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May 1st, 12:00 AM - 12:00 AM

Effect of Group Dynamics on Task Efficiency

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Effect of Group Dynamics on Task Efficiency

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Background

Group work is a factor of everyday life, something we all must deal with, whether we like it or not. As a result, group dynamics has become an important area of research.

- Fenwick and Neal (2001) found that, in a group simulation performance task, groups performance was correlated in a strong and positive direction with the percentage of women in the group.
 - Tanghe, Wisse, and van der Flier (2010) found that group members who had strong identification with their group membership were more likely to have greater team effectiveness.
 - McLaren and Spink (2019) examined how a communication network could affect the performance of a basketball team during actual competitive games. They recorded information exchange and found that teams who shared information more performed better over the season.
 - Amiot and Sansfacon (2011) found that identifying with social groups provides a positive effect to group dynamics.
- We are interested in several specific aspects of group dynamics.
- We believe that smaller groups with a mixed gender makeup will increase in task efficiency.
 - The more involved a participant is on campus, the greater level of task efficiency their group will exhibit.
 - Results of a post-survey will show that mixed gender makeups will increase each individual group dynamic trait measured (enjoyability, cooperativity, effectiveness, and familiarity).

Method

Materials

- This study used pattern blocks, along with a fish and train puzzle.
- Researchers used an iPhone stopwatch to time participants, provided writing utensils, pattern blocks and two puzzles.



Figure 1: Fish Puzzle



Figure 2: Train Puzzle

NOTE: Puzzles are not to scale

Measures

- This study used the Small Group Analysis Survey for a post-test survey, testing enjoyability, cooperativity, familiarity, and effectiveness.

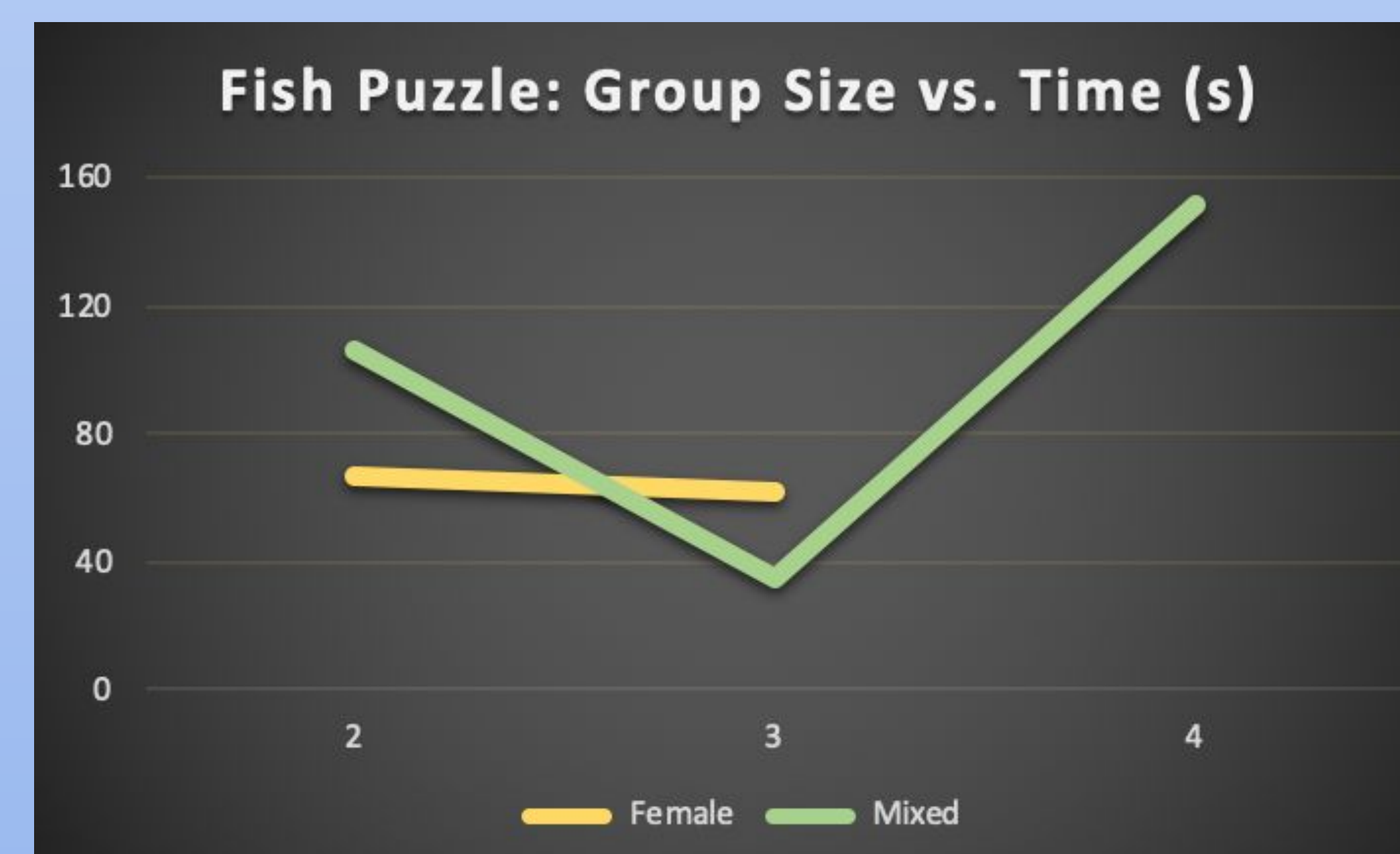
Procedure

- Participants were 125 undergraduate students at Ouachita Baptist.
- Researchers assigned participants into groups of 2 - 4 after demographic forms and informed consents were complete.
- Participants were instructed to work together to complete the puzzle with a time limit of 10 minutes. After completion of the first puzzle, the second puzzle was given, with the same time constraints.
- After completing both puzzles, participants filled out the post test survey.

Results

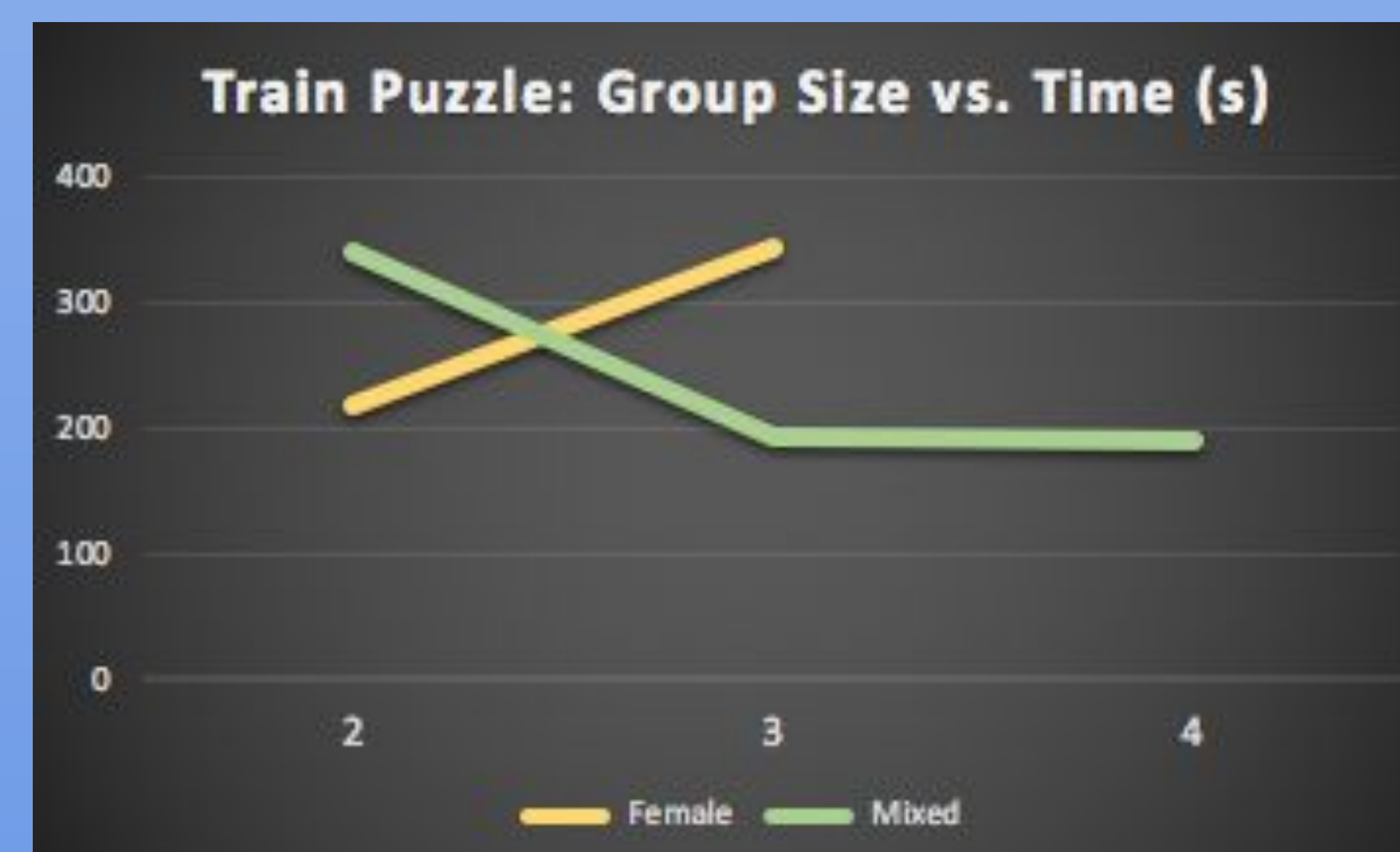
Fish Puzzle

- There was a significant main effect for group size between all three groups, $F(2, 111)=26.96, p<.001$, resulting in a group size of three with the lowest time to complete the puzzle, followed by a size of two and then four.
- There was no main effect for gender makeup, $F(1, 111)=.48, p=.49$.
- There was a significant interaction between size and mixed gender makeup, $F(1, 111)=16.03, p<.001$, resulting in mixed groups of three having the lowest time to complete the puzzle, followed by mixed size of two, and then a mixed size of four.



Train Puzzle

- There was no main effect for group size, $F(2, 111)=.54, p=.58$.
- There was no main effect for gender makeup, $F(1, 111)=.15, p=.70$.
- There was a significant interaction between group size and gender makeup, $F(1, 111)=15.16, p<.001$, resulting in a difference in the female groups size two and three with the group of two having a lower time to complete the puzzle than the group of three.
- The mixed groups were marginally significant between groups size two and three, with the group of two completing the puzzle in less time than the group of three.



Discussion

- We found that groups that are mixed tend to be more effective and complete the task faster.
- We found that there is a positive moderate correlation between campus intramurals and social clubs. If people are involved in one activity you are likely to be involved in others.
- Observing the correlations between female and mixed groups expressed different findings in the group dynamic traits: enjoyability, cooperativity, familiarity, and effectiveness. We found that the mixed group only had one positive and strong correlation between enjoyability and effectiveness; while, the female group had three positive and moderate correlations between: enjoyability vs effectiveness, cooperativity vs enjoyability, and cooperativity and effectiveness.
- We found that the ideal group is a mixed group composed of three people.

Future Work

- We would ask more questions about overall campus involvement in order to learn how group involvement helps with group dynamics.
- We will need to have more groups of four in order to increase our sample of this group size and better evaluate the differences of this group compared to groups of two and three.

References

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Acknowledgements

- Dr. Jennifer Fayard
- Students of Ouachita
- IRB Members

