Cosmetics: They Influence More Than Caucasian Female Facial Attractiveness

Rebecca Nash,[1] George Fieldman, and Trevor Hussey
Buckinghamshire Chilterns University College

Jean-Luc Lévêque and Patricia Pineau
L'Oreal Recherche France

The study explored whether 4 Caucasian women would be evaluated differently on 4 social measures depending on whether they were presented with or without makeup. Participants—152 men and 171 women—were split into 2 groups and were presented with the women's facial photographs either with or without cosmetics. Women presented wearing cosmetics were perceived as healthier and more confident than when presented without. Participants also awarded women wearing makeup with a greater earning potential and with more prestigious jobs than the same women without cosmetics. The results suggest that women can successfully employ cosmetics to manipulate how they are assessed, which may be advantageous in social situations where women may be judged on their appearance, such as job interviews.

It has been shown elsewhere that cosmetics have a beautifying effect on the facial attractiveness of Caucasian women (Cash, Dawson, Davis, Bowen, & Galumbeck, 1989; Miller & Cox, 1982). While these studies looked at the effect of cosmetics on the attractiveness of young (18–27 years) college students, Mulhern, Fieldman, Hussey, Lévêque, and Pineau (2003) studied the impact of makeup on women in their 30s. In accordance with previous studies, Mulhern and colleagues found both male and female participants to judge female faces as more attractive when they were shown wearing makeup. Further exploration demonstrated that eye makeup and foundation were the most significant contributors to the enhancement of female facial attractiveness. The current study was designed to explore several questions that arose in relation to the results of this previous investigation.

The authors argued that cosmetics could play a significant part in increasing attractiveness because they may, in part, enhance facial symmetry (Mulhern et al., 2003). For instance, foundation could create uniform skin texture and conceal imperfections, while eye makeup and lipstick may

[1]Correspondence concerning this article should be addressed to Rebecca Nash. Department of Psychology, Buckinghamshire Chilterns University College, High Wycombe, Buckinghamshire, HP11 2JZ. E-mail: bmulhc01@bcuc.ac.uk

Journal of Applied Social Psychology, 2006, **36**, 2, pp. 493–504.

increase the bilateral size and symmetry of the eyes and lips (Aucoin, 1997; Johnson, Gross, & Stone, 1997; Quant, 1996). Increased symmetry has been associated elsewhere with the perception of attractiveness in the faces of both sexes (Perrett et al., 1999). Interestingly, symmetrical faces are also judged to be healthier than less symmetrical faces (Jones et al., 2001). It is possible, therefore, that by using cosmetics to enhance their attractiveness, women are also manipulating their facial symmetry, resulting in a healthier appearance. This effect may be useful for presenting a fit and dynamic character, which may be particularly advantageous in a prospective employment setting. Consequently, the first aim of this investigation was to explore whether images of women wearing cosmetics would be judged to be healthier than images of the same women presented without makeup.

Mulhern and colleagues (2003) employed a professional beautician to prepare their study's female volunteers to be photographed under different cosmetic conditions. The volunteers took pleasure in this procedure and reported a greater sense of well-being and confidence after the makeover. The authors considered that the positive impact of the application of cosmetics on the volunteers could have led them to feel and look more confident when they were photographed and this may have contributed to the perception of increased attractiveness under the cosmetics condition. Research has shown that when assessing their own attractiveness, women rated themselves as more attractive and had more favourable bodily self-perceptions when wearing makeup than when not wearing cosmetics (Cash et al., 1989). Furthermore, the more women appeared to believe in the beautifying effect of cosmetics, the more makeup they tended to apply on a daily basis (Cash et al., 1989; Franzoi, 2001). Self-conscious women are more likely to wear cosmetics than less self-conscious women and report that they believe their social interactions are more pleasurable when they wear makeup (Miller & Cox, 1982). Hospital patients with a range of medical conditions, such as disfigurement or depression, expressed enhanced self-evaluations after a makeover. They exhibited greater confidence and participated more frequently in social activities (Graham, 1985; Holme, Beattie, & Fleming, 2002). It is possible, therefore, that by helping women feel more comfortable with their physical appearance, cosmetics may indirectly result in women's projecting an air of confidence and self-belief. Mulhern and colleagues argued that this psychological disposition could have contributed to women's being perceived as more attractive when they are wearing makeup. As a result, the second aim of the current investigation was to investigate whether images of women wearing makeup are perceived to be more confident than images of the same women without makeup.

The notion that cosmetics may improve women's psychological self-perceptions may have interesting behavioral implications. It is possible that

by wearing cosmetics, women manipulate their mood and behavior, which could influence how they are evaluated by others. This outcome could be particularly salient in situations in which appearance is important, such as in a job interview (Fatt, 2000). It has been shown elsewhere that educated Caucasian American women living in urban areas use cosmetics as a status symbol. This female demographic group spends significantly more on expensive cosmetic brands than less educated women from ethnic minorities or women from suburban areas (Chao & Schor, 1998). It is possible therefore that by wearing makeup women may enhance their perceived social position, which again may be favorable in a number of social contexts.

However, contrary to this proposition, a study on the use of cosmetics in a professional context found that makeup might not necessarily convey a good impression. When comparing the professional competence of women with and without makeup, women wearing cosmetics were judged to be less competent and designated lower salaries than women without makeup (Kyle & Mahler, 1996). The authors explain these results by suggesting that participants perceive women with makeup as more feminine. In turn, femininity is negatively associated with assertiveness and self-reliance and therefore has a detrimental effect on the perception of a woman's possible competence. Interestingly, further analysis of this effect suggests that it is significant only for women applying for lower status professions, such as secretarial positions. Wearing cosmetics did not influence the perception of competence in women applying for prestigious positions, such as accountancy (Cox & Glick, 1986). These data appear to be consistent with Chao and Schor's (1998) proposition that cosmetics use may be linked to female social status. Subsequently, the third aim of this investigation was to examine whether the professional evaluation of women would differ depending on whether they were shown with or without makeup.

In sum, the study presented here sought to examine whether wearing cosmetics may influence perceptions of women's health, confidence, earning potential, and professional class. In conjunction with the data presented above, it was predicted that women wearing makeup would benefit from increased facial symmetry and improved skin texture and would therefore be judged to be healthier than the same women without makeup. It was further hypothesised that the beneficial impact of cosmetics on women's mood would lead them to be rated as more confident than when they were presented without makeup. Finally, due to the influence of cosmetics on the perception of professional status (Chao & Schor, 1998; Cox & Glick, 1986), it was predicted that women wearing cosmetics would be rated as having greater earning potential and as having more prestigious professions than the same women without cosmetics.

Method

Volunteers

Different faces may be evaluated differently on a number a social traits. To ensure that the effect of makeup was measured rather than the appearance of a single person, four Caucasian female volunteers were recruited to produce materials. The larger proportion of prior research used female college students to explore the effects of cosmetics (Cash et al., 1989; Cox & Glick, 1986; Franzoi, 2001; Miller & Cox, 1982). It is possible that cosmetics have different effects on different age groups, and so, to expand the field of knowledge, Mulhern et al. (2003) chose to use women aged between 31 and 38. To follow this example, the volunteers used in this study were aged between 31 to 35 years ($M = 33$ years). This age group was also considered more adequate than college student samples, favored by previous researchers, for the measurement of earning potential and professional class.

The ethnicity of volunteers often remains unspecified in other studies on cosmetics. This study chose to use only the faces of Caucasian women. The primary aim of the experiment was to investigate the effect of cosmetics on the perception of health, confidence, earning potential, and professional class on women in their 30s. It was considered that people's ethnic stereotypes could be a source of bias when assessing these measures, and in order to control this potential source of variation, only Caucasian women were selected. Furthermore, women of different ethnic groups utilize different cosmetic products, particularly in terms of color. Using women from a single ethnic group reduced the potential variability that could be caused by different product usage. As suggested by Chao and Schor (1998), Caucasian women are more likely to use cosmetics as a status symbol than women of other ethnic groups, and therefore the influence of cosmetics on this group, in terms of earning potential and professional class, may be of particular interest. The consequences of restricting the ethnic representation of volunteers will be discussed below in conjunction with the methodological constraints of the study.

The four volunteers were photographed under two conditions: with and without makeup. To ensure that all faces were as similar as possible from the outset, a professional beautician began cosmetic application by cleansing and moisturising the volunteers' faces with "all-skin-type" products. After the first set of photographs was taken, the beautician treated each volunteer individually, applying makeup so as to enhance the attractiveness of each individual. Volunteers were photographed in color using a high-resolution digital camera. They each wore a white headband to keep their hair away from their face, removed all jewelry, and wore a black bib to mask their clothes. They were also asked to sustain a relaxed, neutral expression while

being photographed. All the volunteers gave written consent allowing their photographs to be used for experimental purposes.

Measures

The aim of this experiment was to assess the impact of cosmetics against four social measures: Health, Confidence, Earning Potential, and Professional Class. Rating one image at a time, participants were asked to choose the answers that they thought were best suited to the woman depicted. Health and Confidence were both rated on 7-point Likert scales (1 = *very unhealthy* or *unconfident*, 7 = *very healthy* or *very confident*). Earning Potential was rated by predicting the depicted woman's earnings in 5 years' time. This was measured on a 7-point attitudinal scale ranging from *very much above national average* to *very much below national average*. The final question assessed participants' perception of the women's professional class. Rose and Pevalin (2001) developed the British National Statistics Socio-Economic Classification (NS-SEC) system, which uses professional occupations as a measure of social status. It has been employed for sociological surveys on social class, for instance, to examine which social groups are most prone to ill health and mortality. It has been found that higher instances of ill health and mortality are associated with lower class professions rather than more prestigious employment. In contrast to previous social scales, the NS-SEC measures professional class by taking into account employment status and organizational size and combines professions of similar status to form a hierarchical scale, ranging from the directors of large organizations to the unemployed (Rose & Pevalin, 2001).

To evaluate the effect of cosmetics on the perception of female professional class, nine professions were selected to represent social status. Three professional classes were selected to represent different social scales. Three jobs were selected to represent High Status—accountant, architect, and company director; another three were chosen to characterize Average Status —bank clerk, customer service, and graphic designer. Three professions were selected to represent Lower Status—childminder, cleaner, and factory worker. Finally, "Unemployed" was added as the 10th option. The 10 options were presented beside each image, and participants were asked to choose the profession they thought the woman depicted was most likely to have. By seeing only the job descriptions, participants had no explicit knowledge that it was professional class that was being measured.

Procedures

A Web-based questionnaire was designed and displayed on a psychological research site (http://psych.hanover.edu/Research/exponnet.html),

inviting participants to take part. The test pages were tested on a number of browsers to ensure homologous presentation. The initial test page informed participants that the experiment would require respondents to evaluate four women on a number of social measures. Participation would be undertaken on a voluntary basis. It was further stated that part of the experiment would require respondents to answer some personal questions about themselves, such as age, sex, and ethnic origin. They were assured that these questions were an essential part of the study and that their results would remain entirely anonymous and confidential. Participants were further advised that they could terminate their involvement in the experiment at any time by closing their browser. If they were content with this briefing they could proceed to the test page by clicking a "Start Study" link.

The respondents started the survey by filling in a number of personal questions (i.e., age, sex, nationality, and ethnic origin) and were then randomly assigned to one of two groups. One group viewed the four women with makeup; the other group viewed the same women with no makeup. Each photograph appeared alongside four questions, each one referring to one of the social measures described in the previous subsection.

Certain guidelines have been suggested for implementing research on the Internet (Bonfadelli, 2002; Nosek, Banaji, & Greenwald, 2002; Schmitt, 1997). One possible danger associated with Web-based questionnaires is the possibility that participants may, either intentionally or unintentionally, repeat the experiment. To control for possible duplications, the Internet Protocol (IP) addresses (numbers used by the Internet to identify computer servers) returned with the response data were monitored. Only four possible instances of IP duplication were found, and as a precaution, the eight responses involved were deleted. Another difficulty is the possibility of participants' altering their answers once they have learned the nature of the study. To address this, the questionnaire was designed so that the nature of the experiment was revealed only once the participants had submitted the questionnaire and no longer had access to their results. They were, however, given the e-mail address of the researcher if they wished further information.

Participants

Obtaining informed consent from minors presents another methodological difficulty for Web-based questionnaires. It was considered that participants could be tempted to lie about their age if they were told that only participants over the age of 18 were permitted to undertake the study. As the experiment was unlikely to have any harmful or ethical consequence to underage participants, participants of all ages were permitted to complete

the test. Data returned from participants under the age of 18 were automatically flagged and deleted.

Having excluded responses from participants under the age of 18, 152 male (Without Cosmetics $n = 75$; With Cosmetics $n = 77$) and 171 female (Without Cosmetics $n = 80$; With Cosmetics $n = 91$) participants remained. The mean age of female participants was 33.22 years (Without Cosmetics $M = 31.75$ years; With Cosmetics $M = 32.69$ years) and that of male respondents was 33.05 years (Without Cosmetics $M = 33.73$ years; With Cosmetics $M = 33.36$ years).

The majority of respondents were Caucasian. In the With Cosmetics condition 26 participants described themselves as of non-Caucasian origin, 16 within the female participant group and 10 within the male group. Under the Without Cosmetics condition 18 participants described themselves as of non-Caucasian origin, 9 within the female participant group and 9 within the male group.

Results

For analysis, the professions allocated to each image were translated to their social class coding—High, Average, Low, and Unemployed. This converted the results into categorical data, and consequently the results were analyzed using chi-square. Analysis of data revealed that wearing makeup had a significant impact on the rating of a woman's professional class, χ^2 (3, $N = 1{,}292$) = 19.981, $p = 0.000$. The percentage allocation of the four employment categories (Figure 1) revealed that women wearing cosmetics were more likely to be assigned a high- or average-status profession than women without makeup (high status: women With Cosmetics = 21.1%, women Without Cosmetics = 16.3%; average status: women With Cosmetics = 46.9%, women Without Cosmetics = 39.8%). By contrast, women without cosmetics were more likely to be assigned a low-status job or unemployed professional status than women with cosmetics (low-status: women Without Cosmetics = 37.4%, women With Cosmetics = 26.8%; unemployed: women Without Cosmetics = 6.5%, women With Cosmetics = 5.2%). Splitting the results by participant sex revealed that the significant effect of cosmetics on the perception of Professional Class was generated by male participants, χ^2 (3, $N = 608$) = 17.645, $p = 0.001$, rather than female respondents, χ^2 (3, $N = 684$) = 3.133, $p = 0.060$.

The attitudinal scale employed to assess Earning Potential was converted to a 7-point Likert scale for analysis. The mean results for Earning Potential, Health, and Confidence are illustrated in Figure 2. It was considered that participant age could influence ratings of these measures, and partic-

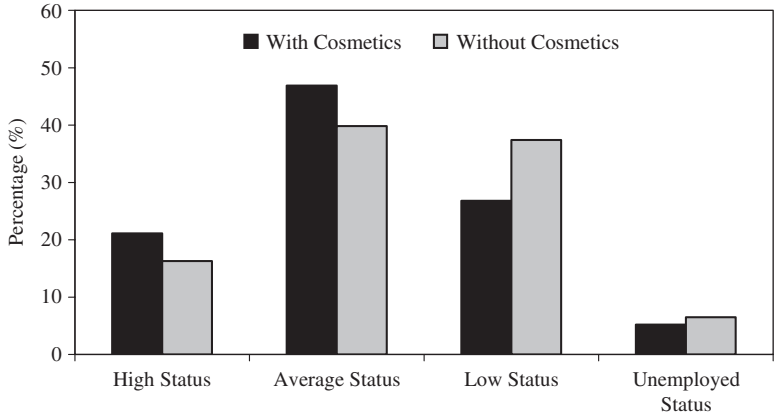

Figure 1. Percentage distribution of professional class for women with and without makeup.

ipant age was introduced as a covariate for further analysis of variance. The covariate participant age was found to have a significant effect on judgments of Earning Potential, $F(1, 322) = 6.830$, $p = 0.009$. After the effects of participant age were controlled for, cosmetics still produced a significant effect on participants' judgments of women's future Earning Potential, $F(1, 322) = 5.191$, $p = 0.023$. When presented without cosmetics, women were assigned lower Earning Potential ($M = 3.813$) than when they appeared wearing cosmetics ($M = 4.034$). The sexes were not found to differ in the way they perceived female Earning Potential.

Cosmetics had a significant effect on the perception of Health, $F(1, 322) = 14.101$, $p = 0.000$. Mean scores demonstrated that the volunteers

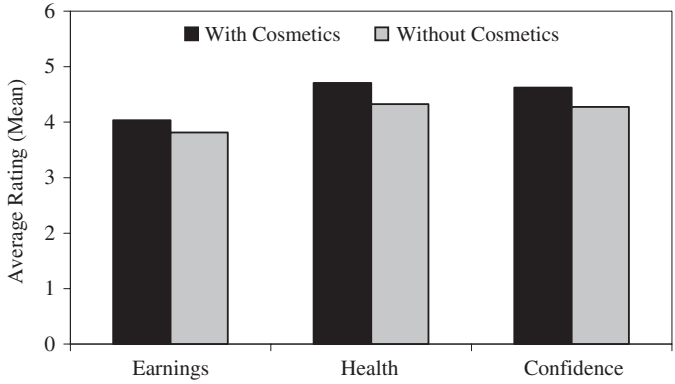

Figure 2. Mean participant ratings of earning potential, health, and confidence for women with and without makeup.

were judged as healthier with cosmetics ($M = 4.708$) than when they were presented without cosmetics ($M = 4.324$). Again, the sexes did not differ in their perceptions of female health.

Finally, cosmetics were found to significantly influence the perception of Confidence, $F(1, 322) = 16.670$, $p = 0.000$. Mean scores demonstrated that the volunteers were judged as more confident when presented with cosmetics ($M = 4.623$) than when presented without cosmetics ($M = 4.274$). Participant sex was not found to have a significant effect on the perception of female confidence.

Discussion

When examining the effect of cosmetics on four social measures the current results supported experimental predictions. Images of women wearing makeup were judged to be healthier and more confident than the images of the same women without makeup. When wearing cosmetics women were also assigned greater Earning Potential and considered to have more prestigious jobs than when they were presented without makeup.

Previous experimentation has revealed that cosmetics have been found to enhance the perception of Caucasian female facial attractiveness (Mulhern et al., 2003). It was suggested above that cosmetics could contribute to the perception of attractiveness by enhancing facial symmetry. It was hypothesized that this side effect might lead a face to be judged as healthier, which may have an indirect effect on the perception of attractiveness. The results obtained did support this proposition, as women were judged to be healthier when wearing cosmetics than without.

In accordance with predictions, wearing cosmetics was found to have a significant impact upon participants' ratings of female confidence. An intriguing question remains as to whether this effect is genuinely caused by the physical change brought about by the application of makeup or as a consequence of the general increase in positive self-perception women experience when wearing cosmetics. The volunteers within this study did report feelings of enhanced well-being and improved self-worth when prepared by the beautician. It is possible that this change in self-perception is reflected in the photographs despite the retention of a neutral expression. This question could be resolved by using computer image manipulation to investigate whether makeup renders faces more confident while avoiding the potential confound caused by volunteers' responses to the application of cosmetics by a beautician. Makeup could be applied digitally onto cosmetic-free female faces, rather than directly onto a volunteer.

Women were assigned greater earning potential and more prestigious jobs when they were presented wearing cosmetics. These results contradict

prior research that suggested that cosmetics could have a detrimental effect on the perception of a woman's earning power and professional competence (Kyle & Mahler, 1996) but support the suggestion that cosmetics could be associated with the perception of social status (Chao & Schor, 1998). However, despite the fact that both men and women assigned women with makeup greater earning potential, male participants alone were responsible for the allocation of more prestigious jobs. This appears to suggest that men associate cosmetic use with formal office-based professions (as exemplified by their favoring of high- and average-status jobs) and not with less bureaucratic jobs such as factory work or childminding (low-status professions). As cosmetics users themselves, women may hold different attitudes towards the use of makeup. Women may wear cosmetics for many reasons, such as to enhance their appearance and bolster their self-perception, and cosmetics may therefore not be specifically associated with office-based work environments. As a result women may be less likely to associate cosmetics with specific professions. This dichotomy between the sexes may warrant further exploration.

It is important to stress that this experiment observed the effect of cosmetics solely on Caucasian women, and therefore the generalization of the results can only be applied to this demographic group. Furthermore, the majority of participants were from Great Britain and the United States, and as a result the data can only be shown as reflecting Western responses to cosmetics. It is entirely possible that these perceptions may differ cross-culturally, a prospect that may be worthy of further research.

When preparing the volunteers, the professional beautician was instructed to apply makeup in a way that enhanced the looks of each woman. There was consequently a degree of variation in the colors employed, though these remained fairly conservative. It is possible that women would be evaluated differently depending on which types of cosmetics they choose to wear. For instance, would the application of very "naturalistic" makeup increase the perception of health, but not necessarily confidence, or professional class? Inversely, would bold colors enhance the perception of confidence, but not health? These distinctions may benefit from further investigation.

In terms of methodology, employing independent participant groups to rate the two cosmetics conditions (with or without makeup) was useful in disguising the true nature of the study. It is doubtful that the respondents would have guessed that it was the impact of cosmetics that was being measured, and this therefore reduced the possibility of participants' responding in a biased way. Despite the use of independent measures to assess the effect of cosmetics, it remains possible that the participants may have gleaned insight into the aims of the experiment. However, a pilot of this experiment was performed before the actual experiment was conducted, and

test participants (6 women and 6 men) claimed not to have guessed the intent of the experiment prior to debriefing. This suggests that the effect of cosmetics on people's perceptions of women in their 30s was measured reliably.

The authors found that using the Internet to implement the study was useful in providing a sample of a greater age and cultural range than those traditionally found in university student samples. Though other researchers have found participant samples recruited through Internet surveys to be comparable to, and perhaps even more reliable than, those selected by traditional means (Buchanan & Smith, 1999), it is worth considering that the Web site where the study was advertised was used by students and lecturers in psychology—though not exclusively—who may be less naïve than a general-population sample.

Conclusion

This investigation sought to explore whether wearing cosmetics would influence the way Caucasian women were perceived. The outcome suggests that makeup has a beneficial impact upon the perception of a woman's earning potential, professional class, health, and confidence. The results suggest that women can therefore employ cosmetics to manipulate their appearance and, in so doing, may also benefit from a boost in positive self-perception and well-being that appears to be associated with wearing make-up. Feeling confident about one's appearance may be particularly valuable in facilitating social interactions, especially during recruitment opportunities, when conveying a good first impression is so important.

References

Aucoin, K. (1997). *Making faces*. London: Prion.

Bonfadelli, H. (2002). The Internet and knowledge gaps: A theoretical and empirical investigation. *European Journal of Communication*, *17*(1), 65-84.

Buchanan, T., & Smith, J. L. (1999). Using the Internet for psychological research: Personality testing on the World Wide Web. *British Journal of Psychology*, *90*, 125-144.

Cash, T. F., Dawson, K., Davis, P., Bowen, M., & Galumbeck, C. (1989). Effects of cosmetics use on the physical attractiveness and body image of American college women. *Journal of Social Psychology*, *129*, 349-355.

Chao, A., & Schor, J. B. (1998). Empirical tests of status consumption: Evidence from women's cosmetics. *Journal of Economic Psychology*, *19*, 107-131.

Cox, C., & Glick, W. (1986). Resume evaluation and cosmetics use: When more is not better. *Sex Roles*, *14*, 51-58.

Fatt, J. P. T. (2000). Attractiveness and outcome of job interviews. *Management Research News*, *23*(1), 11-18.

Franzoi, S. L. (2001). Is female body esteem shaped by benevolent sexism? *Sex Roles*, *44*, 177-188.

Holme, S. A., Beattie, P. E., & Fleming, C. J. (2002). Cosmetic camouflage advice improves quality of life. *British Journal of Dermatology*, *147*, 946-949.

Jones, B. C., Little, A. C., Penton-Voak, I. S., Tiddeman, B. P., Burt, D. M., & Perrett, D. (2001). Facial symmetry and judgements of apparent health: Support for a good genes explanation of the attractiveness-symmetry relationship. *Evolution and Human Behaviour*, *22*, 417-429.

Kyle, D. J., & Mahler, H. I. (1996). The effects of hair colour and cosmetic use on perceptions of a female's ability. *Psychology of Women Quarterly*, *20*, 447-455.

Miller, L., & Cox, C. (1982). For appearance's sake: Public self-consciousness and makeup use. *Personality and Social Psychology Bulletin*, *8*, 748-751.

Mulhern, R., Fieldman, G., Hussey, T., Lévêque, J.-L., & Pineau, P. (2003). Do cosmetics enhance Caucasian female facial attractiveness? *International Journal of Cosmetic Science*, *25*(4), 199-205.

Nosek, B. A., Banaji, M. R., & Greenwald, A. G. (2002). E-research: Ethics, security, design and control in psychological research on the Internet. *Journal of Social Issues*, *58*(1), 161-176.

Perrett, D. I., Burt, D., Penton-Voak, I., Lee, K., Rowland, D., & Edwards, R. (1999). Symmetry and human facial attractiveness. *Evolution and Human Behaviour*, *20*, 295-307.

Rose, D., & Pevalin, D. J. (2001). *The National Statistics Socio-economic Classification: Unifying official and sociological approaches to the conceptualisation and measurement of social class* (ISER Working Paper No. 2001-4). Colchester, UK: University of Essex.

Schmitt, W. C. (1997). World-Wide Web survey research: Benefits, potential problems and solutions. *Behaviour Research Methods, Instruments and Computers*, *29*(2), 274-279.