

Van Vugt, M., De Cremer, D., Janssen, D.P. (2007). Gender differences in cooperation and competition: The male warrior hypothesis. *Psychological Science*, 18, 19-23.

Introduction

- 1) Humans are loyal to and protective of their in-groups (groups they have membership in)
 - a) humans easily make "us vs. them" distinctions
 - b) humans become protective of their in-group
 - c) this behavior was likely selected via evolution as a result of intergroup conflict
- 2) There are gender differences in attitudes and behavior towards the in-group
 - a) men are more protective of the in-group than women
 - i) male protectiveness may be related to greater opportunities for reproduction
 - b) men are more group-oriented than women (who tend to be interpersonally oriented)
 - c) men engage in more inter-group competition than women
- 3) Male warrior hypothesis
 - a) men's behavior and attitudes are focused more on intergroup competition than women
 - b) hypothesis: men will behave more altruistically towards the in-group when they think they are competing with another group (social-dilemma task)

Methods

- 1) Experiment 1: Do men and women behave give differently to the in-group in an all-or-none choice?
 - a) Participants (sample): University of Southampton undergraduates (33% men)
 - b) Design: experiment
 - i) independent variable: perceived competitor (individual or group)
 - ii) dependent variable: all-or-none investment decision (yes/no)
 - c) Procedure
 - i) participants were randomly assigned to the "individual" or "group" conditions
 - ii) participants were told they received £2 and could keep it for themselves or donate it to the group; if enough people donated to the group they could earn an additional £4 each
 - iii) participants in the "group" condition were told they were competing against students at rival colleges
 - iv) participants in the "individual" condition were told students from other colleges were participating, but that they were not competing against them
 - v) Participants' investment decisions were recorded (did they donate to the group?)
- 2) Experiment 2: Do men and women give differently to the in-group in a variable/free choice task?
 - a) Participants (sample): University of Southampton undergraduates (46% men)
 - b) Design: experiment
 - i) independent variable: perceived competitor (individual or group)
 - ii) dependent variable: amount of money given to in-group
 - c) Procedure

- i) participants were randomly assigned to the "individual" or "group" conditions
 - ii) participants were told they received £3 and could keep it for themselves or donate any part of it to the group; if enough people donated to the group, they could earn an additional £5 each
 - iii) participants in the "group" condition were told they were competing against students at rival colleges
 - iv) participants in the "individual" condition were told students from other colleges were participating, but that they were not competing against them
 - v) The number of £s invested in the group was measured
- 3) Experiment 3: Do men and women give differently to the in-group in a variable/free choice task, and is this related to self-reported "group identification"?
- a) Participants (sample): University of Southampton undergraduates (53% men)
 - b) Design: experiment and correlation
 - i) independent variable: perceived competitor (individual or group)
 - ii) dependent variable: amount of money given to in-group
 - iii) predicted positive correlation between group identification and amount of contribution for males in the "group" competitor condition
 - c) Procedure
 - i) participants were randomly assigned to the "individual" or "group" conditions
 - ii) participants were told they received £3 and could keep it for themselves, or donate any part of it to the group; if enough people donated to the group they could earn an additional £5 each
 - iii) participants in the "group" condition were told they were competing against students at rival colleges
 - iv) participants in the "individual" condition were told students from other colleges were participating, but that they were not competing against them
 - v) The number of £s invested in the group was measured
 - vi) Participants were also asked to complete a questionnaire about their level of identification with the in-group (0-9 scale, 9 being very strong identification with the group)

Results

- 1) Experiment 1: In an all-or-nothing decision, men gave more often to the in-group when they thought they were competing with another group. Women gave more often to the group when they thought they were playing individually.
- 2) Experiment 2: Men gave more money to the in-group when they thought they were competing with another group. Women gave similarly in both the individual and group conditions.
- 3) Experiment 3: Men had stronger group identification than women in the "group" condition. Men gave more money to the in-group when they were in the "group" condition. Statistical analyses suggest that men give more to the group in the group condition because they feel more identification with the in-group when competing against another group.

Discussion

- 1) The results support the hypothesis that men contribute to the group more when they perceive threat from an outside group. Women not affected similarly by the threat of competition.
- 2) These results fit in with results of other studies that have examined male behavior in group competitions
 - a) men make more competitive choices
 - b) male involvement in conflict is characteristic of most societies (from civil and political conflict to athletic competition)
 - c) men are more likely than women to engage in risky behavior to defend their group
 - d) in non-human primates (chimpanzees) defense of territory is taken care of by males
- 3) Men are more profoundly affected by inter-group competition than women, but men can give/cooperate in the group for other reasons as well (food, trading, rearing offspring)
 - a) women also contribute to the group, but for different reasons
- 4) Cultural processes likely shaped the intergroup dynamics of men and women
 - a) males were likely to have been encouraged to support/defend the group by older men
 - b) women were likely to have been encouraged to develop strong social relationships within the group in order to care for and protect offspring
 - c) more research is necessary to further appreciate if the male warrior hypothesis is supported
- 5) Further research should address some implications of the male warrior hypothesis
 - a) when evaluating men, people will give more weight to traits like physical ability, prowess, and courage
 - b) male attractiveness should be positively influenced by in-group contributions
 - c) men should be more interested in competitive hobbies than women
- 6) Limitations of the research
 - a) actual monetary payoffs were small, so the research cannot be generalized to understand if males will take more "great risks" for the group
 - b) groups were not tangibly competing; however the researchers feel the university rivalries used were sufficient to create a sense of competition
- 7) Conclusions:
 - a) cooperation is largely a product of inter-group competition/defense
 - b) this has shaped the cooperative behavior of men in competitive situations