on theory that mental and moral perceptions intuitively divide into agency and patency (A. W. Gray & Boothroyd, 2012; H. M. Gray et al., 2007; K. Gray & Wegner, 2009; Schein & Gray, 2017; Waytz et al., 2010). However, other research suggests that, in line with our PCA results, mind and moral attribution consist of only one overall dimension (Khamitov et al., 2016; also see Bastian et al., 2011, 2012). The PCA showed that one dimension accounted for 62.7% of variance and was the only dimension to have an eigenvalue greater than 1.0. Principal component 1 (eigenvalue = 2.51) consisted of mental agency (-.84), mental experience (-.81), moral agency (-.76) and moral patency (-.75), forming an overall “humanness” dimension. Eigenvalues separating agency and patency measures were less than 1 (Principal Component 2 eigenvalue = 0.62; Principal Component 3 = 0.46; Principal Component 4 = 0.41).

Our pre-registration directed that if eigenvalues separating dimensions were less than 1.0, we would still combine and analyze agency measures and patency measures separately. Deviating from this pre-registered decision, we elected to analyze one single *humanness* dimension, consisting of the aggregate of all mental and moral items (Cronbach’s $\alpha = .86$, $\omega = .87$, $M = 5.76$, $SD = 0.98$). Additional confirmatory factor analysis on the selected factor structure indicated that this factor structure is not a very good fit to the data (CFI = .78, TLI = .69, SRMR = 0.07, RMSEA = .2), or in other words, the observed data does not closely match the hypothesized relationships of our chosen factor structure. We recommend that readers interpret the current study’s findings acknowledging that the *humanness* dimension explains 45% of the overall variation in participants’ ratings. Confirmatory factor analyses can be found in the supplementary material (<https://osf.io/xnm53/>).

Individual Differences Measures

Sociosexual Orientation

Participants completed the Revised Sociosexual Orientation Inventory (R-SOI; Penke & Asendorpf, 2008), a 9-item measure used to assess participants’ attitudes, behaviours and desires for non-committed relationships or casual sex (e.g., “Sex without love is OK,” 1 = Strongly disagree; 9 = Strongly agree; $\alpha = .86$, $\omega = .86$, $M = 4.45$, $SD = 2.00$).

Mate Value

Participants completed the Mate Value Scale (J. E. Edlund & Sagarin, 2014). This 4-item measure asks participants to rate themselves on how desirable they believe they are as a partner using a 7-point scale, with high scores indicating higher mate value (e.g., “Overall, how would you rate your level of desirability as a partner on the following scale?”; $\alpha = .93$, $\omega = .93$, $M = 4.67$, $SD = 1.23$).

Data Analysis

A General Linear Mixed regression model was used to test whether engaging in sex work affected how much humanness she was attributed. In both models, we tested the effect of the part-time job or hobby manipulation on humanness ratings of fictional women. Level of sexual activity, income and autonomy of the part-time job or hobby were included as fixed effects. Level of sexual activity was included in the model as an ordered factor variable due to our directional hypotheses, such that the No Sex manipulations were predicted to have the smallest effects and the Penetrative Sex manipulations were predicted to have the largest effects on the dependent variables (No sex < Sex-associated < Nudity < Penetrative sex). Sex of the participant was also included as a fixed effect, as well as all two-way and three-way interactions between variables. To statistically control for variation in ratings related to random differences between participants and vignettes, participant identity and vignette identity were included in the models as random effects (see Appendix A for formal regression equations). To control for variation in ratings due to participant’s self-perceived value in the mating market and sexual behaviour preferences, participant mate value and SOI were included in the model as covariates. Analyses were completed using *lme4* (Bates et al., 2015) and *lmerTest* (Kuznetsova et al., 2017) packages on R 3.5.1 (R Development Core Team, 2019). Data and analyses can be found on the Open Science Framework (<https://osf.io/xnm53/>).

Results

Regression results are shown in Table 1. Overall, women rated women to have significantly more humanness than men did ($\beta = -.23$, $SE = .05$, $CI [-.34, -.12]$; Women: $M = 5.84$, $SD = 0.97$; Men: $M = 5.65$, $SD = 1.02$). Both men and women dehumanized women more strongly as their part-time job or hobby increased in its required level of sexual activity ($\beta = -.37$, $SE = .10$, $CI [-.55, -.18]$; see Figure 1). Additionally, both men and women dehumanized women with exploitative jobs or hobbies more than women with autonomous jobs or hobbies ($\beta = -.15$, $SE = .07$), though confidence intervals suggest that this effect may not be particularly robust ($CI [-.25, .03]$) and partially influenced by interactions with the ordered sexual activity factor variable in our model (see supplementary material for full summary of results). There was no effect of income on attributions of humanness. We found no interactions between effects. Model covariates revealed that participants with higher sociosexual orientation attributed women slightly more humanness ($\beta = .03$, $SE = .01$, $CI [.001, .05]$). Mate value did not significantly influence humanness attributions. Model assessment using the Mu-

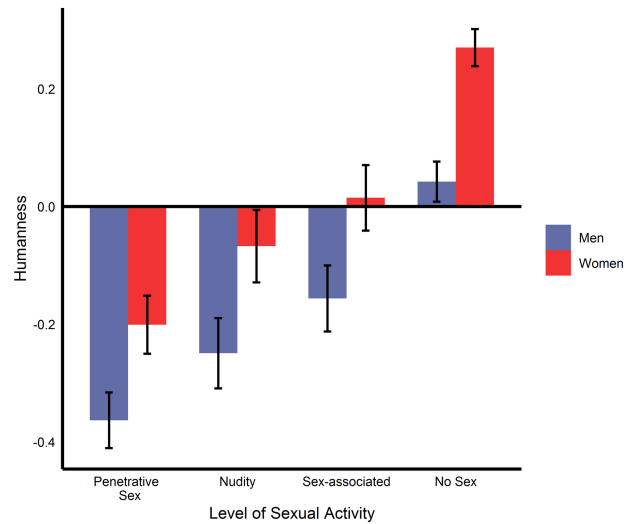


Figure 1. Average difference in how much humanness men and women attributed to women depicted in fictional vignettes in relation to the level of required sexual activity described in the vignette.

The zero baseline indicates the average level of humanness attributed to women in the “baseline” version of the vignette (i.e. without the manipulated information about her additional job, hobby or activity). Error bars represent standard error.

lIn package (Nakagawa & Schielzeth, 2013) showed that 6% of the total variance within our model is explained by fixed effects (marginal $R^2 = .06$) and another 65% of the total variance is explained by random effects (conditional $R^2 = .71$). This result indicates that a large proportion of heterogeneity in dehumanization is due to variation between participants and between fictional women vignettes. Significant results remained unchanged when covariates were omitted from the model (see supplementary material).

Discussion

A long history of negative stigma directed towards female sex workers continues to influence political discourse about the human rights of sex workers (Sanders & Campbell, 2014), as well as individual stereotypes of female sexuality (Sanders & Brents, 2017). It remains uncertain, however, whether strong prejudice towards female sex workers, and more broadly female sexuality, is due to (a) their engagement in sexual behavior outside of culturally enforced long-term commitments, (b) their ability to earn income in exchange for these sexual activities, or (c) their autonomy, or lack thereof, which is often minimized by pimps, brothel-owners or other employers. We find that men and women attribute less mental capacity and moral status to women that they learn partake in jobs, hobbies or interests that require penetrative sex, and to a lesser extent nudity and intimacy. These results indicate that prejudice towards female sex workers, and women more generally, is closely linked to their known or inferred sexual behavior. We also find that beyond a consistent overall difference whereby male participants dehumanized women more than female participants did, there was little that distinguished men’s and women’s

Table 1. Results of general linear mixed regression models of humanness ratings.

	Humanness		
	df	F	p
Participant sex	1, 999.1	18.74	<.001***
Level of sexual activity	3, 64.4	17.86	<.001***
Autonomy	1, 64.5	6.26	.015*
Income	1, 64.5	0.26	.614
Participant sex × Level of sexual activity	3, 12823.5	1.10	.348
Participant sex × Autonomy	1, 12835.3	1.20	.273
Participant sex × Income	1, 12836.2	0.08	.779
Level of sexual activity × Autonomy	3, 64.4	0.78	.509
Level of sexual activity × Income	3, 64.4	1.33	.272
Autonomy × Income	1, 64.5	0.05	.818
Participant sex × Level of sexual activity × Autonomy	3, 12836.1	0.20	.899
Participant sex × Level of sexual activity × Income	3, 12836.3	0.14	.938
Participant sex × Autonomy × Income	1, 12837.0	1.04	.307
Level of sexual activity × Autonomy × Income	3, 64.4	1.28	.288
<i>Covariates</i>			
SOI	1, 987.5	4.17	.041*
Mate value	1, 987.2	1.30	.255

Note: *** p < .001, ** p < .01, * p < .05, † p < .10.

perceptions of other women. These findings highlight that negative stigma towards female sex workers, and women more generally, is powerfully driven by an opposition to women's pursuit of casual sex.

We also find that women whose part-time jobs, hobbies or activities are under exploitative conditions are attributed less humanness. However, knowledge that women are exploited has less than half the effect on dehumanization than that of women's sexual activity, in comparison. Our results demonstrate that the amount that a woman is dehumanized is not multiplied when their jobs, hobbies or activities require some combination of sexual activity, income and exploitation which is often considered characteristic of transactional sex work. Rather, how much a woman is dehumanized—or viewed as less able to think, act, sense and feel—appears to be determined on a case-by-case basis and vary from person to person, strongly dependent on a woman's sexual behavior and, to a lesser extent, her lack of choice or control over her circumstances.

Prejudice against Promiscuous Women

Theories of why female sexuality is suppressed frequently divide into categories in which women's sexuality is controlled almost exclusively by one sex or the other (for a discussion see Blake et al., 2018; Muggleton et al., 2019; Rudman et al., 2013). Indeed, we find that men dehumanize women more strongly than women do overall, providing some support for predictions grounded in patriarchal or paternity certainty theories that predict men are more negative towards female sexuality in general (Smuts, 1995; Travis & White, 2000; also see Rudman et al., 2013). How-

ever, we also find that both men *and* women are similarly more willing to dehumanize women who engage in more sexual jobs or hobbies. This finding suggests that both men and women hold strong prejudice against women who they know are having sex, providing mixed support for both male and female control predictions. Past work has shown that variation in men and women's negativity towards promiscuity and infidelity may depend on environmental conditions like economic equality (Price et al., 2014) and paternal investment (Scelza et al., 2019). Thus, the dichotomy between male and female control theories may over-simplify the complexity of female suppression, as both men and women may have reasons to restrict women's sexual opportunities depending on their environmental circumstances.

The knowledge that exploited women are restricted, or sometimes completely inhibited, from their ability to make their own decisions may influence the stronger dehumanizing perceptions we find people make towards these women. Research shows that individuals perceived as less able to make decisions are attributed less mental capacity (K. Gray & Wegner, 2009; Loughnan et al., 2013) and subjected to forms of dehumanization that involve comparisons with animals (Morris et al., 2018). People are also shown to be more likely to endorse help for these dehumanized individuals that they oppose for themselves (Schroeder et al., 2017), a possible source for the common disconnect between female sex workers and government policy. That the difference in dehumanization between women in exploited and autonomous positions was relatively small may reflect the duality between perceptions that sex workers are both offenders and victims (Sanders & Brents, 2017). Nonetheless, our results indicate that the knowledge that women are in

exploited positions increases the amount that they are dehumanized, and this may be an important source of dehumanization if female sex work is stereotypically viewed as exploitative (Cusick, 2006; Vanwesenbeeck, 2001).

Our results add to existing research on why men and women may dehumanize some women more than others. Previous research on dehumanizing perceptions of sexualized women showed that women's dehumanization is due to a desire for distance from a subgroup of women that promotes an oppressive culture (Puvia & Vaes, 2015; Vaes et al., 2011), whereas men's dehumanization is due to activated sexual goals (Vaes et al., 2011). Our findings suggest that negative attitudes towards women they know or infer to have casual sex can also drive both men and women to dehumanize women. In addition, we find some evidence that an individual's sociosexual orientation can affect the extent that they dehumanize women due to women's sexual behaviors. Men and women with more restricted sexual lifestyles and long-term relationship preferences are found to support sexually restrictive social institutions and political policies (Pinsof & Haselton, 2016, 2017; Weeden et al., 2008; Weeden & Kurzban, 2013, 2014). Our results suggest these individuals may also be more likely to hold dehumanizing prejudice towards female sex workers or sexually active women as well.

Although our study finds that the amount a fictional woman is dehumanized can be influenced by perceptions of her sexual activity and exploitation, our results do not predict how viewing sexually active and exploited women as 'less human' might influence behaviours toward such women in the real world. Our results are similarly not definitive about what motivates these dehumanizing reactions towards women. Participants may have viewed women in our vignettes as less human in an effort to distance themselves from a disliked subgroup (e.g., Vaes et al., 2011), because they desire social structures that control women's sexual behaviour (e.g., Smuts, 1995), because they use dehumanization to emotionally cope with knowing the physical and emotional risks of exploitative conditions (e.g., Cameron et al., 2016), or because their experiences and personal upbringing has shaped their views (e.g., Čehajić et al., 2009). These differences in motivation to dehumanize women may further clarify why the perceptions of each woman still varied so much, even when belonging to the same experimental condition. Future research can refine our knowledge of why women are dehumanized, and when these motivations can lead to changes in people's behaviour towards women.

Future Directions and Limitations

Although we find that women's sexual behavior and autonomy, rather than the source of their income, have the strongest influence on men's and women's dehumanization of women, our experimental design may have been inadequate at evoking in participants the same reactions they might have towards women in their local area. For example, the income women make from their jobs or hobbies may be most relevant when these women are personally known to the participant or reside within their local community, triggering more negative perceptions than those measured

here. In addition, we found that a great deal of variation within our models was explained by randomly assigned variables of participant identity (see supplementary material), suggesting that negative attitudes towards women's sexual activity are far from the only reason why men and women stigmatize female sex workers. It is possible that other stereotypes of female sex workers that our study did not address, like an association of sex workers with sexually transmitted diseases, are important drivers of anti-sex work prejudice as well (Cusick, 2006; Sanders & Brents, 2017).

Another important limitation of our conclusions is that we did not test perceptions of male, gay, lesbian, transsexual or non-binary sex workers for a comparison to establish whether findings broadly apply to sex work or are exclusive to female sex workers. Therefore, we cannot be certain to what extent our results extend to sex workers of other genders and sexual orientations. Furthermore, our use of a large, heterogeneous, online sample of men and women from the USA limits the application of this research to westernized populations, as the relationship between sexual behavior, income and autonomy with prejudice may differ across cultures. It would be worthwhile for future research to compare the extent to which sexual activity, income and autonomy interact to influence prejudice towards female sex workers across a range of international and non-westernized populations.

Our study has investigated dehumanizing perceptions of women, but it remains unclear how their dehumanization compares to that of men who engage in exploitative or transactional work. It may be that both men and women engaging in such work are perceived similarly, or that sex differences in such perceptions exist. Globally, male sex workers endure a great deal of stigma commonly linked to negative stereotypes of sexually transmitted diseases and homosexual sexual orientation (Jiao & Bungay, 2019; Oldenburg et al., 2014; Padilla et al., 2008; Tsang et al., 2019). Although theories referred to in the current study make few predictions of why men who engage in transactional sexual exchanges might be dehumanized, some evidence suggests that negativity towards male sex workers is the result of disgust-based reactions towards homosexual relationships (Terrizzi et al., 2010) or stereotype-based reactions to promiscuous same-sex relationships that undermine the goals of marriage (Pinsof & Haselton, 2016, 2017). Understanding the absence or presence of sex differences in these phenomena may provide needed insight into the ultimate, functional drivers of this stigma. We recommend that future studies of this type are expanded to compare male and female sex workers.

Conclusion

We find that men and women are more willing to dehumanize women who engage in jobs, hobbies, interests or activities that require or involve sex. These perceptions depend somewhat on whether women have independence, but are largely unaffected by whether women earn wages from their sexual activity. Our findings suggest that harsh prejudice towards female sex workers, and women more generally, is driven primarily by perceptions of exploitative conditions and negative biases towards female promiscuity.

The strength of this anti-promiscuity bias on attitudes and behaviors is visible in the frequent stigma, harassment and physical violence that sex workers endure globally, and the unfavorable views of sex workers within international social policy. When more subtle, however, negative stereotypes of female promiscuity may pervade everyday judgements of women, leading some men and women to support sexist ideals that affect how women are treated in their day-to-day lives.

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Drafted and/or revised the article: DJK, KRB, RCB.
Approved the submitted version for publication: DJK, KRB, RCB.

Competing Interests

The authors have no competing interests in the publication of this manuscript.

Data Accessibility Statement

All the stimuli, materials, participant data, and analysis scripts can be found on this paper's project page on the Open Science Framework (<https://osf.io/xnm53/>)

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Contributions

Contributed to conception and design: DJK, KRB, RCB.
Contributed to acquisition of data: DJK.



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Appendix A

The formal regression equation for the mixed model is as follows:

$$H_{Vi} = \beta_0 + \beta_h \text{Sex}_{hVi} + \beta_h \text{Income}_{hVi} + \beta_h \text{Autonomy}_{hVi} + \mu_{Pi} + \mu_{Vi} + \varepsilon_i$$

$$\varepsilon_i = \text{Gaussian}(0, \sigma_\varepsilon^2)$$

Where H_{Vi} is the difference in attributed humanness for i th vignette, β_0 is the intercept, $\beta_h \text{Sex}_{hVi}$ is the slope of the

h th level of sexual activity condition of the i th vignette, $\beta_h \text{Income}_{hVi}$ is the slope of the h th income condition of the i th vignette, $\beta_h \text{Autonomy}_{hVi}$ is the slope of the h th autonomy condition of the i th vignette, μ_{Pi} is the variance of the mean intercept for the i th participant, μ_{Vi} is the variance of the mean intercept for the i th vignette, and ε_i is the i th residual value, where residual values are normally distributed with a variance of σ_ε^2 .

SUPPLEMENTARY MATERIALS

Peer Review and Communication History

Download: https://collabra.scholasticahq.com/article/24386-prejudice-towards-sex-workers-depends-on-the-sexual-activity-and-autonomy-of-their-work-hobbies-and-daily-activities/attachment/61608.docx?auth_token=gkLqOvG3NHAYK0FIGIiw
