



# The sweet smell of... courtship: Effects of pleasant ambient fragrance on women's receptivity to a man's courtship request

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## ABSTRACT

Studies have shown that pleasant scents favor positive social relationships. However, the effect of pleasant ambient odor on romantic relationships has never been tested. In a field experiment, 18–25 year old women walking alone in a shopping mall were approached by an attractive 20 year old male-confederate who solicited them for their phone number. The women were solicited as they were walking in areas with pleasant ambient odors (e.g., pastries) or with no odor. It was found that women agreed more often to the confederate's courtship solicitation in the pleasant smelling areas. Positive mood induced by ambient odors may explain such results.

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Several experimental studies have shown that human social relationships are positively affected by ambient aromas. Baron (1997) observed that passersby in areas with pleasant food odors (e.g., pastry or coffee shop) were more willing to accept a request for change from a confederate than passersby walking in a zone with neutral odors (e.g., clothing shops). Grimes (1999) found that students volunteered to spend more time on work when they were exposed to a vanilla or lavender odor before the request. Baron and Thomley (1994) also showed that participants exposed to a pleasant odor during a learning task were more willing to comply with the experimenter's request for help at the end of the task. Similarly, James (2006) found that undergraduate students who answered a questionnaire which had been saturated or not with a lavender or peppermint aroma were more likely to take part in a telephone survey and to mail back food labels.

All these studies show that pleasant ambient odor facilitates altruistic behavior. For a majority of these authors, this effect is explained by mood. Pleasant ambient odors could have activated a positive mood which, in turn, led the participants to respond more favorably to the confederate. The activation of a positive affect linked to the presence of a pleasant odor has been confirmed by mood measurements of participants (Baron & Thomley, 1994; Grimes, 1999) and several studies have found that the activation of a positive mood subsequently favored altruism (Bizman, Yinin, Ronco, & Schachar, 1980; Harris & Smith, 1975; Job, 1987; Levin & Isen, 1975; Weyant, 1978).

Thus, if pleasant ambient scents seem to facilitate compliance to solicitation, we can hypothesize that other behaviors, such as a courtship solicitation, are affected by ambient odors. In another experiment, a woman confederate, wearing heavy perfume, walked in a pedestrian zone and dropped a package of paper tissues or a glove apparently without realizing it (Guéguen, 2001). It was found that passerby alerted the confederate more often when wearing perfume. However, this effect was found only when considering men's behavior. This effect was perhaps explained by the romantic connotation associated with perfume. Thus, it could be possible that ambient odors also influence romantic relationships such as receptivity to a courtship request.

In the experiment reported here, women were solicited for their phone number by a male-confederate while they were walking alone in areas with or without pleasant ambient food odors. It was hypothesized that more compliance would be obtained in pleasantly scented areas.

## 1. Method

### 1.1. Participants

The participants were 400 young women (Mean years 22.4, SD = 1.9) chosen at random while they were walking alone in a large shopping mall.

### 1.2. Procedure

This experiment was approved by the ethical committee of the laboratory (CRPCC-LESTIC EA 1285). Five 20-year-old confederates

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were used in this experiment. The physical attractiveness of the confederates was previously evaluated by a group of 31 young women who were instructed to examine photographs of the faces of 18 male volunteers and to rate their attractiveness on a numerical scale ranging from 1 (low level of physical attractiveness) to 10 (high level of physical attractiveness). All of the men stated that they were heterosexuals. The five men with the highest average physical attractiveness scores were recruited as confederates. No statistical differences were found between the mean attractiveness of these 5 volunteers. The control of attractiveness was used because it was shown in a previous experiment (Guéguen, 2007) that it is difficult to obtain phone numbers from young women in the street. This avoided creating conditions in which the ceiling effect of compliance was low.

The confederates were only instructed to approach young women in different areas of the shopping mall and to obtain their phone number. The participants were tested while walking near areas with pleasant ambient odors (bakeries, pastry shops, coffee-roasting shop) or not (clothing stores, music store, bank). The selection of the areas was done by several groups of undergraduate students who, accompanied by the experimenter, visited the mall to identify areas marked or not by pleasant ambient odors. In general, the areas near pastry shops or bakeries were considered as having pleasant ambient odors whereas areas near clothing stores or banks were designated as areas with no particular odors.

The confederates were blind to the objective of the experiment and the hypothesis. A fallacious pretext was used to explain why we wanted that they approached women in several places. Firstly, we said that this was classical method to avoid testing people with different social or personal characteristics which could bias the results. Secondly, we said that changing the location was a good method to prevent to be noticed by the vigilantes who worked in the shopping mall.

Each confederate was instructed to walk slowly in the different experimental areas and to approach the first woman between the estimated age of approximately 18–25 he crossed with a smile. The same solicitation was made by each confederate: *"Hello. My name's Antoine. I just want to say that I think you're really pretty. I have to go to work this afternoon, and I was wondering if you would give me your phone number. I'll phone you later and we can have a drink together someplace"*. The phone number was solicited because a previous study carried out in France (Guéguen, 2007) showed that this request made in the street is clearly seen by women as a courtship solicitation. Moreover, this solicitation was accompanied by another request (to have a drink) which was also previously evaluated as a courtship solicitation.

After making his request, the confederate was instructed to wait 10 s, and to gaze and smile at the participant. If the participant accepted the confederate's solicitation, the confederate noted her phone number, said *"see you soon"* and left the participant. If the participant refused, the confederate was instructed to say, *"Too bad. It's not my day. Have a nice afternoon!"* and to leave the participant.

Whether the participant accepted or not to give her phone number, she was immediately debriefed by the confederate. She was told that she had participated in an experiment on dating behavior and that why the confederate asked her for her phone number. A preprinted information form was then given to the participant in which information concerning the role of the experimenter and our laboratory website was indicated. This information procedure followed the guidelines suggested by the ethical committee of the laboratory when the experiment was presented to them. The address of the website presenting this project and the personal phone number of the director of the laboratory were provided in the preprinted information form that

was given to the participant. No participant phoned to obtain information about this research.

Just before leaving the participant, the confederate asked her for her age whether she had responded positively or not to his request.

## 2. Results

The number of participants who complied with the confederate's solicitation was the only dependent variable in this study. In the pleasant ambient odors condition, 23.0% of the women gave their phone number to the confederate (46/200) whereas they were 13.5% in the no odor condition (27/200). The difference between the two conditions was statistically significant ( $\chi^2(1, N = 400) = 6.05, p = .014, \phi = .12$ ) with odds-ratio revealing that women were nearly 2 times to give their phone number in the pleasant ambient odor condition than in the no odor condition (OR = 1.91, OR 95% CI 1.10–3.34).

No difference between the five confederates ( $\chi^2(4, N = 400) = 3.76, p = .44, \phi = .03$ ) and no interaction between the confederate and the experimental conditions were found ( $\chi^2(6, N = 400) = 1.74, p = .94, \phi = .00$ ).

## 3. Discussion

Young women were more likely to give their phone number to a young man when solicited in an area with pleasant ambient odors. The effect-size of the effect reflects a small to medium effect-size but appears robust given the sample-sizes used in this experiment.

These results are consistent with previous studies that showed that exposure to pleasant ambient odors foster social relationships (Baron, 1997; Baron & Thomley, 1994; Grimes, 1999; Guéguen, 2001; James 2006). Such behavioral results could be explained by mood given the fact that previous studies found that exposure to pleasant odors is associated with an increase in mood measures (Baron & Thomley, 1994; Grimes, 1999). Guéguen (2011) found that women's positive mood was associated with greater receptivity to a male's courtship request. Such a mood effect could explain why women in our experiment agreed more favorably to the confederate's request when solicited in areas with pleasant ambient odors. Finding this positive effect on courtship relationships, whereas most previous studies focused on altruism, seems to show that a large range of social behaviors could be influenced by ambient odors. Guéguen (2001) found that a woman confederate, wearing heavy perfume where more frequently helped in the street by passersby. Thus, it could also be interesting to study in further research if men with perfume become more attractive for a date to women.

This experiment has some limitations. The confederates were not informed about the real objective of the study and previous research on this topic. Fallacious information was used to justify the reason why different locations were used. However, the confederates may have also been influenced by ambient odors and unconsciously behaved differently which in turn influenced the responses of the participants. Thus, replication in a laboratory setting is now necessary where it would be possible to previously expose women to different ambient odors but not the male-confederates instructed to obtain a date.

## References

- Baron, R. (1997). The sweet smell of... helping: Effects of pleasant ambient fragrance on prosocial behavior in shopping mall. *Personality and Social Psychology Bulletin*, 23, 498–503.
- Baron, R., & Thomley, J. (1994). A whiff of reality: Positive affect as a potential mediator of the effects of pleasant fragrances on task performance and helping. *Environment and Behavior*, 26, 766–784.

- Bizman, A., Yinin, Y., Ronco, B., & Schachar, T. (1980). Regaining self-esteem through helping behavior. *The Journal of Psychology*, 105, 203–209.
- Grimes, M. (1999). *Helping behavior commitments in the presence of odors: Vanilla, lavender, and no odor*. Hypertext Paper. Georgia Southern University. [on-line] Available. <http://clearinghouse.mwsc.edu/manuscripts/>.
- Guéguen, N. (2001). The effect of perfume on prosocial behavior of pedestrians. *Psychological Reports*, 88, 1046–1048.
- Guéguen, N. (2007). The effect of a man's touch on woman's compliance to a request in a courtship context. *Social Influence*, 2, 81–97.
- Guéguen, N. (2011). *Pourquoi faut-il sourire lorsque l'on n'est pas beau?* Paris: Dunod.
- Harris, M., & Smith, R. (1975). Mood and helping. *The Journal of Social Psychology*, 91, 215–221.
- James, A. L. (2006). The effects of odor on compliance willingness to volunteer. *Journal of Undergraduate Psychological Research*, 1, 13–17.
- Job, R. (1987). The effect of mood on helping behavior. *The Journal of Social Psychology*, 127, 323–328.
- Levin, P., & Isen, A. (1975). Further studies on the effect of feeling good on helping. *Sociometry*, 38, 141–147.
- Weyant, J. (1978). Effects of mood states, costs, and benefits of helping. *Journal of Personality and Social Psychology*, 36, 1169–1176.