Supplemental Material A – Comprehensive Report of Method and Results

**Method**

All materials for the current study can be found at the following link: https://southalabama.az1.qualtrics.com/jfe/preview/SV\_4PjQRScTzld5Vat?Q\_SurveyVersionID=current&Q\_CHL=preview

***Participants***

Participants (N = 335, *Mage* = 34.29, *SDage* = 10.29, 41% female, 80% American) were recruited from MTurk and provided a small amount of monetary compensation. MTurk is a website that connects individuals willing to perform tasks on a computer, such as taking a survey, with those needing the tasks completed. Several prior studies have shown that results obtained from MTurk samples are reliable and valid, even when studying special populations (Buhrmester et al., 2011; Paolacci & Chandler, 2014; Shapiro et al., 2013). All participants that did not follow all aspects of the study procedures (described below; 18 participants) and/or failed any attention checks (i.e., “Please mark agree to show that you are paying attention”; 31 participants) were removed. Therefore, our original sample size of 384 participants was reduced to 335 participants. An a priori power analysis indicated that this sample size was adequate to gauge all effects of interest, which were assumed to be small-to-moderate in strength.

***Procedure***

All procedures were declared exempt by the institutional review board (IRB) of the primary author’s university. This study had four primary sections that were completed in a single sitting. First, participants gained access to the survey via a link provided on MTurk, allowing them to complete all study procedures in the location of their choosing. Then, they provided their informed consent and completed a pre-questionnaire.

Second, participants completed the first prediction task, which was closely adapted from Bem (2011) and many prior studies (Barušs & Rabier, 2014; Galak et al., 2012; Ritchie et al., 2012; Subbotsky, 2013; Traxler et al., 2012; Vernon, 2015). Participants were first told,

“This section tests your ability to correctly predict the future. Twenty words appear below, and five of these words will be presented on the next page. Your task is to select the five words that will appear on the next page. Also, it is absolutely critical that you focus only on this task and do not perform any other tasks (e.g. check email).”

Then, 20 words were presented to the participant, and they could not continue until they selected five of these words. On the following page, five randomly selected words were shown, and participants were asked to type the five words that were presented. Participants that did not type all five provided words were removed from data analyses.

Third, participants completed the second prediction task, which was also closely adapted from many prior studies (Ertel, 2005a, 2005b, 2010; Honorton & Ferrari, 1989; Storm et al., 2013a, 2013b; Storm et al., 2012). Participants were first told,

“This section also tests your ability to correctly predict the future.  In this section of the survey, you will now be asked to answer twelve similar questions.  The questions will ask you to select one of four photos that will appear on the page following the question.  Your task is to correctly select the photo that will appear on the page following the question. Again, it is absolutely critical that you focus only on this task and do not perform any other tasks (e.g. check email).

The task then included 12 trials, in which four pictures were presented at a time. Participants were asked to select which of the four pictures would appear on the following page, then a single picture would be randomly presented on the following page. Participants that did not complete all 12 trials were removed from data analyses.

Fourth, participants completed a post-questionnaire, were thanked for their time, and were disclosed the purpose of the study.

***Stimuli***

The same set of words and pictures were used for all three studies. The 20 words were taken from the database of Warriner et al. (2013), in which participants were asked to rate the valence, arousal, and dominance of 13,915 words. The 20 selected words each had the same valence rating, which was the median of the entire database, and similar arousal and dominance ratings. That was intended to prevent participants from selecting words (or not selecting words) that had any natural appeal (or repulsion) beyond other words. The 48 pictures were taken from the database of Dan-Glauser & Scherer (2011), in which participants were asked to rate the valence, arousal, and the congruence of the represented scene with internal (moral) and external (legal) norms of 730 pictures. The 48 selected pictures were those surrounding the median valence of the database, and they had similar arousal and congruence ratings. Again, this was intended to prevent participants from selecting pictures (or not selecting pictures) that had any natural appeal (or repulsion) beyond other pictures.

It should also be noted that the “correct” words and pictures for each participant were randomly selected using the survey software’s randomizer, resulting in a different set of correct words and pictures for each participant. While it is believed that no participant was able to view the task before participating, randomizing the correct choices helps ensure that prior knowledge (as opposed to future knowledge) would not aid performance on the task. Also, the survey software randomly selected the correct choices after the items or pictures were shown.

***Measures***

***Pre-Questionnaire***

**Illegitimacy of Predicting the Future.** A self-created, three-item scale measured participants’ perceived illegitimacy of predicting the future. The three items are, “It is impossible to predict the future,” “Fortune telling and other methods to predict the future are entirely fake,” and “It is impossible to entirely know what will happen in the future.” Its Cronbach’s alpha was .70.

**Self-Assessed Ability to Predict the Future.** A self-created, three-item scale measured participants’ perceived abilities to predict the future. The three items are, “I believe that I am able to predict the future to a certain extent,” “I can sense some things before they happen,” and “I can sometimes feel when an event is going to occur.” Its Cronbach’s alpha was .88.

***Prediction Tasks***

**Prediction Task 1 Performance (Task 1).** Performance on Task 1 was recorded as the number of words that the participant correctly predicted appearing on the next page.

**Prediction Task 2 Performance (Task 2).** Performance on Task 2 was recorded as the number of pictures that the participant correctly predicted appearing on the next page.

***Post-Questionnaire.***

**Self-Assessed Success.** A self-created, three-item scale measured participants’ perception of success on the two tasks. The three items are “On these two tasks, I think I was able to predict the future better than random chance,” “I believe that I did well on these two tasks,” and “I did much better than random chance on these two tasks.” Its Cronbach’s alpha was .88

**General Self-Efficacy.** Chen, Gully, and Eden’s (2001) general self-efficacy scale was applied, which has been repeatedly supported as a satisfactory measure. An example item is, “I am confident that I can perform effectively on many different tasks.” Its Cronbach’s alpha was .96

**Results**

Correlations and Cronbach’s alphas are presented below. The relationship of Task 1 with Self-Assessed Success was extremely small and the confidence interval contained zero (r = -.03, 95% CI [-.14, .08]), whereas the relationship of Task 2 with Self-Assessed Success was moderate and the confidence interval did not contain zero (r = .33, 95% CI [.23, .42]). This finding suggests that participants’ perception of their own success was almost entirely based on their performance on Task 2. For this reason, only Task 2 is used in the primary analyses below.

The correlation of Task 2 and general self-efficacy was .12 (95% CI [.01, .23]), suggesting that performance on the task influenced participant’s general self-efficacy. Next, a series of regressions were performed to determine whether this relationship was influenced by beliefs in the illegitimacy of predicting the future as well as self-assessed ability to predict the future (Table 1). When including all three predictors, Task 2 remained a significant predictor (β = .12, t = 2.21, 95% CI [.01, .17]) of general self-efficacy, whereas beliefs in the illegitimacy of predicting the future (β = .12, t = 2.21, 95% CI [.01, .17]) and self-assessed ability to predict the future (β = .12, t = 2.21, 95% C.I. [.01, .17]) were not. Lastly, two interaction terms involving Task 2 were created by mean-centering the predictors and multiplying them together. When including the mean-centered predictors and the two interaction terms, Task 2 remained a significant predictor (β = .13, t = 2.36, 95% C.I. [.02, .18]) of general self-efficacy, whereas the two interaction effects were not (Interaction Term 1, β = -.05, t = -.78, 95% CI [-.09, .04]; Interaction Term 2, β = -.05, t = -.87, 95% C.I. [-.09, .03])[[1]](#footnote-1). This finding suggests that the effect of Task 2 performance on general self-efficacy was not moderated by perceived illegitimacy of predicting the future or perceived ability to predict the future.

Correlations and Cronbach’s Alphas

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 |
| 1.) Illegitimacy of Prediction | .70 |  |  |  |  |  |
| 2.) Ability to Predict | -.40\*\* | .88 |  |  |  |  |
| 3.) Task 1 Performance | -.05 | .00 | N/Aa |  |  |  |
| 4.) Task 2 Performance | -.03 | .05 | .00 | .14 |  |  |
| 5.) Self-Assessed Success | -.18\*\* | .23\*\* | -.03 | .33\*\* | .88 |  |
| 6.) General Self-Efficacy | -.06 | .03 | .02 | .12\* | .16\*\* | .96 |

a Cronbach’s alpha could not be calculated due to a negative average covariance among items.  
PTF = Predict the Future  
\* 95% Confidence interval did not include 0.  
\*\* 99% Confidence interval did not include 0.

1. Interaction Term 1 represents the interaction between Task 2 and perceived illegitimacy of predicting the future. Interaction Term 2 represents the interaction between Task 2 and perceived ability to predict the future. [↑](#footnote-ref-1)