The Impact of Self-Control On Adolescents

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Abstract

Purpose: During adolescence, emotions are heightened, and impulsivities are more difficult to resist. This inability to self-regulate puts individuals at higher risk for preventable manners of childhood and adolescent mortality, including suicide, addiction, and subsequent substance abuse. The first step to understanding **how adolescent self-control can be improved** is by asking the critical question of: **how are adolescents impacted by their ability to self-regulate?**

Methods: 70 adolescents were recruited to perform two tasks:
1) Participants filled out a survey asking them to rate how much self-control they showed in different situations
2) Participants were then contacted for an in-person task where each individual was offered a small reward that they could receive immediately or a larger reward that they could receive by completing a difficult task, known as an intertemporal choice task

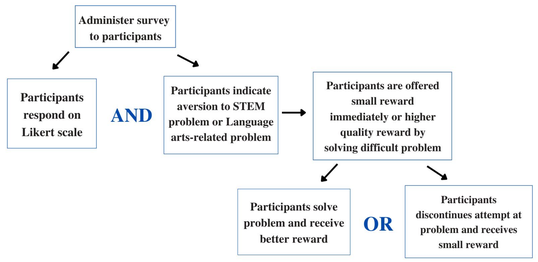
Results: An analysis of the decision participants made in the intertemporal choice task (i.e., choosing the immediate gratification versus choosing the delayed gratification) was compared to the responses of participants in the survey to determine whether an adolescent's ability to self-regulate could be predicted. Results demonstrated that **there was no significant correlation between self-report score and the participant's decision,** demonstrating that **the participants possessed an inaccurate perception of their self-control.**

Conclusion: Improving self-control among adolescents is the critical in the long fight to preventing substance abuse and suicide. Because this research demonstrates that adolescents may be unable to predict their own failure to self-regulate, a greater focus needs to be placed on **identifying adolescents determined to be at higher risk for addictive behaviors and ensuring said adolescents are involved in programs that aid in development of greater self-control.**

Methodology

1) **Target Population:** A convenience sample of **70 participants with ages ranging from 15-18 years** participated in the study

2) **Data Collection:** A Likert scale survey with 26 questions required participants rate how much they agreed with statements pertaining to their self-control (e.g., Rate how closely the statement applies to you: I trust myself to make good decisions)
   - An additional question asked participants which subject they found to be more difficult: math or english
   - Participants were offered a larger reward (high-quality chocolate) if they completed a test with difficult problems from their indicated subject (e.g., participants who indicated math to be harder was offered a higher-quality reward by completing a math test consisting of three difficult math problems in 5 minutes)
   - Participants could also immediately take the smaller reward (low-quality chocolate)



3) **Sharing of data:** An assortment of graphics, charts, quantitative/statistical data as well as descriptive statistics was included
4) **Data Analysis:** Each participant's self-reported self-control scores from the survey was analyzed with their decision in the intertemporal choice task through correlation tests using the Pearson correlation coefficient
   - Correlation tests were used to determine if participants who believed they could resist temptations performed accordingly and resisted the immediate gratification in the task
5) **Potential Errors & Biases:** Random errors may result from previous exposures to particular tests (ie. recognizing the problems presented in the difficult test) or or dishonesty in survey responses in order to appear more in-control

Results

		Finished - 1	Didn't finish - 2	Quit - 3	
		1	2	3	Grand Total
Math - 1	1	3	10	17	30
English - 2	2	6	15	19	40
	Grand Total	**9**	**25**	**36**	**70**

Figure 2. Number of participants in each task subject and number of participants who finished, did not finish, or quit during intertemporal choice task

The results of the intertemporal choice task produced three categories: participants who finished/completed the test, participants who did not complete within the five minutes, and participants who quit and received on the smaller chocolate. Fig. 2 displays that 9 participants finished the test, 25 did not finish, and 36 participants discontinued their attempt. Fig. 2 also displays that 40 participants received the difficult English test to complete within the time given while 30 participants received the difficult math test. This quantitative data was later used to determine correlations and trends between participants in each category. These results are important as it allows for a clear investigation of the traits or characteristics participants who finished/didn't finish/quit possessed. By breaking down the patterns between participants in each category, the factors that influence self-control most can be identified.

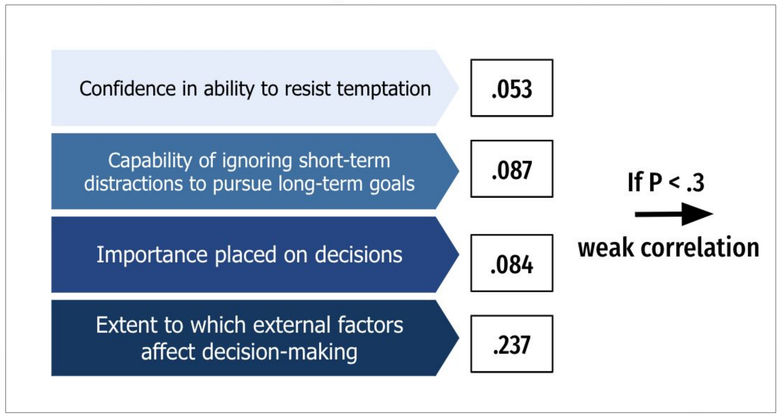


Figure 3. Mean of Pearson coefficients for each grouping of survey questions and participants' decisions

The survey aimed to evaluate participants' perception of their self-control. Survey questions were divided into five categories below to analyze the correlation between each category and the participants' decision. Correlation coefficients below 0.3 (P < 0.3) are considered negligible. As fig. 3 demonstrates, there is **no significant correlation between participants' self-report scores and whether they chose immediate or delayed gratification.** This is significant as it demonstrates that participants did not possess an accurate perception of the amount of self-control they had.

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Conclusions

Significance of Research Question and Results: The question of how adolescents are impacted by self-control is vital to determining the necessary and most efficient steps that can be taken to aid adolescents in improving self-control, a trait that has proven to be crucial for success in an individual's future. If participants were accurate in their belief of how much self-control they possessed, the next step would be for adolescents identified to have low self-control and thus at a higher risk for addictive behaviors to be monitored and involved in programs that prevented youth from destructive activities including suicide and substance abuse. However, as adolescents failed to self-assess self-control, the following steps are required:

1) **Development of an accurate predictor of self-control**: Since adolescents themselves are unable to predict their level of self-control, further research is needed to allow for early detection of individuals at risk for addictive behaviors
   - The prefrontal cortex (PFC) is heavily involved in decision-making and impulse control, yet much of the literature surrounding the relationship between self-regulation and the PFC centers around adults, rather than adolescents. Adolescent PFC research is needed to examine whether activity in the PFC can predict self-control in place of self-assessments.

2) **Awareness of temptations:** An increase in media has increased exposure adolescents receive to harmful activities and commodities such as drugs and alcohol use. As the results of this study demonstrate, adolescents may believe they are able to control their impulses and subsequently attempt detrimental substances. However, factors including a less mature prefrontal cortex may impair their ability to resist future temptations to addictive substances and initiate a destructive path. Awareness of subliminal temptations may prevent adolescents from future addiction.

3) **Long-term impacts of self-control:** Self-control in adolescents has served as an indicator for successful work and relationship outcomes over a longitudinal period. This particular study demonstrated that adolescents could not predict their self-control when presented with immediate and delayed gratification. However, data has not been reported on whether adolescents develop more accurate perceptions of their self-control as they age. Researching changes in self-control self-assessment as adolescents move into adulthood could be useful to determining when intervention programs for addictive behaviors are most useful.

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