

More than Just a Pretty Face: Relationships Between Facial Attractiveness, Health, and Immunocompetence

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INTRODUCTION

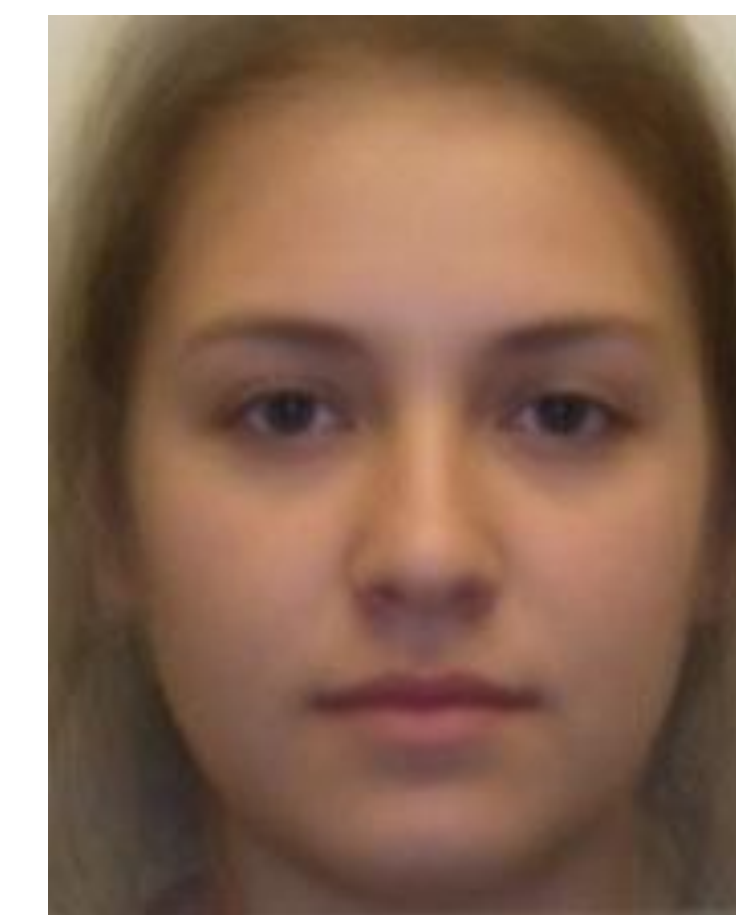
- People all over the world consider and value facial attractiveness when selecting a romantic partner. An evolutionary explanation for the value placed on facial attractiveness could be that facial attractiveness is a signal of good health (Thornhill & Gangestad, 1999). For example, having clear skin and bright eyes can be a signal that someone is healthy.
- Typically, being attractive means having a symmetrical, visually appealing face free of signs of developmental issues in childhood. Being attractive isn't cost free – it requires allocating limited resources towards having this symmetrical, visually appealing face during development when these resources could be allocated towards growth and other development.
- While many researchers have argued that facial attractiveness is a reliable cue of good health, previous research has found mixed results when investigating this relationship (Kalick et al., 1998; Shackelford & Larsen, 1999; Henderson & Anglin, 2003).

METHOD

- To clarify the nature of the relationship between attractiveness, health, and immunocompetence, we utilized a large dataset (N= 160) from a previous study which contains photographs of participants (healthy college students), personal and family sickness history, as well as functional assays of immunocompetence .
- The attractiveness of these photographs was then rated online by ~400 opposite sex participants (>60 ratings per target photograph) recruited from Amazon's Mechanical Turk.
- These ratings were compared to the targets' actual health and immune function.

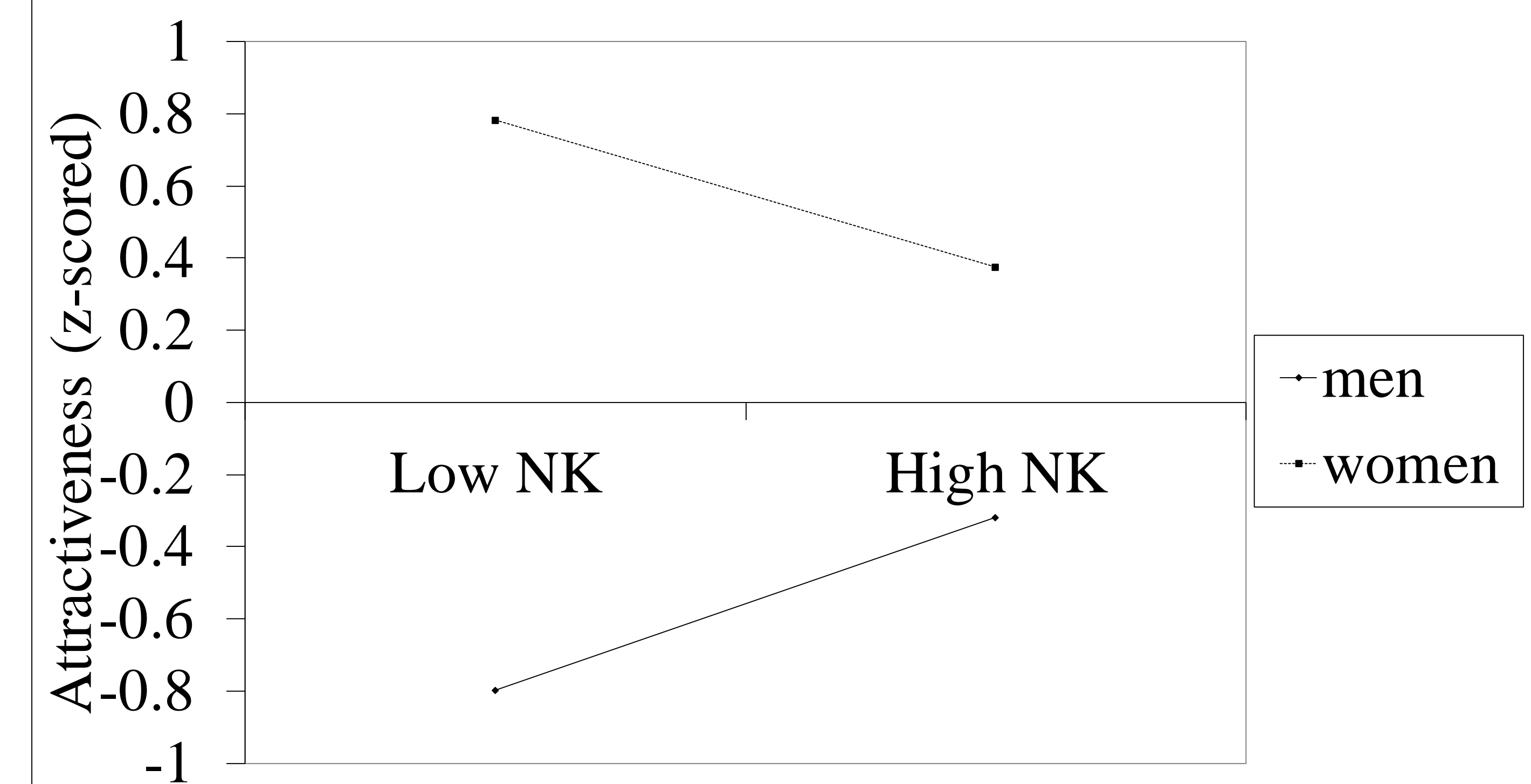
NK CELL FUNCTION

- Natural Killer Cells are Large Granular Lymphocytes that are part of the innate immune system and play an important role in our ability to protect ourselves against viruses and neoplastic growth (cancer).
- Here, we looked at the functionality of P's NK cells by plating their PBMCs (including NK cells) in vitro for 4 h with tumor cells of the human K562 cell line containing internalized radioactive chromium (51Cr). We can look at what % of the tumor cells they killed by quantifying chromium released.
- Facial morphing software was used to make a composite image of the ten highest (top woman and man photos) and ten lowest (bottom woman and man photos) NK cell functioning participants for both men and women.



RESULTS

- The Qualtrics survey data was imported and analyzed using SPSS software. Standard linear regression procedures were used to analyze the relationship between NK cell function and attractiveness.
- Results revealed a significant two-way interaction ($p = .002$). Simple slope tests were significant for both men and women ($ps \leq .033$), and results were significant at ± 1 SD ($ps \leq .001$).
- Data analysis is ongoing, and future analyses may reveal additional interesting, nuanced interactions between attractiveness and our other health measures.



DISCUSSION AND FUTURE DIRECTIONS

- We have found that attractive men also have higher NK cell function, while the opposite is true for women.
- NK cell function is closely related to estrogen, and future investigation concerning sex differences in immune function is needed to clarify this result, specifically for women.
- Knowledge of the mechanisms underlying health perceptions may stimulate research into a more nuanced theory about health and attractiveness. The results of this study will add to the existing research on mate choice and immune function, which has implications for a diverse range of fields of scientific and biomedical inquiry.

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