Self-Efficacy as a Driver of Civic Participation in Uganda

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Abstract

We find that exposure to a self-efficacy intervention can motivate informationseeking action for environmental causes. Self-efficacy has been shown to be a powerful driver of behavior in a variety of contexts but there has been limited investigation into how self-efficacy is best induced in experimental settings. This study has two main aims. First it seeks to establish if interventions designed to increase self-efficacy can have an impact on outcomes related to civic participation, and second, it seeks to evaluate whether two selected methods of inducing self-efficacy result in different outcomes.

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1 Introduction

What drives individuals to engage with issues affecting their country and communities is of key interest to civil society organizations and has been the subject of much academic study. One aspect that has proven a fruitful area of inquiry has been the role of self-efficacy in driving civic engagement. The theory being that an individuals beliefs in themselves can help overcome some of the obstacles to engagement, including the intimidation of doing something new, as well as a sense of hopelessness that change is even possible.

The literature so far has mainly been focused on providing evidence for this link, with a number of studies demonstrating that engagement is indeed linked to individual levels of self-efficacy (Abramson (1983); Clarke and Acock (1989); Mc-Clendon and Riedl (2015). There are also more nuanced approaches where different types of empowering messages are compared. For example McClendon and Riedl (2015) assesses the difference in impact between secular and religious self-affirming, and socially focused messages. Our current study, in assessing the difference in effect between two different types of self-affirming treatments, follows in that vein.

The aim of the this study is to assess the different effects of improved selfefficacy when induced intrinsically compared to extrinsically. In particular we use the self-affirming secular self-efficacy prime developed in McClendon and Riedl (2015) and compare its effects to an exercise designed to improve self-efficacy in which participants are asked to recall and write about a moment where they felt successful.

This research design is of particular relevance to civil society organizations who have to frequently make decisions about how populations can be engaged and whether the traditional didactic approach can be improved on by alternative approaches to empowerment and engagement.

There exists in the literature a differentiation between external efficacy, namely the effectiveness of an individual's external environment, and internal efficacy, a term more equivalent to the traditional notion of self-efficacy. This should not be confused with the "intrinsic" and "extrinsic" terminology we employ in the description of this study which aims to investigate the effects of different methods of self-efficacy induction. Is self-efficacy best achieved through didactic messages, or through internal thought exercises? And does willingness to seek information about civic issues differ with these different approaches? To test these questions we developed an experimental design that employs a laboratory environment to help isolate the differing impacts of two self-efficacy exercises.

Beyond our main question regarding the effects of differently induced forms of self-efficacy on civic engagement, we also sought to assess the effect of limiting the number of places available on session attendance. A number of studies have shown that perceptions of product value increase is a product is seen as difficult to obtain (Brannon and Brock (2001); Lynn (1992)). There has also been evidence that attendance at an information session is responsive to the number of places available. We tested this hypothesis in a different context.

2 Evaluation Questions

- 1. What is the impact of intrinsically developed self-efficacy on civic participation?
- 2. What is the impact of extrinsically developed self-efficacy on civic participation?
- 3. Does scarcity of places improve willingness to engage in information sessions?

3 Experimental Design

3.1 Context

Participants in the study were recruited from Kamokya slum, a low-income area in central Kampala. The study took place during May 2016 at a mobile lab facility set up within 20 minutes of subjects' residences. Prior to the start of the study, field officers recruited a subject pool from the target area to allow for random selection of participants into the study. During recruitment some basic demographic and contact information was obtained and subjects were added to a database. At recruitment subjects were informed that they may be asked to take part in a social science study though the details of what exactly the study would involve was not explained to subjects during the recruitment stage. Respondents were randomly invited to attend a session the day prior to each session. Compensation of 15,000 Ugandan Shillings (roughly equivalent to USD4.50) was provided for attendance, with 5,000 Ugandan Shillings (roughly equivalent to USD1.50) provided as a bonus for punctuality. None of the modules within the session were incentivized so this represented the total amount of compensation received by subjects for participating.

3.2 Treatment Delivery

The laboratory session comprised of a number of modules programmed in zTree, an experimental design software (Fischbacher (2007)). In order to assess the effects of the different forms of induced self-efficacy, the experiment consisted of two treatment groups ("extrinsic" and "intrinsic") and a control group. Subjects were randomly assigned to either of the treatment groups or the control group at the individual level. All subjects took part in a number of demographic and behavioral modules at the start of the experiment. All text was translated into Luganda and recorded versions of text were used throughout to aid independent movement through the session. The recordings also allowed for multiple groups to take part in the same session.

In the intrinsic treatment group subjects were asked to engage in a recollection and writing exercise designed to improve self-efficacy. Specifically they were asked "Please think about a time when you did something and it went well? Please give 3-4 sentences about what happened.". To control for the effects of this exercise subjects in the control and extrinsic treatment group were asked to write for a similar amount of time about a neutral activity. The extrinsic treatment group heard the same self-affirming message as used in McClendon and Riedl (2015), but translated into Luganda. The control and intrinsic group listened to a neutral recording.

After the treatments had been administered a number of self-efficacy questions were asked as a manipulation check. We used a reduced version of the full self-efficacy scale which may have presented problems in identifying differences in self-efficacy between groups. We will discuss this in more detail in the results section below.

Beyond this there was a further level of randomization whereby subjects were at the session level randomly assigned to either a "scarcity" or 'scarcity 'control" session. At the end of each session subjects were invited to attend an information session where they could learn more about the environmental issues they were introduced to earlier in the session. Subjects in the scarcity group were informed that places were limited to half the number of people in attendance at the session. As such, in the event that more people wanted to attend than there were spaces available subjects would be randomly selected to attend from those willing. For the control group no such restriction on spaces was mentioned. The information session ran for 5 minutes after the zTree session ended for all subjects who were willing to attend.

3.3 Outcome Measures

To measure the willingness to seek information on civic issues we took two approaches. First, subjects were informed that they had the option to sign up to an SMS campaign. There were two types of campaign, one on environment, one on financial literacy, as well as the option to sign up to neither. There are many civil society organizations in Uganda that are particularly focused on environmental issues given the recent discovery of oil in the country. As such, this was felt to be a relevant issue for civic engagement, and also not one that would seem politically inflammatory. Second, willingness to attend the information session was also monitored.

4 Data and Empirical Strategy

4.1 Basic identification of treatment effects

The basic specification we used to identify the effects of treatments on our outcomes of interest is

$$y_i = \beta_0 + \beta_1 I N T_i + \beta_2 E X T_i + \varepsilon_i \tag{1}$$

Where y_i is the outcome of interest for individual *i*. INT_i and EXT_i represent dummy variables, that take the value 1 if the individual was randomly assigned to the respective treatment group, and 0 otherwise. INT_i and EXT_i are, respectively, the variables for the intrinsic and extrinsic treatment groups. ε_i is the idiosyncratic error term. The omitted category in this specification is the control group.

4.1.1 Scarcity treatment effects of session attendance

For the treatment effects on information session attendance the outcome of interest is whether respondents elected to attend the information session. The specification is

$$ATT_i = \beta_0 + \beta_1 SCA_i + \varepsilon_i \tag{2}$$

where ATT_i is the outcome of interest (equal to 1 if a respondent chose to attend, and 0 otherwise). SCA_i is a dummy variable equal to 1 for respondents who were randomly allocated to a scarcity session where spaces at the information session were limited.

4.2 Testing for heterogeneous effects

We also tested the impact of the various treatments varies with pre-determined individual characteristics measured at baseline and denoted by X_{i} , in the following specification.

$$y_i = \beta_0 + \beta_1 INT_i + \beta_2 EXT_i + \beta_3 X_i + \beta_4 (INT_i X_i) + \beta_5 (EXT_i X_i) + \varepsilon_i$$
(3)

Dimensions of heterogeneity:

- 1. Education level (Primary school completed, Secondary school completed)
- 2. Gender
- 3. Age
- 4. Household size

- 5. Number of dependents
- 6. Income
- 7. Average savings
- 8. Literacy

5 Results

Table 1 demonstrates that treatment assignment did not correlate with demographic characteristics taken before treatments were delivered.

Table 2 presents the effects of the self-efficacy treatments on the two outcomes, sign-up to to the (environmental) SMS campaign and attendance at the information session. The intrinsic self-efficacy treatment shows an increase in SMS sign-up of 60% compared to the control group, significant at the 5%-level. We however find no statistically significant effects of the extrinsic self-efficacy treatment on SMS sign-up rates. It should be noted that this difference is not due to a preference for financial literacy messages in the extrinsic treatment group. Treatment effects on sign-up for the financial literacy messages was negative for both treatment groups, statistically significant at the 5%-level for the intrinsic treatment group though not statistically significant for the extrinsic treatment group.

Conversely we find statistically significant (at the 1%-level) effects of the extrinsic self-efficacy treatment on sign-up to the information session in the negative direction. Respondents assigned to the external self-efficacy treatment group were 21% less likely to sign-up to attend the information session. We find a very slight and not statistically significant negative effect of the intrinsic treatment on information session sign-up rates. These results are robust to a range of controls.

To assess whether treatment effects vary by particular subgroups of the population we examined the heterogeneous effects of each treatments on the dimensions detailed above in Section 4.2. Tables 5 through 9 report these results. The tables



Figure 1: Basic treatment effects on SMS Sign-up and Information Session Attendance

presents coefficient estimates of the interaction between the treatment and a baseline variable with each column corresponding to a model with a unique interacting variable.

We find that the intrinsic self-efficacy treatment had higher impact on individuals who reported a higher number of dependents at the 10%-level, and also on those with higher incomes though the effect size for the latter is negligible. We find positive but not statistically significant effects on our manipulations check - three questions selected from the Schwarzer (1995) self-efficacy scale.

We find no statistically significant results regarding the effects of scarcity on attendance at the information session.

6 Conclusion

In this study we used a laboratory setting to examine how different self-efficacy induction methods influence civic participation. To do this we engaged respondents from a low income area in Kampala in two different exercises designed to improve self-efficacy. We then examined the effects of these exercises on our outcomes of interest, which were selected to relate directly to civic participation in the Ugandan context.

Our findings are in line with the existing body of literature, which suggests that self-efficacy can improve participation rates in certain forms of civic outreach activities and have a positive impact on the desire to seek information related to civic issues. We do however find a marked difference in effects between the two different methods of inducing self-efficacy. The intrinsic method shows positive effects on our outcomes of interest. This is in contrast to the effects of the extrinsic exercise. We note that this is contrary to the findings in McClendon and Riedl (2015) where the same prime had a positive impact on a very similar outcome of interest.

The main objection that could be raised against these results is that the manipulation checks did not show statistically significant movement. As such, the causal link between self-efficacy and civic engagement, as represented in our outcomes of interest, is not as clean as we would like. A larger sample size, and a more comprehensive set of self-efficacy questions would likely help on this front.

Our results are likely to be of interest to civil society organisations in Uganda looking to engage the population in environmental and other civic issues. This particular study demonstrates that an approach focusing on self-affirmation can be powerful, and that there may be potential risks to a "lecturing" or externally didactic approach. Methods that enable or prompt individuals to develop this sense of selfefficacy themselves may rather lead to better outcomes.

		$\mathrm{Mean}~(\mathrm{SD},\mathrm{N})$	Difference p -value			
	Intrinsic	Extrinsic	Control	Intrinsic - Control	Extrinsic - Control	Extrinsic - AIntrinsic
Gender	0.68(0.47)	0.76(0.43)	0.59(0.49)	0.18	0.01**	0.25
	92	92	103	[1.00]	$[0.05^*]$	[1.00]
Age	32.17 (10.32)	31.43 (10.84)	32.23 (11.98)	0.97	0.63	0.64
	92	92	103	[1.00]	[0.80]	[1.00]
HH Size	4.84(1.85)	4.70(1.66)	4.69(2.01)	0.59	0.98	0.59
	92	92	103	[1.00]	[0.92]	[1.00]
Dependents	3.11(2.28)	3.16(1.97)	2.68(2.32)	0.19	0.12	0.86
	92	92	103	[1.00]	[0.37]	[1.00]
Literate	2.74(0.75)	2.77(0.89)	2.90(0.73)	0.13	0.27	0.79
	92	92	103	[1.00]	[0.54]	[1.00]
Educ. Primary Plus	0.62(0.49)	0.58(0.50)	0.60(0.49)	0.80	0.72	0.55
	92	92	103	[1.00]	[0.80]	[1.00]
Educ. Secondary Plus	0.20(0.40)	0.08(0.27)	0.20(0.40)	0.89	0.01***	0.02**
	92	92	103	[1.00]	$[0.05^*]$	[0.19]
Average Weekly Income	$51842.80 \ (212110.23)$	$43935.37\ (219095.17)$	25782.27 (29665.13)	0.24	0.43	0.80
	92	92	102	[1.00]	[0.67]	[1.00]
Average Weekly Savings	7219.57 (11895.29)	5857.83 (12384.81)	8259.56(12461.42)	0.55	0.18	0.45
	92	92	103	[1.00]	[0.45]	[1.00]

Table 1: Summary Statistics and Balance Test of Baseline Characteristics

Notes: This table presents means by treatment group with SD in parentheses. The last columns report the *p*-value of a difference of means test and minimum *q*-values in brackets after correcting for the false discovery rate. * denotes significance at 10 pct., ** at 5 pct., and *** at 1 pct.

	SMS Sign-up	Session Sign-up
Extrinsic Self-Efficacy	0.06	-0.18
	(0.07)	$(0.06)^{**}$
Intrinsic Self-Efficacy	0.17	-0.04
	$(0.07)^{**}$	(0.06)
Constant	0.29	0.83
	$(0.05)^{***}$	$(0.04)^{***}$
Adjusted R^2	0.016	0.025
Observations	290	290
Control Mean	0.30	0.85

Table 2: Impacts of Self-Efficacy Treatments on Outcomes of Interest

Notes: This table presents the coefficients from regressions of the form described in equation (1). Standard errors in parentheses. * denotes significance at 10 pct., ** at 5 pct., and *** at 1 pct.

	SMS Sign-up	Session Sign-up
Extrinsic Self-Efficacy	0.05	-0.17
	(0.07)	$(0.06)^{**}$
Intrinsic Self-Efficacy	0.17	-0.04
	$(0.07)^{**}$	(0.06)
Gender	-0.02	-0.04
	(0.06)	(0.05)
Age	-0.00	0.00
	(0.00)	(0.00)
HH Size	0.02	0.00
	(0.02)	(0.01)
Dependents	0.00	-0.01
	(0.02)	(0.01)
Literate	0.03	0.04
	(0.04)	(0.03)
Educ. Primary Plus	-0.03	0.16
	(0.07)	$(0.06)^{**}$
Educ. Secondary Plus	-0.07	0.01
	(0.09)	(0.07)
Average Weekly Income	0.00	-0.00
	(0.00)	(0.00)
Average Weekly Savings	0.00	0.00
	(0.00)	(0.00)
Constant	0.13	0.68
	(0.16)	$(0.14)^{***}$
Adjusted R^2	0.000	0.061
Observations	290	290

Table 3: Impacts of Self-Efficacy Treatments on Outcomes of Interest with Controls

Notes: This table presents the coefficients from regressions of the form described in equation (1) with controls. Standard errors in parentheses. * denotes significance at 10 pct., $^{**}_{12}$ at 5 pct., and *** at 1 pct.

	Qu. 1	Qu. 2	Qu. 3	All Qu.
Extrinsic Self-Efficacy	0.18	0.06	-0.13	0.12
	(0.15)	(0.15)	(0.12)	(0.30)
Intrinsic Self-Efficacy	0.17	0.04	-0.07	0.14
	(0.15)	(0.15)	(0.12)	(0.30)
Observations	287	287	287	287

Table 4: Impacts of Treatments on Self-Efficacy (Manipulation Check)

Notes: This table presents the coefficients from regressions of treatment assignment on either individual or a compilation of self-efficacy questions. * denotes significance at 10 pct., ** at 5 pct., and *** at 1 pct.

	(1)	(2)	(3)	(4)
Intrinsic X Interactant	0.00215	-0.0165	0.103	0.0802
	(0.146)	(0.0970)	(0.142)	(0.165)
Intrinsic Self-Efficacy	0.163	0.209	0.111	0.156**
	(0.117)	(0.283)	(0.112)	(0.0783)
Extrinsic X Interactant	-0.166	0.119	-0.0682	-0.113
	(0.152)	(0.0855)	(0.138)	(0.174)
Extrinsic Self-Efficacy	0.169	-0.286	0.0932	0.0476
	(0.128)	(0.250)	(0.108)	(0.0740)
Interactant	0.0258	-0.0180	-0.0402	-0.109
	(0.0925)	(0.0671)	(0.0924)	(0.0986)
Constant	0.286^{***}	0.353^{*}	0.317^{***}	0.317^{***}
	(0.0704)	(0.201)	(0.0734)	(0.0519)
Interactant	Gender	Literate	Educ. Primary Plus	Educ. Secondary Plus
Adjusted R^2	0.0100	0.0200	0.0100	0.0100
Int. <i>p</i> -value	0.0600	0.310	0.0100	0.100
Ext. p -value	0.970	0.330	0.770	0.680
Observations	287	287	290	290

Table 5: Heterogeneous effects for binary measures – SMS Sign-up

	(1)	(2)	(3)	(4)
Intrinsic X Interactant	0.0353	0.0138	-0.0328	0.0455
	(0.111)	(0.0883)	(0.121)	(0.134)
Intrinsic Self-Efficacy	-0.0772	-0.0880	-0.0174	-0.0455
	(0.0844)	(0.262)	(0.104)	(0.0640)
Extrinsic X Interactant	-0.0136	-0.0271	0.0368	0.218
	(0.131)	(0.0837)	(0.129)	(0.168)
Extrinsic Self-Efficacy	-0.177^{*}	-0.119	-0.193*	-0.194***
	(0.106)	(0.249)	(0.107)	(0.0674)
Interactant	-0.0851	0.0644	0.161^{**}	0.00407
	(0.0676)	(0.0568)	(0.0800)	(0.0876)
Constant	0.905^{***}	0.667^{***}	0.732***	0.829***
	(0.0458)	(0.175)	(0.0699)	(0.0420)
Interactant	Gender	Literate	Educ. Primary Plus	Educ. Secondary Plus
Adjusted \mathbb{R}^2	0.0300	0.0400	0.0500	0.0200
Int. <i>p</i> -value	0.560	0.670	0.420	1
Ext. p -value	0.0100	0.390	0.0300	0.880
Observations	287	287	290	290

Table 6: Heterogeneous effects for binary measures – Session Sign-up

	(1)	(2)	(3)	(4)	(5)	(6)
Intrinsic X Interactant	0.00628	0.00797	0.0583**	-0.00000213	-0.000000102	-0.172
	(0.00632)	(0.0353)	(0.0295)	(0.00000171)	(0.00000592)	(0.146)
Intrinsic Self-Efficacy	-0.0359	0.125	-0.00999	0.211^{**}	0.170^{**}	0.233***
	(0.214)	(0.178)	(0.111)	(0.0815)	(0.0817)	(0.0848)
Extrinsic X Interactant	0.00225	-0.0101	0.0104	-0.00000253	-0.00000177	-0.160
	(0.00594)	(0.0387)	(0.0329)	(0.00000171)	(0.00000570)	(0.138)
Extrinsic Self-Efficacy	-0.0251	0.0940	0.0192	0.111	0.0646	0.111
	(0.201)	(0.191)	(0.121)	(0.0798)	(0.0777)	(0.0871)
Interactant	-0.00159	0.0210	-0.0111	0.00000242	0.00000307	0.148
	(0.00349)	(0.0211)	(0.0188)	(0.00000171)	(0.00000383)	(0.0946)
Constant	0.352^{***}	0.202^{*}	0.331***	0.242^{***}	0.276^{***}	0.242***
	(0.124)	(0.104)	(0.0700)	(0.0614)	(0.0537)	(0.0550)
Interactant	Age	HH Size	Dependents	Average Weekly Income	Average Weekly Savings	Household Head
Adjusted \mathbb{R}^2	0.0100	0.0100	0.0200	0.0200	0.0100	0.0100
Int. <i>p</i> -value	0.890	0.370	0.590	0.0100	0.0400	0.610
Ext. p -value	0.910	0.590	0.760	0.160	0.410	0.650
Observations	287	287	287	286	287	287

Table 7: Heterogeneous effects for continuous measures – SMS Sign-up

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	(1)	(2)	(3)	(4)	(5)	(6)
Intrinsic X Interactant	-0.00715	-0.0139	-0.0249	-0.00000149*	-0.00000668	0.0531
	(0.00518)	(0.0318)	(0.0256)	(0.00000858)	(0.00000459)	(0.118)
Intrinsic Self-Efficacy	0.169	0.00780	0.0204	-0.0228	-0.00941	-0.0838
	(0.170)	(0.157)	(0.0856)	(0.0650)	(0.0662)	(0.0655)
Extrinsic X Interactant	-0.00517	0.0581^{*}	0.00371	-0.00000186**	-0.00000163	-0.0383
	(0.00585)	(0.0320)	(0.0288)	(0.00000856)	(0.00000360)	(0.126)
Extrinsic Self-Efficacy	-0.0385	-0.475^{***}	-0.210**	-0.147**	-0.185***	-0.181**
	(0.195)	(0.165)	(0.104)	(0.0701)	(0.0694)	(0.0762)
Interactant	0.00161	-0.00893	-0.00876	0.00000155^{*}	0.00000314^{*}	-0.0822
	(0.00332)	(0.0172)	(0.0157)	(0.00000855)	(0.00000175)	(0.0746)
Constant	0.803***	0.896***	0.878^{***}	0.813^{***}	0.828^{***}	0.887***
	(0.115)	(0.0845)	(0.0517)	(0.0483)	(0.0429)	(0.0406)
Interactant	Age	HH Size	Dependents	Average Weekly Income	Average Weekly Savings	Household Head
Adjusted \mathbb{R}^2	0.0300	0.0400	0.0400	0.0400	0.0300	0.0300
Int. p -value	0.330	0.960	0.950	0.730	0.890	0.760
Ext. p -value	0.820	0	0.0100	0.0400	0.0100	0.0300
Observations	287	287	287	286	287	287

Table 8: Heterogeneous effects for continuous measures – Session Sign-up

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	SMS Sign-up	Session Sign-up
Gender	-0.01	-0.06
	(0.06)	(0.05)
Age	-0.00	0.00
	(0.00)	(0.00)
HH Size	0.02	0.01
	(0.02)	(0.02)
Dependents	0.00	-0.02
	(0.02)	(0.01)
Literate	0.02	0.04
	(0.04)	(0.03)
Educ. Primary Plus	-0.02	0.15
	(0.07)	$(0.06)^{**}$
Educ. Secondary Plus	-0.06	0.03
	(0.09)	(0.07)
Average Weekly Income	0.00	-0.00
	(0.00)	(0.00)
Average Weekly Savings	0.00	0.00
	(0.00)	(0.00)
Observations	290	290

Table 9: Determinants of SMS and Information Session Sign-up

Notes: This table presents the coefficients from regressions of each outcome on the dependent variables indicated. * denotes significance at 10 pct., ** at 5 pct., and *** at 1 pct.

References

- Paul R Abramson. Political attitudes in America: Formation and change. Freeman, 1983. 1
- Laura A Brannon and Timothy C Brock. Limiting time for responding enhances behavior corresponding to the merits of compliance appeals: Refutations of heuristiccue theory in service and consumer settings. Journal of Consumer Psychology, 10 (3):135–146, 2001. 1
- Harold D Clarke and Alan C Acock. National elections and political attitudes: The case of political efficacy. British Journal of Political Science, 19(04):551–562, 1989.
- Urs Fischbacher. z-tree: Zurich toolbox for ready-made economic experiments. *Experimental economics*, 10(2):171–178, 2007. 3.2
- Michael Lynn. The psychology of unavailability: Explaining scarcity and cost effects on value. Basic and Applied Social Psychology, 13(1):3–7, 1992. 1
- Gwyneth McClendon and Rachel Beatty Riedl. Religion as a stimulant of political participation: Experimental evidence from nairobi, kenya. *The Journal of Politics*, 77(4):1045–1057, 2015. 1, 3.2, 6
- Jerusalem M. Schwarzer, R. Generalized self-efficacy scale. In M. Johnsto J. Weinman, S. Wright, editor, *Measures in health psychology: A user's portfolio. Causal* and control beliefs, pages 35–37. Windsor, 1995. 5