

Grit and Growth Mindset- Are They Related?

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Background

Dr. Angela Duckworth has completed extensive research about grit. Grit is one's passion and perseverance for long-term goals. Carol Dweck has completed extensive research about the positive effects of having a growth mindset.

This study is important because there is sufficient research about grit levels and how a person's mindset affects their outlook on life. However, there is no research comparing both topics and confirming the probability of someone being considered gritty and also having a growth mindset. The purpose of this study is to learn the probability of a child being gritty and having a growth mindset.

At an orphanage in India, HOINA, all of the children seem happy, perform well in school, and have high life goals. Why are these children performing so much better than children in the United States are? They cannot all have a growth mindset and these children have overcome obstacles we cannot fathom, so what is deterring the effects of a fixed mindset? If teachers in the United States can easily deter a fixed mindset, then there would be a tremendous increase in students graduating high school and attending college.

Methodology

Using a roster provided by the orphanage, each gender is divided and the children are narrowed down by who is at Hoina and between 13 and 18 years old (many are at University). Participants will work with the researcher approximately 3 to 4 hours altogether, which is divided into 4 phases. There are 13 girls chosen and all complete phase 1, however, 12 girls complete the entire study and 14 boys complete the entire study. Altogether, data is submitted for 12 girls and 14 boys with a total of 26 participants.

- **Phase 1:** Background Information, Past Life, Present Feelings, and Future
- **Phase 2:** Assessing Growth Mindset- using a Mindset Assessment Tool through Mindset Works
- **Phase 3:** Assessing Grit- using Angela Duckworth's 8Item Grit Scale
- **Phase 4:** Paper Challenge
 - **Group A:** Instruction First and Paper Challenge Second
 - ❖ First, this group learns about growth mindset. This is by teaching them how practice makes you better at something and it is okay if you do not succeed the first time. Then, they solve a difficult task, the Growth Mindset Paper Challenge. Participants observe the end result without touching it. They are handed a piece of paper and have 7 minutes to complete the task. After 7 minutes, participants are asked if they feel they have completed the task and are happy with their outcome. Lastly, the phase is closed by debriefing the participants, ensuring all information is confidential, and questions may be asked at any time.
 - **Group B:** Paper Challenge First and Instruction Second
 - ❖ First, participants solve a difficult task, the Growth Mindset Paper Challenge. Participants observe the end result without touching it. They are handed a piece of paper and have 7 minutes to complete the task. After 7 minutes, participants are asked if they feel they have completed the task and are happy with their outcome. Then, this group learns about growth mindset. This is by teaching them how practice makes you better at something and it is okay if you do not succeed the first time. Lastly, the phase is closed by debriefing the participants, ensuring all information is confidential, and questions may be asked at any time.

Hypothesis

Hypothesis: Having a stronger growth mindset, positively correlates to having a higher grit level.

Research Question #1: Can teachers increase student performance by teaching students about growth mindset characteristics?

Research Question #2: What percentage of children are considered to have grit and a growth mindset?

Grit and Mindset Correlation

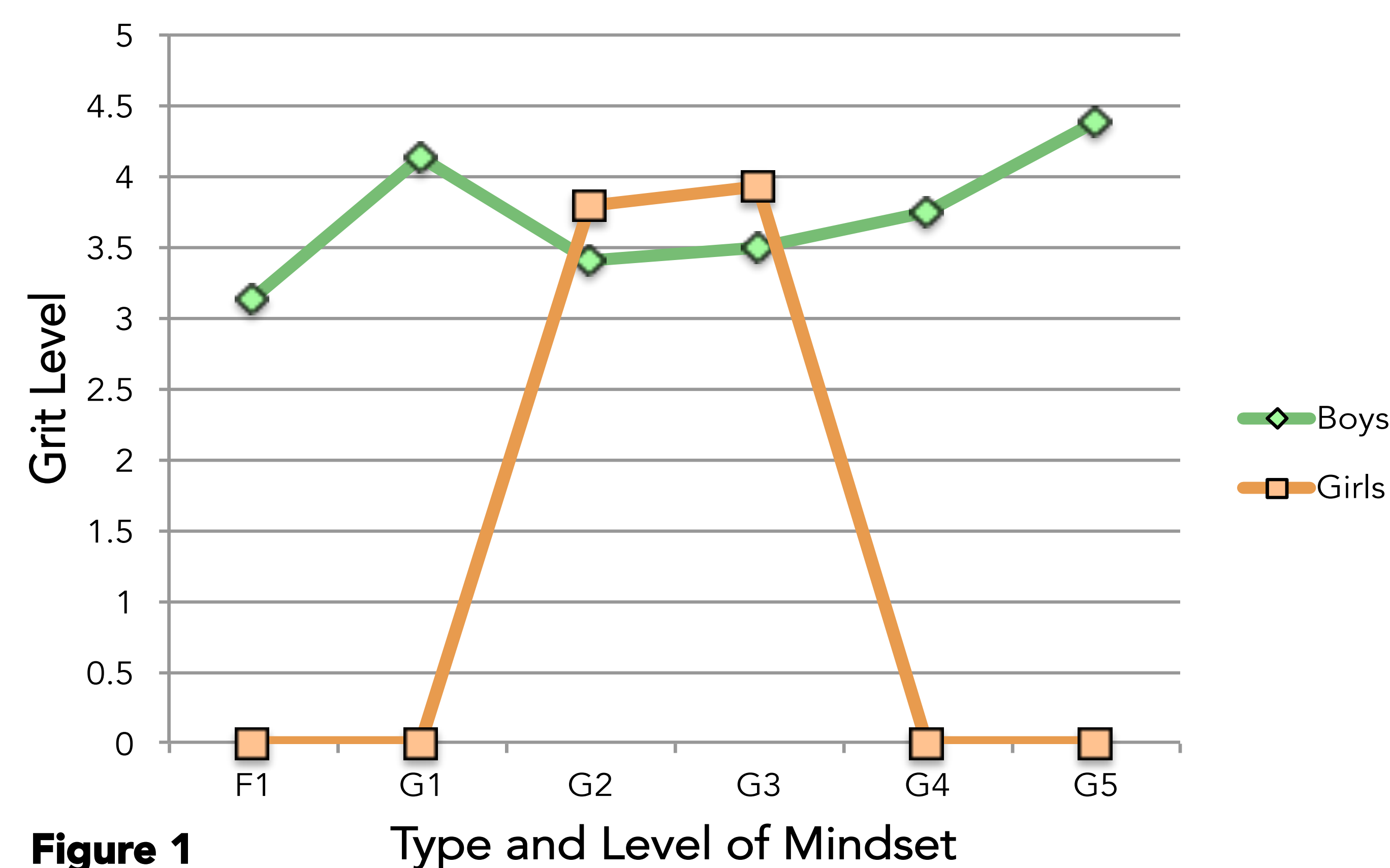


Figure 1 Type and Level of Mindset

Paper Challenge Post Feelings- Boys and Girls

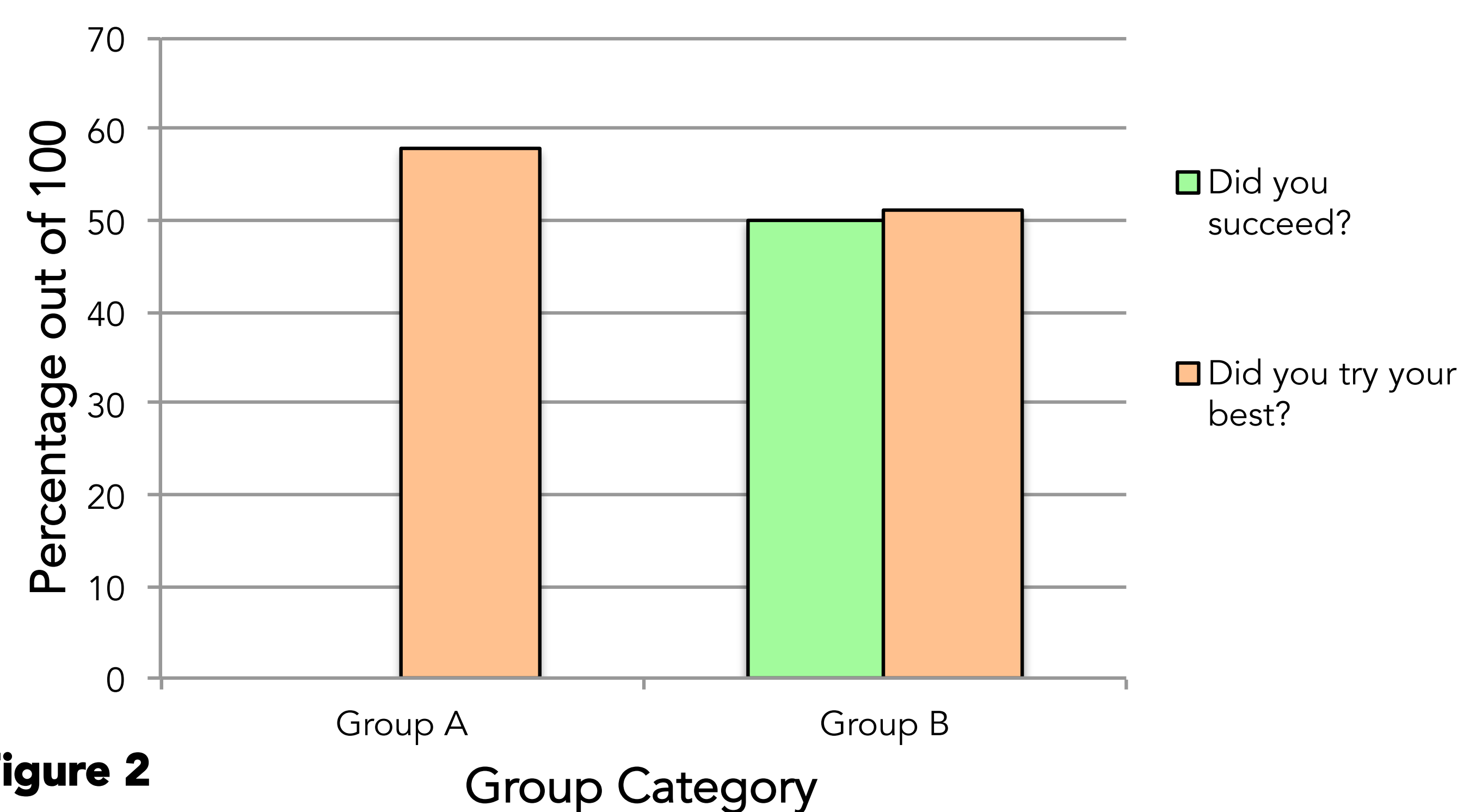


Figure 2 Group Category

Current Mindset and Desired Career's Level of Economic Development Boys and Girls

Mindset	Primary	Secondary	Tertiary	Quaternary
F1	0	0	0	1
G1	0	0	0	1
G2	0	0	7	6
G3	0	0	6	1
G4	0	0	2	0
G5	0	0	1	0

Figure 3

Acknowledgements

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Results

Figure 1: This graph shows the correlation of one's grit level and mindset by comparing boys and girls results.

- **Girls:** The girls show an inconsistent trend. Out of the 12 girls assessed, they only show a moderate growth mindset and there are no outliers on either end. The results do show an increasing trend line, but more results would be needed to confirm their correlation.
- **Boys:** The boys show a steady incline and an increasing trend line from the highest level of fixed mindset to the highest level of growth mindset. The participant who shows having a fixed mindset (F1) also has the lowest grit level. The participant scoring the strongest growth mindset (G5), also scored the highest grit level. The participants in between show a moderate increase, with the exception of the outlier in G1 (Growth Mindset 1). These results indicate a strong correlation between mindsets and grit levels. This suggests the stronger one's growth mindset, the higher their grit level.

Figure 2: This shows participant results of personal reflections on the paper challenge compared to groups A and B. Group A had zero participants (in both girls and boys) who felt they succeeded during this challenge. Group B showed 50% of participants felt they succeeded. As for their self efficacy and trying their best, nearly 60% of participants in group A believed they tried their best and slightly over 50% in Group B did as well. Overall, Group A did not believe they succeeded, but they did try their best. Group B had an even disbursement of success and trying their best. This shows learning about mindset first impacted their feelings of success but increased their likelihood of feeling satisfied with their work. Group B also learned about mindset last, and they believed they evenly succeeded and tried their best. These results suggest learning about growth mindset prior to completing a task does not impact their feelings of success, but it does impact their work ethic. Learning about mindset prior to a task, shows participant feelings of success and their work ethic were evenly distributed.

Figure 3: This graph shows the correlation between mindset and the desired career's level of economic development from participants of both genders. This table shows participants with a fixed mindset (F1) or low to moderate growth mindsets (G1 and G2) are more likely to strive for careers that fall in the Quaternary sector. This means the projected career requires more knowledge and skills to complete research and improve technology while participants with moderate to high growth mindsets (G3 to G5) show careers falling in the Tertiary sector. This suggests participants with fixed to low mindsets strive for higher level jobs, but may not have the passion or mindset to overcome obstacles faced. While participants with higher growth mindsets and higher grit levels, are striving for careers that are more achievable.

Future Directions

Continued research needs to be made about the correlation between grit and growth mindset, nationally and internationally. Other factors need to be considered when conducting this research to identify specific components to explain the discrepancy between the likelihood of children having growth mindsets and being gritty. Also, future research needs to be made about the effectiveness of students expressing positive thoughts about their work when learning about mindset before and after completing a difficult task, such as the paper challenge.

References

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