The relationship between gender, study habits, plans after college and Generalized Expectancy for Success and Frequency of Self-Reinforcement

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Abstract

The Frequency of Self-Reinforcement Questionnaire (FSRQ) and the Generalized Expectancy for Success Scale (GESS) are shown to be linked to depression and overall life satisfaction. This study looked at the relationship between gender, amount of time spent studying per week, and plans after college as they relate to both the FSRQ and GESS. Data was collected in the form of five surveys from 391 undergraduate students at the University of Nebraska-Lincoln. A factorial analysis revealed significant three-way interactions between gender, study time, and plans after college for both the GESS and FSRQ.
The relationship between gender, study habits, plans after college and Generalized Expectancy for Success and Frequency of Self-Reinforcement

The purpose of the current study is to evaluate if gender, plans after college, and amount of time spent studying attribute to the likelihood of a person scoring higher on both the Generalized Expectancy for Success Scale and the Frequency of Self-Reinforcement Questionnaire.

Story et al (2009) found that high intrinsic motivation was positively related to frequency of self-reinforcement. Intrinsic motivation, in this study, meant that students were more likely to focus on mastering material that leads to more persistence and classroom involvement, while extrinsically motivated students worry about how their performance compares to others. Additionally, the study found if an individual has high intrinsic or extrinsic motivation, they will have a relatively high score on the Generalized Expectancy for Success Scale. This study found that intrinsically motivated students scored higher the FSRQ and GESS (Story, 2009).

Snyder et al (2002) states that scores on the Hope scale are positively correlated with scores for the GESS. Their study found that those students who had higher GPA (broken into three levels) had a positive correlation with scores on the Hope Scale. Those students who scored higher on the Hope Scale were also more likely to graduate than to be academically dismissed. This study did not find any significant gender differences.

Heiby (1983) completed two experiments in order to determine the reliability and validity of the most commonly used frequency of self-reinforcement questionnaire for two different tasks. One task included a 12-item analogies problem and the second was an anagram test comprised of seven different anagrams. Her results supported her research hypothesis and found
that, “responses to the FST questionnaire are reflective of a person’s self-praise behavior on an experimental task.”

Schill (1991) found that men who were more self-defeating used less self-reinforcement and were more depressed than their regular counterpoints. He used his own scale to test 51 male psychology students to assess the scores for both the Self-defeating Personality Scale and the Frequency of self-reinforcement scale (Schill, 1991). These results support previous works, such as Beck (1959), which found a significant relationship between self-defeating patterns with depression.

These five studies show the significance and validity of both the GESS and FSRQ. They also tell how both GESS and FSRQ can influence factors such as depression, life satisfaction, GPA, and intrinsic motivation. All of these factors could have implications with amount of time spent studying and plans after college. The current study sought to find any interactions between these variables and both the GESS and FSRQ, as well as converge upon the aforementioned research.

The first hypothesis was that gender, time spent studying, and plans after college would influence scores on the Generalized Expectancy for Success Scale. The second hypothesis stated that gender, time spent studying, and plans after college would influence scores on the Frequency of Self-Reinforcement Questionnaire. Next, it was hypothesized that those who spent more time studying and planned to go to graduate school would have the highest score on the FSRQ, with those planning to go to grad school having higher scores overall than those who planned to work after college. This hypothesis would expand upon the research done by Heiby (1983) and Schill (1991). We predicted those individuals with lower self-defeating scores would be more likely to go on to graduate school, and have higher scores on the FSRQ. The fourth hypothesis stated that
for each increased level of time spent studying, there would be an increase in the score on the Generalized Expectancy for Success Scale. This hypothesis seeks to expand on the research done by Story (2009), who found that students that were intrinsically motivated sought to master school-related tasks and scored higher on the GESS. Therefore, we would like to find out if those who spent more time seeking to master courses by studying more would score higher on the GESS.
Method

Participants

Survey data was collected from 391 undergraduate students at the University of Nebraska-Lincoln. Most of the population included friends and associates of students enrolled in an introductory stats course. The analysis only included the data from those who reported a European-American background (91.6% of population, 358). There was relatively equal distribution of gender, including 56.5% females and 43.5% males (221 and 170, respectively).

Materials

All of the participants completed a self-report questionnaire in a natural setting. This questionnaire included demographic information such as age, gender, ethnicity, plans after college, and average time spent studying per week. They also completed another set of five scales that included the Frequency of Self Reinforcement Questionnaire (FSRQ) and the Generalized Expectancy for Success Scale (GESS). Only the surveys listed were included in the analysis, though the participants completed all five.

Procedures

All of the investigators completed one survey themselves before surveying participants. Our investigators sought out other undergraduate students to complete 5 surveys for each researcher. Age was not a factor when seeking students. The researchers scored and collated surveys, entered the data into a database that consisted of multiple sections of data, formulated hypotheses, and completed the appropriate analysis, which included two between-groups 3-way ANOVAs. The amount of time spent studying was broken into three categories: 9 hours per week or less (low), 9.1-14 hours per week (medium), and more than 14 hours per week (high).
Results

Refer to Table 1 for univariate statistics and Chart 1 for the three-way interaction. The first hypothesis stated that gender, time spent studying, and plans after college would influence scores on the Generalized Expectancy for Success scale. There was an effect between GESS and gender, time spent studying, and plans after college, $F(2,342)=5.607$, MSe=525.061, $p=.004$), which fully supports the research hypothesis. However, this effect is misleading for males and females that plan to find work and study the least or medium amount (105.03=108.70; 107.14=102.97). It is descriptive for the most amount of time spent studying, with females scoring higher than males (90.03<105.30). For those that plan to go to graduate school, there was no difference between males and females who studied the least (103.5=105.83) and those who studied the most (105.4=106.67). There is a difference for those who study a medium amount such that females scored higher than males (91.60<112.09). There was also a main effect of gender, $F(1,342)=5.597$, MSe=525.061, $p=.019$. The two category main effect of gender is fully descriptive. That result is contrary to the results found in Snyder's (2002) study.

Although there was a main effect of gender, there was not a significant main effect of plans after college ($F(1,342)=.102$, MSe= 525.061, $p > .10$) or study time ($F(2,342)=.620$, MSe= 525.061, $p > .10$) as they relate to GESS. An analysis of the cell means shows the insignificant effect is descriptive for all categories of the two effects.

Refer to Chart 2 for the three-way interaction. The second hypothesis stated that gender, time spent studying, and plans after college would influence scores on the Frequency of Self-Reinforcement Questionnaire such that females who studied the most and planned to go onto further schooling would score the highest. There was an interaction between FSRQ and gender, time spent studying, and plans after college, $F(2,342)=3.109$, MSe=161.54, $p=.046$). This effect
is misleading for all of the folks who plan to find work, as there are no significant differences for each increased level of studying. It is also misleading for those who plan to go to graduate school and study the most (61.40=59.40) and the least (56.08=59.58). There was a significant difference such that females scored higher on the FSRQ than did males for the medium amount of study time (51.56<59.63).

The third hypothesis stated that those who spent more time studying and planned to go to graduate school would have the highest score on the FSRQ, with those planning to go to graduate school having higher scores overall. There was a relationship between plans after college and time spent studying, $F(2,342)=5.472$, MSe=161.54, $p=.005$. This interaction is misleading, as those planning to attend graduate school who studied the most did have higher FSRQ scores than those who studied a medium amount (55.59 < 60.40), but there was not a significant difference between those who studied the least and the most (57.83=60.4). Those who planned to find work had higher scores for the medium amount of time spent studying, and there was no significant difference between the least amount and the medium amount of study time (60.74=61.77). There was a difference between the least amount and greatest amount, but the folks in the greatest amount of time spent studying had a lower FSRQ score than did the folks in the least amount (60.74 > 56.18). The hypothesis that those who spent more time studying and planned to go to graduate school would have higher scores on the FSRQ is partially supported, while the second part stating that those planning to go to graduate school having higher scores overall is not supported.

However, there were no significant main effects between plans ($F(1,342)=1.187$, MSe=161.541, $p > .10$), study time ($F(2,342)=.143$, MSe=161.541, $p > .10$), or gender ($F(1,342)=2.100$, MSe=161.541, $p = .15$) and frequency of self-reinforcement. There was also
not an interaction between plans after college and gender ($F(1,342)=1.187, MSe=161.541, p \ > .10$) or study time and gender ($F(1,342)=1.187, MSe=161.541, p \ > .10$) on scores on the FSRQ. Further examination of the estimated marginal means revealed that these insignificant interactions were unfortunately descriptive for all levels in each interaction, in that there was not an interaction.

The fourth hypothesis stated that for each increased level of time spent studying, there would be an increase in the score on the Generalized Expectancy for Success Scale. This hypothesis is not supported, $F(1,342)=.105, MSe=525.06, p=.749$. However, the interaction between plans after college and study time was marginally significant as it relates to GESS ($F(2,342)=2.427, MSe=525.061, p=.09$)

**Discussion**

The results provided support for two of the research hypotheses. The first hypothesis that gender, study time, and plans after college would have an interaction with scores on the GESS was partially supported, as the results only supported those that planned to find work and studied the most, as well as those who planned to go to graduate school and studied a medium amount had significant differences between genders, with females studying more in both conditions.

The effect between gender, plans, study time as they relate to GESS is descriptive for most amount of time spent studying for those who plan to find work, as females scored higher than males. It is also descriptive for those who plan to go to graduate school and study a medium amount, such that females scored higher than males. Previous research did not find any main effects of gender, while the current did. These results are interesting in that they found a significant effect for gender on two different success scales. Further investigation into gender
would be beneficial, and consideration of other gender categories may also be beneficial to the field.

There was a marginally significant result between plans after college and study time as they relate to scores on the GESS. When gender was added to the comparison, a significant interaction was found. This result is interesting since previous research found no gender difference. Per these results, gender seems to be influencing scores on the GESS.

The interaction between FSRQ and gender, study time, and plans after college was misleading for all participants who plan to find work after college, as seen in the graph. The effect is only descriptive for those who plan to find graduate school and study a medium amount, as females scored higher than males. These effects were not what we had hypothesized. Since previous research had found a relationship between scores on the FSRQ and overall life satisfaction, further studies including a life satisfaction scale may be beneficial. The influence between life satisfaction and both the FSRQ and GESS would help solidify and enhance the current study.

Plans after college and study time did have a significant interaction, though it was misleading. Contrary to the hypothesis, those interested in graduate school studied the least and the most did not score differently on the FSRQ. Previous research found that those with less self-defeating tendencies had higher scores on the FSRQ. This did not influence the participant’s plans after college, however. In addition, Story et al (2009) found that those who sought to master school-related tasks scored higher on the FSRQ. Further research could expand on those findings to investigate if there is a difference in mastery on school vs. work mastery, and if either or both influence scores on the FSRQ.
In regard to increased study time leading to increased scores on the GESS, we found no interaction. This is interesting as other studies did find an interaction between higher GPA and GESS, and one would believe that studying more would influence GPA. Additional studies on GPA and FSRQ could also further the reach of these findings.

Overall, a further investigation into how study time, gender, and plans after college affect self-reinforcement and expectancy for success would be beneficial. Further studies could study interactions for other ethnicities, as this study only dealt with those who reported a European-American background, as well as gender. The increased demographic information, as well as more information on the effects of study time on GPA would further the results stated above.
Chart 1: Generalized Expectancy for Success Scale
Chart 2: Frequency of Self-Reinforcement Questionnaire

Scores on the FSRQ

- Females
- Males

Grad Short | Grad Medium | Grad Long | Work Short | Work Medium | Work Long

Chart 2:
Bibliography


