Automatic Dehumanization Across Menstrual Cycle

Valentina Piccoli*[1] , Andrea Carnaghi[1], Francesco Foroni[2], Loredana Hvastja Stefani[1]
[1] University of Trieste, Department of Life Sciences, Psychology Unit *Gaetano Kanizsa*, Trieste, Italy
[2] International School for Advanced Studies (SISSA), Trieste, Italy
*valentina.piccoli@phd.units.it

Abstract

In the current study we address the role of hormonal fluctuations across menstrual cycle in female dehumanization of women and men. Using a sequential priming procedure in a lexical decision task, we test whether increased levels of conception risk lead to dehumanization of other women and men on both animal and human dimensions. Results showed that for word woman as the prime, animal words were more accessible in the high than in the low conception risk of the menstrual cycle; whereas human words were more inhibited in the high compared to the low conception risk. As for word man prime, no difference in terms of accessibility was found between the high and the low conception risk on both animal- and human-words. This study demonstrates that dehumanization of women is automatically elicited by menstrual cycle–related processes and associated with women's mate-attraction goals.

Keywords: menstrual cycle, dehumanization, group processes, lexical decision task

Introduction

In humans, female fertility is gradually increased before high conception risk of menstrual cycle and decreases thereafter. On the one hand, during high conception risk of the menstrual cycle, women devaluate other women on attractiveness dimension (Fisher, 2004), increase their explicit intra-sexual competition (Piccoli, Foroni, & Carnaghi, 2013) and bolster their desire to dress more appealingly (Durante, Li, & Haselton, 2008) On the other hand, women show more explicit preferences for masculine faces (Penton-Voak & Perrett, 2000) and for male status-traits (Gangestad et al., 2004). In other words, during high conception risk, mate selection goal, i.e., screening potential mates for desirable qualities, as well as a mate attraction goal, i.e., signaling one's mating-relevant qualities to attract potential mates (Lens, Driesmans, Pandelaere, & Janssens, 2012; Durante et al., 2008) are both activated.

These studies are based on self-reports and explicit measures of women's *attitudes*, leaving open the question of whether hormonal fluctuations associated with menstrual cycle might exert an influence on less controlled attitudes unexplored. The exception to this claim is a study by Macrae et al. (2002, Study 2). The authors relied on a semantic priming task and found that women were able to categorize faster male stereotypical words during high conception risk when they were primed with a male photo than female stereotypical words, suggesting an increasing accessible for the mate-selection goal. These results further raise the question of whether hormonal shifts might also affect mate-attraction goal relevant processes. Differently from Macrae' study, which has addressed gender-category accessibility across menstrual cycle, we here focus on the dehumanization processes (i.e., tendency of perceiving a given target as lacking of human qualities) during menstrual cycle phases. Specifically, in this study we take advantage of previous work by Piccoli and colleagues (2013), which shows that increased levels of explicit dehumanization of women as whole during the high conception risk phase is a product of the activation of women's mate-attraction goal. Based on a sequential semantic priming paradigm in a lexical decision task (Blair & Banaij, 1996), we intend to investigate whether women *automatically* dehumanize other women, but not men, in the high, but not in the low conception risk phase.

Method

Participants

Thirty-five normally ovulating female students from the University of Trieste participated in the current study.

Procedure

Participants took part into a lexical decision task (see Blair & Banaji, 1996 for similar procedure). The task included two experimental primes ('woman' and 'man') and two control primes. Targets were 20 words: ten words were associated with animal concepts, and ten words were related to human concepts (for the material, see Viki et al., 2006). An equal number of non-words were included in the experiment.

Results

Determination of conception risk. We relied on the forward-counting method (Gangestad & Thornhill, 1998) to define the day in which the experimental task took place during menstrual cycle (see, Piccoli et al., 2013).

Lexical decision task. A differential score (i.e., correct target categorizations) was computed, subtracting individual reactions times for both the prime *man* and the prime *woman* to the individual average reaction times for the control primes. This differential score was calculated separately for human and animal words. Hence, positive scores that differed from zero pointed to accessibility,

whereas negative scores that differed from zero indicated inhibition.

The results showed that dehumanization was stronger in the high conception risk than in the low conception risk of the menstrual cycle when women were primed with 'woman', but not with 'man'.

Discussion

This study shows that in normally ovulating women the level of dehumanization of other women is modulated by the conception-risk level. These data confirm previous findings (Piccoli et al., 2013) even when women are precluded to exert an intentional control over their reactions.

References

Blair, I. V., & Banaji, M. R. (1996). Automatic and controlled processes in stereotype priming. *Journal of Personality and Social Psychology, 70*,1142-1163.

Durante, K. M., Li, N. P., & Haselton, M. G. (2008). Changes in women's choice of dress across the ovulatory cycle: Naturalistic and laboratory task-based evidence. *Personality and Social Psychology Bulletin*, *34*, 1451-1460.

Fisher, M. L. (2004). Female intrasexual competition decreases female facial attractiveness. *Proceedings of the Royal Society of London, Biology Letters*, *271*, 283-285.

Gangestad, S. W., Simpson, J. A., Cousins, A. J., Garver-Apgar, C. E., & Christensen, P. N. (2004). Women's preferences for male behavioral displays change across the menstrual cycle. *Psychological Science, 15*, 203-207.

Gangestad, S.W., & Thornhill, R. (1998). The analysis of fluctuating asymmetry redux: The robustness of parametric statistics. *Animal Behaviour, 55*, 497-501.

Lens, I., Driesmans, K., Pandelaere, M., & Janssens, K. (2012). Would male conspicuous consumption capture the female eye? Menstrual cycle effects on women's attention to status products. *Journal of Experimental Social Psychology, 48,* 346-349.

Macrae, C.N., Alnwick, K.A., Milne, A.B., & Schloerscheidt, A.M. (2002). Person perception across the menstrual cycle: Hormonal influences on social-cognitive functioning. *Psychological Science, 13*, 532–536.

Penton-Voak, I.S. & Perrett, D.I. (2000). Female preference for male faces changes cyclically: further evidence. *Evolution and Human Behavior, 21*, 39-48.

Piccoli, V., Foroni, F. Carnaghi, A. (2013). Comparing Group Dehumanization and Intra-Sexual Competition Among Normally Ovulating Women and Hormonal Contraceptive Users. *Personality and Social Psychology Bulletin, 39,* 1600-1609.

Viki, G. T., Winchester, L., Titshall, L., Chisango, T., Pina, A., & Russell, R. (2006). Beyond secondary emotions: The infrahumanization of outgroups using human-related and animal-related words. *Social Cognition*, *24*, 753-775.