Supplemental Materials to The Context Sensitive Future Self

In addition to the primary analyses in the main text, we conducted a series of follow-up analyses to rule out the possible explanation that the observed effects on motivation emerged simply because of the salience of students' school-focused possible identities. In all four studies, students were randomly assigned to two conditions, a college context condition in which they read a biased set of features about the college context and to a future self condition in which they wrote about their positive or negative future self. We content-coded students' written future self responses and replicated the primary analyses in order to 1) control for the number of school-focused possible identities that students generated as a covariate and 2) to test the possibility that school-focused possible identities mediated the effects on motivation.

Study 1

Prior to analysis, we categorized and counted students' written responses to the future self manipulation. Students averaged five response statements ($M = 4.98$, $SD = 1.85$). Each was categorized according to domain by an undergraduate research assistant blind to condition and hypothesis. To estimate reliability the second author also coded a random sample of 10% of identity responses. The two coders reached 89% agreement in count of the most common category of response focused on school; 44% of all responses (e.g., "I want to be extremely hard-working and learn as much as possible. I will study to the best of my abilities for every exam and do all I can to earn the grades I want." "I don't want to be a college dropout I don't want to be a person that doesn't get into a good law school I don't want to waste all of my weekends").

Then we assessed the possibility that the effects on motivation reported in the main text were due to some conditions making more school-focused identities come to mind. We tested for this in two ways. First, we included the number of school-focused identities as a variable in our

analyses of variance, yielding an analysis of covariance with the same context by future-self interaction described in the main text. Again, accessible context and possible future identity focus significantly interacted, $F(1, 206) = 5.33$, $p = .022$, $d = .33$, and there was no main effect of either context, $F(1, 206) = 0.55$, $p = .458$, or future identity focus, $F(1, 206) = 0.61$, $p = .435$. Simple effects were also replicated with both pattern and significance levels remaining unchanged. Next we ran a mediation analyses (Hayes, 2013) to explore the possibility that effects are mediated by the number of school-focused future identities students generated. Confidence intervals included zero, indicating that no mediation was found, 95% CI = [-.01, .01]. Thus, the effects of Study 1 are not simply due to the number of school-focused possible identities that come to mind but rather due to the match between how the future self is considered and how context is considered in the moment.

Study 2

We conducted the same procedure for Study 2. Students averaged six possible future identity responses ($M = 6.43$, $SD = 1.98$). In addition to the coding by an undergraduate research assistant blind to condition and hypothesis, the second author also coded a random sample of 20% of identity responses to estimate reliability. The two coders reached 82% agreement in count of the most common category response focused on school. That is 45% of responses focused on school (e.g., "I want to get great grades and hopefully get accepted to medical school somewhere in Michigan", "I don't want to slack off in college and forget that I'm here to learn and not just for the social aspect. To avoid this, I plan to do my work by the due date, be fully prepared for all of my tests, not go out when I should be working, and take classes that I know will be a challenge but also that will be interesting.").

Again, controlling for the number of school-focused possible identities did not change results and number of school-focused possible identities did not mediate effects. Analysis of covariance showed the same context by future-self interaction effect, $F(1, 154) = 5.72$, $p = .018$, $d = .39$, and neither a context, $F(1, 154) = 1.10$, $p = .295$, nor a future-self, $F(1, 154) = 2.64$, $p = .106$, main effect. Simple effects were also replicated with both pattern and significance levels remaining unchanged. As in Study 1, the number of school-focused future identities did not mediate the relation between condition and motivation, 95% CI = [-.36, .19]. Again follow-up tests ruled out the possibility that primary effects were simply due to the number of school-focused future selves that came to mind in context.

Study 3

As in Studies 1 and 2, we categorized possible future identity responses. Students averaged four responses ($M = 4.03$, $SD = 1.90$). Similar to the prior studies in addition to an undergraduate research assistant, the second author also coded a random sample of 20% of the responses. The two coders reached 85% agreement on those responses. As before, the most common response focused on school; 51% of all responses (e.g., "I want to be a successful student and also a successful graduate." Currently my major is undecided; however I am thinking about psychology", "I don't want to be in the bottom of my class. I have to spend time studying hard and paying attention in class. I have to put in more effort than I did in high school"). Controlling for the number of school-focused possible identities did not change results and number of school-focused possible identities did not mediate effects. Analysis of covariance showed the same context by future-self interaction effect, $F(1,114) = 4.18$, $p = .043$, $d = .38$, and neither a context, $F(1, 114) = 1.02$, $p = .314$, nor a future-self, $F(1, 114) = 0.66$, $p = .418$, main effect. Positive possible identities were motivating when they were accessible in contexts that

felt success-likely and negative possible identities were motivating when they were accessible in contexts that felt failure-likely. The number of school-focused future identities and strategies did not mediate the relation between condition and motivation, 95% CI = [-.01, .00].

Study 4

As in Studies 1-3, we categorized possible future identity responses. Students averaged four responses (*M*= 3.22; *SD*= 0.68). The third author content coded the responses and an undergraduate research assistant also coded a random sample of 40% of responses. These two coders reached 91% agreement. As before the most common response focused on school; 69% of all responses (e.g., "Having a double major", "not having a job", "preparing for admission into a program"). Six participants did not report any school-relevant positive future identities and were therefore excluded in the below analyses.

As in Studies 1 to 3, controlling for the number of school-focused possible identities did not change results. There were two orthogonal dependent variables assessing different aspects of motivation so we present results separately for both. First with regard to the positive motivation (difficulty implies that schoolwork is "For Me"), analysis of covariance showed the same context by future-self interaction effect, $F(1, 116) = 5.08$, $p = .026$, $d = .42$, and neither a context, $F(1, 116) = 0.42$, $p = .518$, nor a future-self, $F(1, 116) = 0.11$, $p = .744$, main effect. Positive future identities were motivating in the success-likely vs. the failure-likely condition, $F(1, 59) = 4.48$, $p = .038$, $d = .55$, and experience college as a success-likely context was motivation in the positive vs. the negative possible identity condition, $F(1, 56) = 2.98$, $p = .090$, $d = .46$.

Turning to the second dependent variable, the negative motivation (difficulty implies that schoolwork is "Not For Me"), analysis of covariance showed the same pattern for the context by future self interaction, $F(1, 116) = 0.08$, $p = .776$, the main effect of context, $F(1, 116) = 2.91$, p

= .091, and of future-self, $F(1, 116) = 0.81$, $p = .369$, as found in the results without including the covariate controls. As in Studies 1-3, the number of school-focused possible identities did not mediate effects: "For Me" 95% CI = [-.02, .03] and "Not for Me" 95% CI = [-.03, .02].

Supplemental Table 1. Marginal means and standard errors

Study	Dependent Variable	Context Condition	Future Self Condition			
			Positive		Negative	
			M	*SE*	*M*	*SE*
1	Academic behaviors	Success-likely	4.62	0.17	4.10	0.17
		Failure-likely	4.34	0.17	4.56	0.17
2	Hours of studying	Success-likely	40.67	2.36	38.90	2.42
		Failure-likely	37.52	2.30	47.24	2.52
3	Starting studying	Success-likely	24.73	2.36	21.71	2.66
		Failure-likely	17.21	2.89	24.73	2.20
4	Difficulty means schoolwork is 'for me'	Success-likely	4.55	0.18	4.11	0.18
		Failure-likely	3.99	0.18	4.37	0.18
4	Difficulty means schoolwork is 'not for me'	Success-likely	2.84	0.17	2.76	0.17
		Failure-likely	2.58	0.16	2.42	0.16

Appendix – Interpretation of Difficulty Questionnaire Items, Instructions, Coding

Please indicate how much you agree or disagree with each of the following statements by selecting the response from 1=strongly disagree to 7=strongly agree that corresponds most closely to your ideas about difficulty. There is no right or wrong answer to these questions.

1. When I feel stuck on a school task, it's a sign that my effort is better spent elsewhere.
2. When I'm working on a school task that feels difficult it means that the task is important.
3. If working on a school task feels very difficult, that type of task may not be possible for me.
4. A sign that a school task is important to me is how difficult it feels while working on it. If it feels difficult, it's important.
5. Sometimes people work at things that just aren't meant for them. If a school task feels too difficult, I should move on to something else.
6. Struggling to complete a school task reminds me that the task is important.
7. If a school task is difficult it is probably important for me to do well at it.
8. I know that when working on a school task feels hard, that feeling means it's not for me.
9. School tasks that feel difficult are important tasks for me
10. Finding a school task really difficult tells me that I can't complete it successfully.
11. If a school task is difficult, it means that it's important for me.
12. If a school task feels really difficult, it may not be possible for me.

Difficulty implies that a task is "For Me" subscale ($M = 4.25$, $SD = 1.03$) is the mean of items 2, 4, 6, 7, 9, and 11
Difficulty implies that a task is "Not For Me" subscale ($M = 2.65$, $SD = 0.94$) items 1, 3, 5, 8, 10, and 12