

WEB APPENDIX

What Motivates Social Security Claiming Age Intentions? Testing Behaviorally-Informed Interventions Alongside Individual Differences

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Note. These materials have been supplied by the authors to aid in the understanding of their paper. The AMA is sharing these materials at the request of the authors.

WEB APPENDIX A

LINKS TO PRE-REGISTRATION FORMS

Study 1: <https://aspredicted.org/37ed6.pdf>

Study 2: <https://aspredicted.org/59m85.pdf>

Study 3: <https://aspredicted.org/dj7f5.pdf>

Study 4: <https://aspredicted.org/bt6mg.pdf>

ADDITIONAL PRE-REGISTERED ANALYSES

Studies 2-4 Interactions. We pre-registered three interactions that emerged as statistically significant in Study 1. Results indicated, however, that none of the three interactions were significant in Studies 2-4: the interaction between the focus on benefits to future-self intervention and standardized intertemporal discount factor (Study 2: $b = -.122$, $SE = .178$, $t = -0.69$, $p > .4$; Study 3: $b = -.098$, $SE = .167$, $t = -0.58$, $p > .5$; Study 4: $b = .104$, $SE = .222$, $t = 0.47$, $p > .6$), the interaction between the commonality of regret intervention and standardized loss aversion (Study 2: $b = -.063$, $SE = .175$, $t = -0.36$, $p > .7$; Study 3: $b = -.023$, $SE = .170$, $t = -0.14$, $p > .8$; Study 4: $b = .080$, $SE = .205$, $t = 0.39$, $p > .6$), and the interaction between the focus on future-self intervention and standardized future-self similarity (Study 2: $b = .197$, $SE = .169$, $t = 1.17$, $p = .242$; Study 3: $b = .035$, $SE = .171$, $t = 0.20$, $p > .8$; Study 4: not included) were all not statistically significantly different from 0.

*THEORETICAL PREDICTIONS OF THE RELATIONSHIP BETWEEN INDIVIDUAL
DIFFERENCES AND CLAIMING AGE INTENTIONS*

Individual Difference	Predicted Effect
CFPB Financial Well-Being Scale	Positive
Financial Literacy	Positive
Financial Risk Taking	Negative
Future-Self Similarity	Positive
Interpersonal Influence	No predicted main effect
Intertemporal Discount Factor	Positive
Life Expectation	Positive
Loss Aversion	Positive
Numeracy	Positive
Big 5 – Agreeableness	No predicted main effect
Big 5 – Conscientiousness	No predicted main effect
Big 5 – Extraversion	No predicted main effect
Big 5 - Openness to Experience	No predicted main effect
Big 5 – Stability	No predicted main effect
Propensity to Plan	Positive
SSA Subjective Knowledge	Positive
SSA Perceived Ownership	Negative
Expected Reliance on SSA	Negative
SSA Solvency Beliefs	Negative
Subjective Health	Positive

LIST OF STUDY 1 PRE-REGISTERED INTERACTIONS

Intervention x Individual Difference

Annual x Financial Literacy

Annual x Numeracy

Gains x Financial Risk Taking

Losses x Financial Risk Taking

Losses x Loss Aversion

Descriptive Norm x Interpersonal

Injunctive Norm x Interpersonal

People-Like-You Norm x Interpersonal

Future Self x Intertemporal Discount Factor

Future Self x Propensity to Plan

Future Self x Future-Self Similarity

Future Self x Subjective Health

Future Benefits x Intertemporal Discount Factor

Future Benefits x Propensity to Plan

Future Benefits x Future-Self Similarity

Future Family x Intertemporal Discount Factor

Future Family x Propensity to Plan

Future Family x Future-Self Similarity

Information: Needs x Financial Literacy

Information: Needs x CFPB Financial Wellness

Information: Regret x Loss Aversion

Longevity x Subjective Health

Longevity x Life Expectation

WEB APPENDIX B

TABLE W1
STUDY 1 TREATMENT EFFECTS ON INTENDED CLAIMING AGE

	(1)		(2)	
	B	SE	B	SE
Framing - Annual	-0.072	0.197	-0.052	0.197
Framing - Gains	0.422**	0.195	0.445**	0.195
Framing - Losses	0.205	0.195	0.242	0.195
Norms - Descriptive	0.046	0.197	0.091	0.197
Norms - Injunctive	0.469**	0.198	0.514***	0.198
Norms - People Like You	0.072	0.198	0.071	0.198
Future Self - Self Benefits	0.523***	0.197	0.614***	0.199
Future Self - Family Benefits	0.195	0.203	0.230	0.203
Future Self - Self	0.030	0.200	0.081	0.199
Information - Needs	0.166	0.198	0.183	0.198
Information - Regret	0.563***	0.197	0.598***	0.198
Reflect - Generate	0.672***	0.205	0.731***	0.205
Reflect - Longevity	0.639***	0.197	0.654***	0.197
Sex			-0.236***	0.044
Income (thousands of \$)			0.006***	0.001
Age			-0.049***	0.007
Constant	66.881***	0.113	66.783***	0.114
<i>N</i>	4,504		4,386	
<i>R</i> ²	0.008		0.034	
Adjusted <i>R</i> ²	0.005		0.030	
Residual SE	2.815	df = 4490	2.779	df = 4369
<i>F</i> Statistic	2.720***	df = 13; 4490	9.596***	df = 16; 4369

Note. Constant in Model 1 represents mean intended claiming age in the control condition. In

Model 2, income and age were mean-centered and sex was contrast-coded (-1 = female, 1 = male) so that the constant in Model 2 represents estimated mean intended claiming age in the control condition, giving equal weight to males and females. *** $p < .01$. ** $p < .05$. * $p < .1$

TABLE W2

STUDY 1 INDIVIDUAL DIFFERENCES PREDICTING INTENDED CLAIMING AGE

Individual Difference	B	SE
CFPB Financial Well-Being Scale	-0.164***	0.045
Financial Literacy	0.169***	0.044
Financial Risk Taking	0.001	0.043
Future-Self Similarity	-0.035	0.043
Interpersonal Influence	0.021	0.043
Intertemporal Discount Factor	0.376***	0.043
Life Expectation	0.354***	0.046
Loss Aversion	-0.016	0.042
Numeracy	0.108**	0.044
Big 5 - Agreeableness	0.191***	0.043
Big 5 - Conscientiousness	-0.005	0.043
Big 5 - Extraversion	-0.002	0.042
Big 5 - Openness to Experience	0.181***	0.042
Big 5 - Stability	0.085**	0.043
Propensity to Plan	-0.034	0.043
SSA Subjective Knowledge	-0.160***	0.043
SSA Perceived Ownership	-0.366***	0.042
Expected Reliance on SSA	0.085*	0.044
SSA Solvency Beliefs	-0.196***	0.044
Subjective Health	0.147***	0.043

Note. These variables are entered individually in separate models, not together. In each model, sex, income, and age are included as controls, as are the 13 indicator variables for condition.

Each variable was standardized prior to inclusion in the model, such that the coefficient represents the expected change in claiming age (in years) given a one standard deviation increase in the individual difference. *** $p < .01$. ** $p < .05$. * $p < .1$

TABLE W3

STUDY 1 PRE-REGISTERED TREATMENT X INDIVIDUAL DIFFERENCE INTERACTIONS

PREDICTING INTENDED CLAIMING AGE

Interaction	B	SE
Annual x Financial Literacy	0.060	0.178
Annual x Numeracy	-0.005	0.177
Gains x Financial Risk Taking	-0.074	0.167
Losses x Financial Risk Taking	0.013	0.163
Losses x Loss Aversion	-0.223	0.164
Descriptive Norm x Interpersonal	0.146	0.169
Injunctive Norm x Interpersonal	0.108	0.172
People-Like-You Norm x Interpersonal	-0.115	0.157
Future Self x Intertemporal Discount Factor	-0.255	0.166
Future Self x Propensity to Plan	0.089	0.171
Future Self x Future-Self Similarity	-0.339**	0.167
Future Self x Subjective Health	0.049	0.176
Future Benefits x Intertemporal Discount Factor	-0.359**	0.173
Future Benefits x Propensity to Plan	0.162	0.177
Future Benefits x Future-Self Similarity	0.005	0.169
Future Family x Intertemporal Discount Factor	0.006	0.180
Future Family x Propensity to Plan	0.182	0.169
Future Family x Future-Self Similarity	0.050	0.177
Information: Needs x Financial Literacy	0.177	0.170
Information: Needs x CFPB Financial Wellness	0.027	0.168
Information: Regret x Loss Aversion	-0.412**	0.160
Longevity x Subjective Health	0.001	0.169
Longevity x Life Expectation	-0.201	0.176

Note. These variables are entered individually in separate models, not together. Each model includes the component individual difference (e.g., the model assessing the interaction of Annual x Financial Literacy also includes a main effect of Financial Literacy). In each model, sex, income, and age are included as controls, as are the 13 indicator variables for condition. Each variable was standardized prior to inclusion in the model, such that the coefficient represents the expected change in the effect of the treatment on claiming age (in years) given a one standard deviation increase in the individual difference. *** $p < .01$. ** $p < .05$. * $p < .1$

TABLE W4

ATTRITION RATES BY STUDY AND CONDITION

Study	2	3	4
Overall Attrition Rate	4.5%	2.8%	20.5%
Control	3.9%	2.7%	15.4%
Framing - Gains	2.8%	1.6%	23.0%
Norms - Descriptive 2	4.4%	2.3%	23.1%
Norms - Injunctive	4.8%	2.5%	20.8%
Future Self - Self Benefits	4.8%	3.2%	17.6%
Information - Regret	5.4%	2.5%	21.8%
Reflect - Generate	7.1%	4.1%	27.9%
Reflect - Longevity	3.2%	3.2%	16.9%
Future Self - Self	5.1%	3.5%	–

Note. Attrition is determined by not answering the final question conditional on answering the first question in the survey. Study 1 attrition rates not available due to Qualtrics not saving incomplete responses.

TABLE W5

STUDY 2 TREATMENT EFFECTS ON INTENDED CLAIMING AGE

	(1)		(2)	
	B	SE	B	SE
Framing - Gains	0.274	0.199	0.301	0.199
Norms - Descriptive	0.100	0.201	0.121	0.200
Norms - Injunctive	0.309	0.203	0.375*	0.202
Future Self - Self Benefits	-0.169	0.203	-0.150	0.203
Future Self - Self	-0.484**	0.203	-0.507**	0.203
Information - Regret	0.175	0.203	0.149	0.203
Reflect - Generate	0.423**	0.206	0.474**	0.206
Reflect - Longevity	0.796***	0.201	0.804***	0.201
Sex			-0.244***	0.054
Income (thousands of \$)			0.005***	0.001
Age			-0.035***	0.008
Constant	66.926***	0.116	66.866***	0.116
<i>N</i>	3,010		2,966	
<i>R</i> ²	.013		.031	
Adjusted <i>R</i> ²	.010		.027	
Residual SE	2.872	df = 3001	2.846	df = 2954
<i>F</i> Statistic	4.924***	df = 8; 3001	8.454***	df = 11; 2954

Note. Constant in Model 1 represents mean intended claiming age in the control condition. In

Model 2, income and age were mean-centered and sex was contrast-coded (-1 = female, 1 = male) so that constant in Model 2 represents estimated mean intended claiming age in control condition, giving equal weight to males and females. *** $p < .01$. ** $p < .05$. * $p < .1$

TABLE W6

STUDY 3 TREATMENT EFFECTS ON INTENDED CLAIMING AGE

	(1)		(2)	
	B	SE	B	SE
Framing - Gains	0.616***	0.196	0.570***	0.197
Norms - Descriptive	0.379*	0.198	0.440**	0.198
Norms - Injunctive	0.744***	0.197	0.740***	0.199
Future Self - Self Benefits	0.401**	0.199	0.375*	0.199
Future Self - Self	0.042	0.199	0.061	0.200
Information - Regret	0.437**	0.197	0.430**	0.198
Reflect - Generate	0.339*	0.203	0.323	0.204
Reflect - Longevity	0.936***	0.198	0.942***	0.199
Sex			-0.168***	0.053
Income (thousands of \$)			0.005***	0.001
Age			-0.033***	0.008
Constant	66.746***	0.114	66.699***	0.115
<i>N</i>	3,020		2,971	
<i>R</i> ²	0.011		0.026	
Adjusted <i>R</i> ²	0.009		0.022	
Residual SE	2.816	df = 3011	2.803	df = 2959
<i>F</i> Statistic	4.331***	df = 8; 3011	7.155***	df = 11; 2959

Note. Constant in Model 1 represents mean intended claiming age in the control condition. In

Model 2, income and age were mean-centered and sex was contrast-coded (-1 = female, 1 = male) so that the constant in Model 2 represents estimated mean intended claiming age in the control condition, giving equal weight to males and females. *** $p < .01$. ** $p < .05$. * $p < .1$

TABLE W7

STUDY 4 TREATMENT EFFECTS ON INTENDED CLAIMING AGE

	(1)		(2)	
	B	SE	B	SE
Framing - Gains	0.604***	0.225	0.513**	0.229
Norms - Descriptive	0.323	0.225	0.286	0.228
Norms - Injunctive	0.745***	0.223	0.729***	0.227
Future Self - Self Benefits	0.524**	0.222	0.463**	0.225
Information - Regret	0.684***	0.224	0.724***	0.228
Reflect - Generate	0.605***	0.230	0.626***	0.233
Reflect - Longevity	0.863***	0.219	0.876***	0.222
Sex			-0.059	0.064
Income (thousands of \$)			0.009***	0.001
Age			-0.021*	0.013
Constant	65.516***	0.126	65.486***	0.129
<i>N</i>	2,711		2,601	
<i>R</i> ²	0.009		0.026	
Adjusted <i>R</i> ²	0.006		0.022	
Residual SE	3.185	df = 2703	3.162	df = 2590
<i>F</i> Statistic	3.428***	df = 7; 2703	6.969***	df = 10; 2590

Note. Constant in Model 1 represents mean intended claiming age in the control condition. In

Model 2, income and age were mean-centered and sex was contrast-coded (-1 = female, 1 = male) so that the constant in Model 2 represents estimated mean intended claiming age in the control condition, giving equal weight to males and females. *** $p < .01$. ** $p < .05$. * $p < .1$

TABLE W8

STUDIES 2-4 INDIVIDUAL DIFFERENCES PREDICTING INTENDED CLAIMING AGE

Individual Difference	Study 2	Study 3	Study 4
Future-Self Similarity	0.034 (0.053)	0.057 (0.052)	
Intertemporal Discount Factor	0.577*** (0.053)	0.490*** (0.053)	0.545*** (0.070)
Life Expectation	0.550*** (0.056)	0.478*** (0.055)	0.377*** (0.075)
Loss Aversion	-0.042 (0.053)	-0.067 (0.052)	-0.004 (0.062)
SSA Perceived Ownership	-0.350*** (0.052)	-0.299*** (0.052)	-0.082 (0.063)
SSA Solvency Beliefs	-0.074 (0.055)	-0.146*** (0.055)	-0.098 (0.063)

Note. These variables are entered individually in separate models, not together. In each model, sex, income, and age are included as controls, as are the indicator variables (eight for Studies 2 and 3; seven for Study 4) for condition. Each variable was standardized prior to inclusion in the model, such that the coefficient represents the expected change in claiming age (in years) given a one standard deviation increase in the individual difference. Standard errors appear in parentheses. *** $p < .01$. ** $p < .05$. * $p < .1$

TABLE W9

T-STATISTICS FOR TREATMENT EFFECTS ON INTENDED CLAIMING AGE

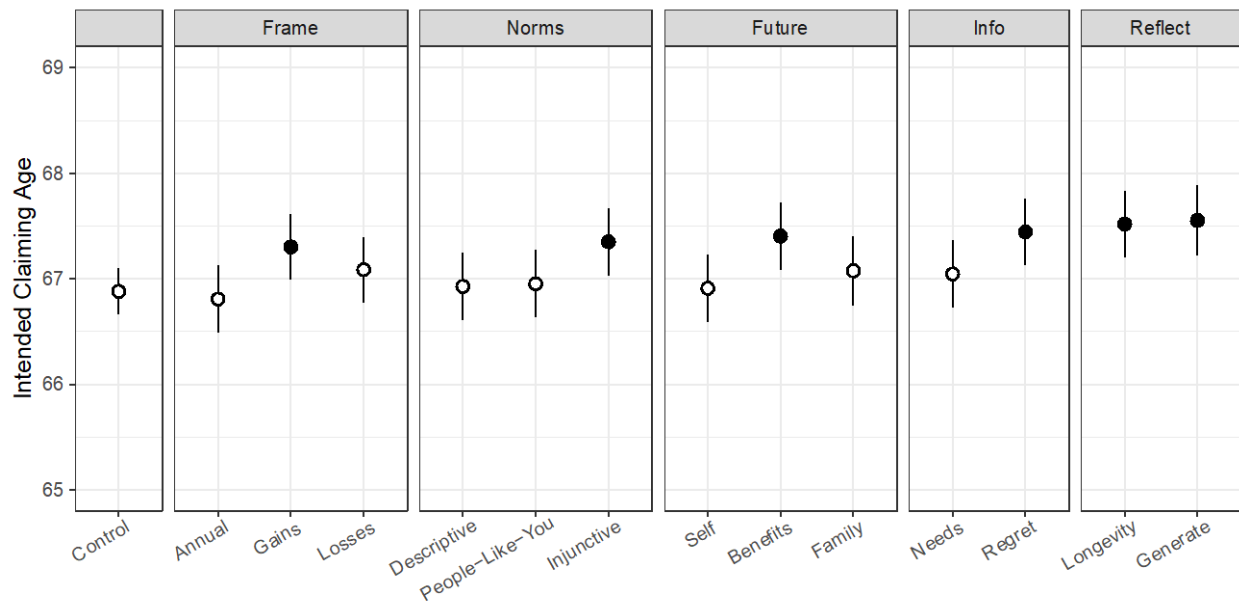
Study	1	2	3	4
Sample	AMT	AMT	Prolific	Prime Panels
Target Ages	40-61	40-61	40-61	50-61
N	4,386	2,966	2,971	2,601
Reflect - Longevity	3.32	4.00	4.74	3.95
Norms - Injunctive	2.59	1.86	3.71	3.21
Reflect - Generate	3.56	2.31	1.58	2.68
Information - Regret	3.02	0.74	2.17	3.18
Framing - Gains	2.28	1.51	2.89	2.24
Future Self - Self Benefits	3.09	-0.74	1.89	2.06
Norms - Descriptive 2	–	0.60	2.22	1.25
Future Self - Self	0.41	-2.49	0.31	–
Framing - Annual	-0.26	–	–	–
Framing - Losses	1.24	–	–	–
Norms - Descriptive 1	0.46	–	–	–
Norms - People Like You	0.36	–	–	–
Future Self - Family Benefits	1.13	–	–	–
Information - Needs	0.92	–	–	–

Note. In each model, sex, income, and age are included as controls, as are the indicator variables for condition. *T*-statistics highlighted in dark gray are significant at the .05 level; *t*-statistics highlighted in light gray are marginally (.10 level) significant; those not highlighted are non-significant ($p > .1$).

WEB APPENDIX C

FIGURE W1

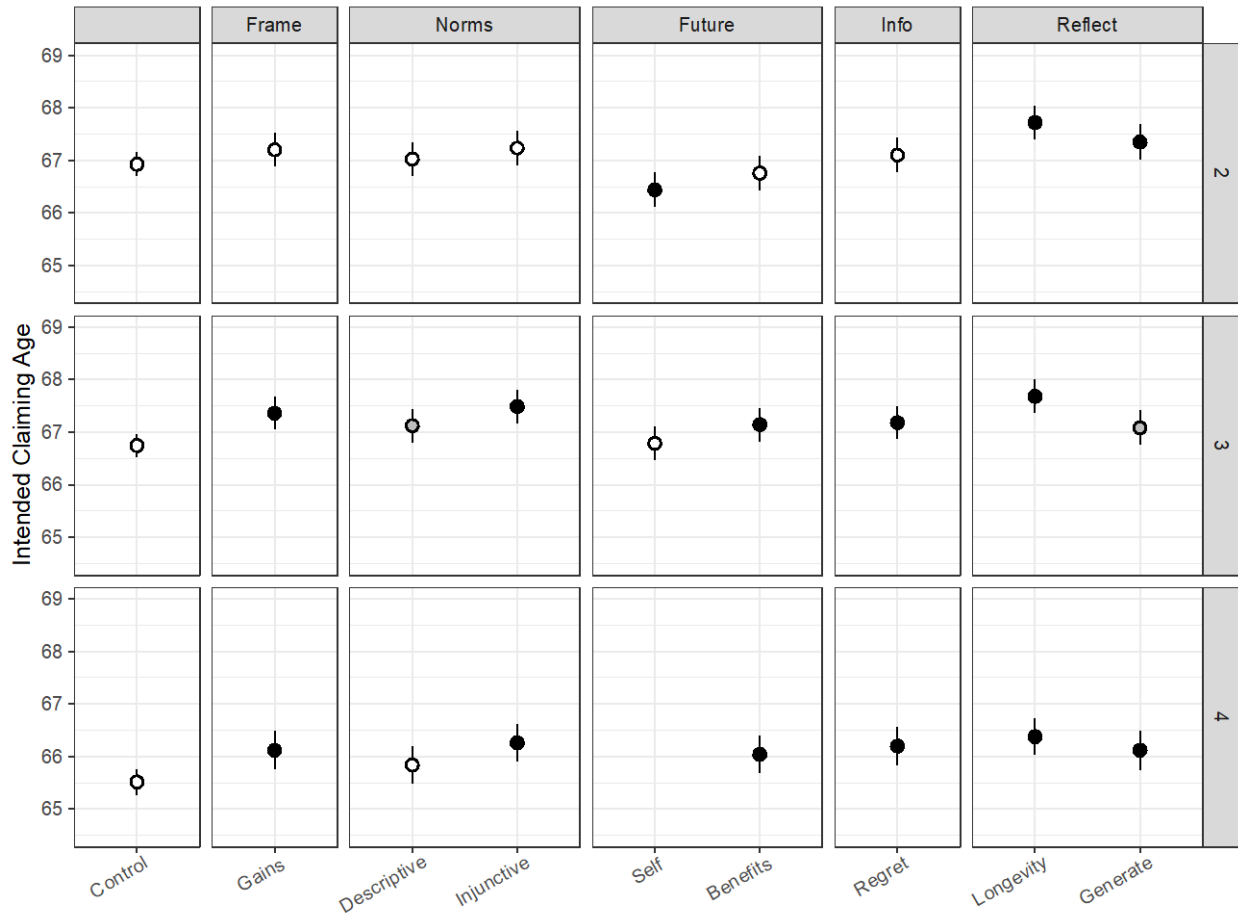
STUDY 1 RAW CONDITION MEANS



Note. Error bars represent 95% confidence intervals of the condition means. Filled circles represent significant comparisons ($p < .05$) relative to the control condition.

FIGURE W2

STUDIES 2-4 RAW CONDITION MEANS



Note. Error bars represent 95% confidence intervals of the condition means. Filled circles represent significant comparisons ($p < .05$) relative to the control condition.