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Evaluate Me: The Effects of Anticipated Rapid Feedback and Beliefs about Ability on Performance

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EVALUATE ME: THE EFFECTS OF ANTICIPATED RAPID FEEDBACK AND
BELIEFS ABOUT ABILITY ON PERFORMANCE

Capstone Experience/ Thesis Project

Presented in Partial Fulfillment of the Requirements for

The Degree Bachelors of Arts with

Honors College Graduate Distinction at Western Kentucky University

By

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2015

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2015

ABSTRACT

Recent studies have found an enhancing effect of anticipating rapid versus delayed feedback on performance. The purpose of the current study is to further investigate if and how beliefs about intelligence moderate the effects of anticipated feedback proximity on test performance using a 2 (anticipated feedback proximity: rapid or delayed) x 2 (beliefs about ability: malleable or fixed) between-subjects laboratory experiment, in which verbal and numerical reasoning problems were used as experimental tasks. In addition to actual performance, the main dependent variables included self-report measures of task effort, enjoyment, and involvement. The results show that incremental beliefs about ability, relative to entity beliefs, improved performance on word-anagram problems. However, beliefs about ability did not affect performance on numerical reasoning or sentence completion problems. Participants anticipating rapid feedback relative to delayed feedback were less anxious about the tasks. Nevertheless, anticipated feedback proximity did not significantly affect actual task performance. Lastly, counter to the hypothesis, there was no observed interaction between beliefs about ability and anticipated feedback proximity on task performance.

Keywords: anticipated feedback proximity, expected feedback proximity, implicit beliefs about intelligence

Dedicated to my parents thanks for the support and passing on the love for learning.

Thanks for allowing me to be annoyingly inquisitive—it came in handy for science.

Last but not least, for science!

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FIELD OF STUDY

Major Field: Psychology

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CHAPTER 1

INTRODUCTION

Assessment and feedback play key roles in our lives. Whether it is professional performance, academic progress, or even in social interactions, we are constantly receiving feedback of some sort. In particular, assessment and feedback are highly regarded in learning and education (e.g., Schmidt & Bjork, 1992). Recent research has identified anticipated feedback proximity (i.e., when people anticipate or expect to receive feedback) as a factor that dramatically impacts test performance. Kettle and Häubl (2010), as well as Fajfar, Campitelli, and Labollita (2012) have discovered an enhancing effect of anticipating more proximate feedback on classroom oral presentation and verbal aptitude performance, respectively. Despite the theoretical and practical relevance of the topic, only three studies to date have investigated the impact of anticipated feedback proximity.

A recent field study using classroom exams identified beliefs about intelligence as an individual difference that moderates the effects of anticipating rapid (i.e., receiving feedback on the same without a delay or immediately) feedback (Zhao, Zhang, Vance, 2013). Zhao et al. found that the anticipation of rapid feedback (or anticipating to receive feedback immediately on the same day) significantly lowered exam performance for entity theorists. However, for incremental theorists anticipating rapid feedback had the tendency to improve exam performance.

The purpose of the present study is to contribute to the extremely limited literature by replicating Zhao et al. (2013) within a high-stakes laboratory setting. The present study focuses on further examining the effects of beliefs about ability and anticipated feedback proximity on test performance. The present study seeks to increase knowledge about the performance outcomes of anticipated feedback proximity by measuring the effects of beliefs about ability and anticipated feedback proximity not only on performance but also on pre-task anxiety as well as feelings of task involvement, effort, and enjoyment during the tasks.

CHAPTER 2

LITERATURE REVIEW

Anticipated Feedback Proximity

Recent studies have found that the anticipation of more proximate feedback (i.e., anticipating feedback sooner rather than later or expecting more immediate feedback) significantly enhances performance on classroom oral presentations (Kettle & Häubl, 2010) as well as a test of verbal aptitude (Fajfar, Camptielli, Labolitia, 2012). In Kettle and Häubl, feedback proximity or feedback delay was manipulated as a continuous variable ranging from 0 days to 17 days. In their study, participants were instructed that they would receive their grades in day increments ranging from 0 days to 17 days after their presentations. Participants in their study were also prompted to make performance predictions on their peer-graded oral presentations 15 days, 8 days, or 1 day before their presentation date. Kettle and Häubl found that the anticipation of more proximate feedback enhances presentation performance. Their results demonstrate that participants anticipating their grades in a proximate manner either on their presentation date (0 days) or in the follow days scored higher than their peers who expected to receive their grades on later dates. They attributed the enhancement in scores to an increased desire to avoid more eminent threat failure. Anticipating more proximate feedback probably resulted in a temporally closer threat of failure and disappointment, which resulted in greater motivation to perform well on the task (van Dijk, Zeelenberg & van der Pligt, 2003).

In addition, Kettle and Häubl found that participants' predictions were more optimistic when they anticipated receiving with a greater delay. Thus, their findings show that the expectation of more proximate feedback caused people to have lower predictions of performance but achieve higher actual performance (Kettle & Häubl, 2010).

Similar to Kettle and Häubl (2010), Fajfar et al. (2012) also found the anticipation of rapid feedback relative to delayed feedback significantly enhances verbal aptitude performance. In the replication by Fajfar et al., participants first completed the BARES verbal aptitude test. The BARES verbal aptitude test consists of 34 multiple choice items that present a noun and are followed by a single correct and 3 incorrect response choices. The first 17 items require test takers to select the most suitable definition that corresponds with the presented noun. The remaining questions require that test takers select the most suitable synonym for the presented noun. Afterwards participants made estimations of their performance. Fajfar et al. found that anticipating (or expecting) feedback immediately after rather than in a week led to higher verbal aptitude test performance relative to anticipating delayed feedback a week later (Fajfar et al, 2012).

In terms of performance estimation, participants anticipating rapid feedback tended to have more pessimistic estimations of their upcoming verbal aptitude performance. However, the predictions made by those anticipating delayed feedback were relatively more accurate (Fajfar et al, 2012).

Beliefs about Ability

The evidence of an enhancing effect of anticipating rapid versus delay feedback has profound implications for educators and other areas that implement evaluations. Although there is evidence of an overall effect of anticipated feedback proximity on

performance, are there possible individual differences that moderate the outcome effects of anticipated feedback proximity? One possible individual difference that potentially moderates the performance outcomes of anticipating rapid versus delayed feedback is one's beliefs about intelligence. Those with varying implicit beliefs about intelligence are known to vary in their perceptions of challenges, goals, and perceptions of feedback. Extensive research has been conducted on individual's beliefs about intelligence. According to Dweck, pioneer researcher on implicit theories of intelligence, individuals' implicit assumptions about whether abilities such as intelligence are fixed or malleable vary across a continuum (Dweck, 1999; Molden & Dweck, 2006). Incremental theorists subscribe to the belief that intelligence is malleable and dynamic in the sense that it can be cultivated and developed incrementally via effort. However, entity theorists subscribe to the belief that intelligence is an innate, fixed trait (Dweck, Chiu, & Hong; 1995; Dweck & Leggett, 1998; Hong, Chiu, Dweck, Lin, & Wan, 1999; Dweck, 2006).

In academic settings, there is a large body of evidence demonstrating that incremental and entity mindsets can significantly influence an individual's interpretations and perceptions of challenges (Dweck & Leggett, 1998; Molden & Dweck, 2006). For example, when incremental beliefs were implemented as a classroom intervention relative to a control group, students receiving the intervention significantly increased their incremental scores. In addition to strengthened incremental beliefs, these students also demonstrated significant increases in their levels of effort and in their grades (Blackwell, Trzesniewski, & Dweck, 2007).

Differing mindsets have also been shown to impact students' beliefs about effort and academic achievement. Moreover, the two mindsets differ in their interpretations of

negative feedback and their motivations. Incremental theorists tend to view feedback as a helpful tool to improve their ability (Dweck & Molden, 2006). Incremental theorists tend to have more learning goals and focus on developing their abilities through their efforts. In addition, they are motivated to do well on tasks in order to enrich their skills and abilities. When faced with challenging tasks and negative feedback, incremental theorists are tenacious and increase their efforts (Dweck & Leggett, 1998; Hong et al., 1999). However, entity theorists perceive negative feedback as a reflection of their permanent limitations (Dweck & Leggett 1988). Entity theorists tend to withdraw after receiving negative feedback and when they feel insecure about their ability (Dweck & Leggett, 1998; Hong et al., 1999, Molden & Dweck, 2006).

Given that incremental and entity theorists perceive feedback differently and have differing goals, these two different groups may respond differently to the anticipation of rapid and delayed feedback. In support of this hypothesis, Zhao et al. (2013) recently found that beliefs about intelligence moderate the effects of anticipating immediate feedback. In a 2 (manipulated beliefs about intelligence: incremental vs entity) x 2 (feedback delay: 0-day delay or 3-day delay) field experiment with thirty-six participants using classroom exams, they found that for entity theorists anticipating same-day feedback significantly impaired classroom exam performance relative to anticipating delayed feedback. However, they also found a non-significant enhancing trend of anticipating same-day feedback for incremental theorists. Zhao et al. attributed the debilitating effect of anticipating rapid feedback on entity theorists as being too stimulating. In the sense that, for entity theorists anticipating rapid feedback led them to be distressed about the task. However, for incremental theorists anticipating rapid

feedback might have been beneficial because it acted as a motivator. Given the small sample size of the study, it is important and necessary to conduct a replication study in order to understand the effects of anticipating rapid feedback and beliefs about intelligence.

The purpose of the present study is to replicate Zhao et al.'s findings within a controlled laboratory setting using verbal and numerical reasoning tasks. A lab experiment rather than a field experiment was conducted in order to avoid any potential negative effects of expecting rapid feedback on entity theorists' performance. In congruence with previous literature, results of the present study are expected to show that the effects of anticipated feedback proximity are highly influenced by individual differences. Specifically, beliefs about ability are expected moderate the performance outcomes of anticipating rapid versus delayed feedback on task performance. For individuals with incremental beliefs, anticipating rapid feedback would enhance performance in comparison to anticipating delayed feedback. In contrast to incremental theories, the anticipation of rapid feedback for entity theorists should impair performance. In addition to reasoning task performance, participants' pre-task anxiety as well as their involvement, enjoyment, and effort while completing the tasks were measured as dependent variables. Anticipated feedback proximity, given previous explanations of an enhancing effect of anticipating rapid feedback, should affect pre-task anxiety. Beliefs about intelligence manipulation should also affect participants' involvement, enjoyment, and effort during the tasks.

CHAPTER 3

METHODS

Participants & Design

One hundred seventeen Western Kentucky University undergraduate students enrolled in psychology courses were recruited via an online research participation scheduling system for course credits. The majority of participants were female (91 vs. 26 males). Participants' ages ranged from 18 to 33 years old ($M = 19.4$, $SD = 1.80$). All participants were native English speakers. All participants also received course credits for their participation and a \$10 gift card upon completing of all study tasks.

Participants were each randomly assigned to one of four experimental conditions resulting from a 2 (beliefs about ability: malleable or fixed) x 2 (anticipated feedback proximity: rapid/ immediately upon completion without a delay or delayed in 1 week) between-subjects factorial design.

Procedure and Materials

The study took place in a large computer lab. To emulate a testing environment, participants in the same row were seated with one seat in between them. Participants were told that the purpose of the study was to test a new aptitude test similar to the ACT/SAT. All instructions, tasks, and feedback manipulations were presented on the computer via Qualtrics. Participants were a randomly assigned to a condition using a pre-made condition sheet. A high-stakes testing environment was stimulated via the demands

of the lab tasks as well as the opportunity of earning \$10 gift card for “diligent completion. “ Diligent completion” was defined as completing all study related tasks rather than leaving and still receiving course credits. Prior to working on the tasks, participants were instructed in Qualtrics that they will receive feedback on their task performance immediately after they complete the tasks (the rapid feedback condition), or in a week (the delayed feedback condition). Beliefs about ability were manipulated using the two versions of “The Origins of Intelligence: Is the Nature-Nurture controversy resolved?,” which are fictitious articles about intelligence (Miele & Molden, 2010). Similar to Zhao et al. (2013), participants read a printed article stating intelligence is malleable (incremental version) or is fixed (entity version) depending on their study condition. Immediately after reading the article, participants completed the following short answer questions designed by Miele and Molden (2010): (1) “Briefly summarizes the main point of the article”; (2) “Describe the evidence from the article that you find most convincing” (3) “Describe an example from your own experience that fits with the main point of the articles.” These questions were included as a part of the manipulation in order to strengthen the belief presented in the article.

Afterwards, participants completed the “Ideas about Intelligence” questionnaire (Dweck, 1999), which assesses one’s current beliefs about intelligence as either incremental or entity. The Ideas about Intelligence” questionnaire is a valid and reliable measure of beliefs about intelligence with an internal consistency reliability ranging from $\alpha=.94$ to $\alpha=.98$ (Dweck et al., 1995; Dweck, 1999). Participants indicated their agreement on a total of eight statements on a scale from 1 (disagree very much) to 6 (agree very much). For example, the incremental statements included, “Not matter who you are, you

can significantly change your intelligence level” (Dweck, 1999). Four of the eight statements reflected entity beliefs (e.g., “You have a certain amount of intelligence and you really can NOT do much to change it”) and were reverse coded. Higher scores on the scale reflect stronger incremental beliefs that intelligence is malleable.

Next, participants completed the Task Anxiety Inventory (TAI) assessing their anxiety about the upcoming tasks (Spielberger, 1980). On the TAI, participants rated their agreement on statements, such as “I am presently worrying over possible failure on the tasks,” on a scale of 1 (not at all) to 4 (very much so). Then participants were prompted to make performance predictions on each of the tasks individually as well as their overall performance. For each prediction, participants were reminded about when they would receive feedback to strength their feedback expectations.

Afterwards, participants were presented with each of the three tasks in a random order. The presentation of the questions in each task was also randomized. Prior to completing each task, participants read instructions about the assignment. In addition, participants were given a reminder of when they would receive feedback. All study tasks targeted either verbal or numerical reasoning. In addition, they were selected to be moderately challenging for college freshman with the main requirements being effort and basic reasoning skills. The three tasks consisted of 10 word-anagrams, 10 numerical reasoning problems, and 15 sentence completion questions. The instructions for each task section included an example problem and its accompanying answer (See Appendix A for details about the tasks).

After completing all three tasks, participants completed the Task Involvement, Effort, and Enjoyment questionnaires (Elliot & Harackiewicz, 1996), which consisted of

12 statements on which participants indicated their agreement on a scale of 1 (disagree very much) to 6 (agree very much). The task involvement included six statements (e.g., “While working on the reasoning tasks, I was totally absorbed in the tasks”). The effort questionnaire consisted of four statements (e.g., “I tried very hard to complete the reasoning tasks”). The enjoyment questionnaire consisted of two statements, which included “The reasoning tasks were fun.”

Afterwards, participants completed demographic questions, which prompted them to provide their age, gender, academic major, ethnicity, and ACT/ SAT score. Finally, participants were debriefed about the true purposes of the study first on the computer. Afterwards, the researcher verbally debriefed participants. During the debriefing, participants were informed that their scores would not be available for release until after data collection is complete. Finally, all participants received a \$10 gift card immediately after the study.

CHAPTER 4

RESULTS

Manipulation Checks

The Belief manipulation was effective. An independent t-test was performed and showed that exposure to the incremental article (versus entity article) manipulation caused significantly higher incremental scores, $t(114) = 5.272, p < .05$. $M_{Incremental} = 37.83$, $SD = 5.740$; $M_{Entity} = 30.60$, $SD = 8.716$.

Task performance

Afterwards, the performance percentages on the three tasks (anagram, sentence completion, and numerical reasoning) were submitted to a 2 (manipulated belief: incremental or entity) x 2 (anticipated feedback proximity: immediate or delayed) repeated measures of analysis of variances (ANCOVA) with the covariant of ACT. Twelve participants did not provide their ACT scores and one participant was identified as an outlier based on cook's distance, resulting in a final sample of 103 for subsequent data analysis.

The results showed a significant task type and belief interaction on performance (see Figure 1) $F(1,103)=3.733, p=.056$. Simple effects tests were next conducted to analyze the task type and belief interaction on performance. The results showed a significant effect of belief on anagram performance only, $F(1, 103) p=.056, \eta_p^2=.036$.

Participants primed with incremental beliefs performed significantly better, ($M_{\text{incremental x anagram}} = 70.40\%$, $SD = 25.06$) than those primed with entity beliefs, ($M_{\text{entity x anagram}} = 63.40\%$, $SD = 29.47$) on the word-anagram task. A similar non-significant pattern occurred on the numerical reasoning task but not on the sentence completion questions. On the sentence completion problems, participants primed with entity ($M_{\text{entity x sentence completion}} = 67.80\%$) on average scored slightly higher than those primed with incremental beliefs ($M_{\text{incremental x sentence completion}} = 63.33\%$). Nevertheless, the effect of belief did not reach significance on neither the sentence completion, $p = .320$ nor numerical reasoning, $p = .112$. There were no other significant effects.

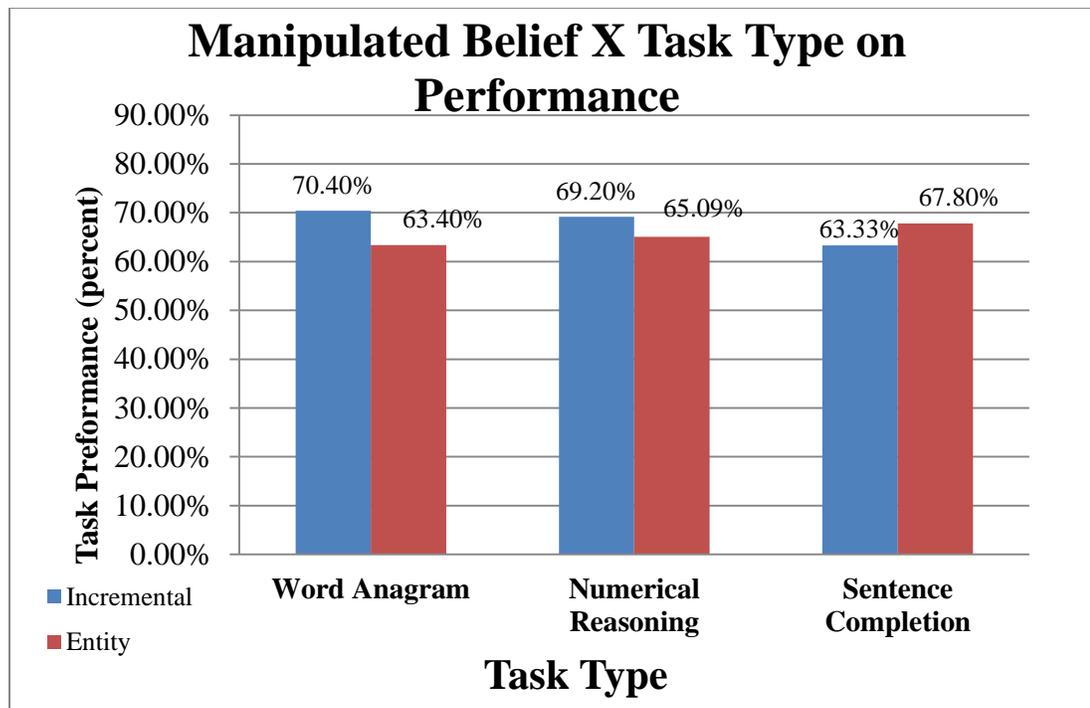


Figure 2. *Manipulated Belief x Task Type on Task Performance*. This figure illustrates the interaction effects of manipulated belief and task type on task performance.

Task Anxiety, Involvement, Effort, and Enjoyment

Multivariate analysis of variance showed that anticipated feedback proximity had a significant effect on anxiety levels. Participants expecting rapid feedback ($M= 33.64$, $SD= 9.37$), reported being significantly less anxious compared to those expecting delayed feedback ($M=37.64$, $SD = 9.10$), $F(1, 53)= 4.026$, $p <.05$. Expecting rapid (versus delayed feedback) had no other effects on other measures, $p >.05$.

Manipulated belief (incremental vs. entity) significantly affected task involvement. Participants primed with the incremental beliefs ($M = 28.30$, $SD= 4.78$), relative to those primed with the entity beliefs ($M=26.02$, $SD=4.82$), reported being significantly more involved in the tasks. Although manipulated belief significantly affected involvement, it had no effect on other measures, $p >.05$.

CHAPTER 5

DISCUSSION

Contrary to hypothesized results, beliefs about intelligences were not found to moderate the performance outcome of anticipated feedback proximity. Findings of the present study did not show an enhance effect of rapid feedback on performance nor did they show the moderating effects found by Zhao et al. However, those anticipating rapid feedback reported feeling significantly less anxious compared to those anticipating delayed feedback. These findings suggest that anticipating to receive feedback sooner can potentially in some instance alleviate some suspense.

In addition, the analysis found that the incremental manipulation had a significant enhancing effect on word-anagram performance and task involvement. Higher incremental theorist performance on word anagrams is consistent with previous findings on the positive effects associated with incremental beliefs. Success on word-anagram task is dependent primarily on effort and persistence in the desire to generate another word from the stem word via trial and error. As exemplified by previous literature on implicit beliefs on intelligence, exposure to incremental beliefs likely caused participants to be more persistent and invest a greater amount of effort towards solving the problems in the experimental tasks presented as an aptitude test. Moreover, participants primed with incremental beliefs would have been operating with the incremental mindset that effort

and environment have the greatest impact on one's intelligence. Nevertheless, incremental beliefs were not found to have a significant enhancing effect on the numerical reasoning or the verbal aptitude tasks. Performance scores indicate that both tasks were moderately difficult. In addition to improving word anagram performance, the incremental manipulation significantly increased participants' level of involvement in the task. This finding indicates that participants primed with incremental beliefs were relatively more engaged in the task. Increased incremental task involvement is consistent with previous finding that incremental beliefs result in higher task engagement.

The main difference between the present experimental setup and Zhao et al (2013) is the consequential nature of the tasks. Although the laboratory setup mimicked standardized testing scenario, a major limitation is that the assessment demand for pass/fail course credit may have made performance on the lab tasks more informational rather than influencing as other forms of evaluative feedback such as course grades or aptitude scores. In addition, the present lab reasoning tasks were framed as part of a developing aptitude test in contrast to already established aptitude tests like the BAIRE verbal aptitude test. It is possible that a lack of task consequence and meaningful feedback resulted in the absence of the hypothesized interaction effect. Participants were probably less interested in their performance of the present lab tasks. Participants' lack of interest in their task performance in turn made them unconcerned with when they anticipated receiving feedback. Thus, inconsistencies of present results with previous findings are likely the result of less consequential tasks. Despite the experimental design and stimulated environment, participants were probably not as invested in the reasoning tasks, as they would be in a classroom exam or oral presentation. Similarly, students tend

to invest more time and effort on large assignments and exams, which greatly affect their final grades than on smaller assignments.

Given this, future studies on the moderating role of beliefs about intelligence on the effects of feedback proximity should be conducted using more authentic, high-stakes tasks. For example, it may be necessary to conduct this type of study within a classroom setting. Considering the ethical concerns that the entity belief manipulation is potentially detrimental on participant performance, future field studies on this topic should use a control-group reading a neutral article on intelligence in place of an article supporting entity beliefs to minimize risks. Alternatively, laboratory tasks could still be used, but additional procedures should be implemented to motivate participants to be more invested in their scores. For example, future studies might inform participants that the type of reward they receive is contingent upon their performance with a range of gifts cards that increase in value for higher scores.

Contrary to previous research on implicit theories of intelligence, participants in the present study primed with entity beliefs on average scored higher on the sentence completion task than their incremental counterparts but not on the word anagram or numerical reason tasks. This difference is likely due to differing question format types. In contrast to the sentence completion task, both the word-anagram task and numerical reasoning tasks both require generation. In addition, the multiple-choice format utilized in the sentence completion problems may have been perceived as be less challenging and less interesting towards those primed with incremental beliefs. Conversely, the multiple-choice format may have reduced task-related anxiety for those primed with entity beliefs and improved their performance. In addition to task consequence, average performance

difference between those primed with incremental and entity beliefs on the numerical reasoning task may not have reached significant due to the population used and participant response. Many participants either left many of the numerical reasoning problems blank or responded with “I don’t know.” It is possible that many participants were simply uninterested in mathematics in general. In fact, the majority of the participants were majoring in psychology or other areas without a strong emphasis or constant utilization of mathematics.

Future replications might also want to select one question format and one task. Alternatively, replications could include measures of task anxiety after each task. Unlike previous studies, future studies should also include a manipulation check for anticipated feedback proximity to confirm that participants are able to recall and supply when they anticipate receiving feedback. This will ensure that participants are aware of when they should be receiving feedback rather than just prompting them to think about their performance in terms of when they anticipate receiving feedback. Future studies should be conducted to investigate the consequentialness of the task in effects of anticipated feedback proximity. It is possible that the anticipated timing of feedback only matters when the task is consequential. Nevertheless, the results of this study reflect that task consequence is a noteworthy factor particularly in laboratory settings.

To conclude, the present study found that beliefs about intelligence as an individual difference do not moderate the performance outcomes of anticipated feedback proximity. Incremental beliefs did increase performance on the word anagram task and enhance participants’ task involvement. The finding is, in general, consistent with previous literature on the beneficial effects of incremental beliefs on task performance. In

addition, these findings indicate consequences of the task as an important factor to consider for future investigations. Overall, this study further reflects the great demand for more studies to contribute to the scarce literature on the individual differences in response to immediate feedback.

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Appendix A

Word-anagram task

In the word-anagram task, participants are with presented participants with a stem word such as *melon* and are asked to supply another word using all letters in the stem word, e.g., *lemon*. Each stem word contained between four and six letters. All the set words and solutions were commonly used words and within the bounds of a high school level vocabulary. Nine out of ten of the words only had one solution. One stem word *listen* had two solutions a commonly used noun *silent* and *tinsel* – an uncommonly used noun. The word-anagram task was selected as a task because it does not require additional skills or ability. The answers can be found with effort and persistence by trying different letter combinations. The numerical reasoning problems required participants to supply the missing number that follows the pattern in order to complete the series. The numerical reasoning task prompts participants with a series of numbers with an underlining pattern and participants are to supply the missing number.

DIRECTIONS: Please rearrange the letters in each one of the words presented below to create **another** word or anagram. (An anagram is a word, phrase, or name formed by rearranging the letters of one word to form another word.) Please write your answer on the corresponding blank. There are 10 problems in total. **Your score will be available immediately after the study.**

Example problem: Evil : _____
Answer- Evil: veil

1) Mile: _____

Sentence Completion Task

Similar to Fajfar, Camptielli, Labolitia (2012) a measure of verbal aptitude was selected to be commensurate with basic college level abilities and skills. Eight out of ten the sentence completion problems are taken from College Board's *Getting ready for the SAT* (2013) and 5 questions were taken from The Princeton's Review *Word Smart* (2013).

Instructions: Each of the following problems below consists of a sentence with one or two blanks. Each blank indicates that something has been omitted. Beneath the sentence are four words or sets of words labeled A through D. First, read the sentence. Then, circle/ choose the word or set of words that, when inserted in the sentence, **best fits** the meaning of the **sentence as a whole**.

Sample problem sentence:

The baby kittens were so _____ that the nursery school children were able to pick them up, carry them around by the scruffs of their necks, and dress them up in doll clothes.

- A. Abashed
- B. Docile
- C. Agrarian
- D. Nefarious

Correct answer is b

1) **Because King Philip's desire to make Spain the dominant power in sixteenth-century Europe ran counter to Queen Elizabeth's insistence on autonomy for England, _____ was _____.**

- A. reconciliation . . assured
- B. ruination . . impossible
- C. diplomacy . . simple
- D. Conflict...inevitable

Numerical Reasoning Task

Instructions: Please supply the missing number (?) from the series on the place to complete the pattern. Each series of numbers is based on an underlying rule or pattern of some sort.

Sample Problem: 1, 4, 9, 16, 25, ? _____

Answer: 36 (the pattern is +3, +5, +7, +9, + **11** → the addition of the number odd number)

1) 9, 24, 11, 29, 13, ? _____