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Information, identification, or neither?

Experimental evidence on role models in Viet Nam

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Abstract: How can development programmes reach out to remote communities? This paper presents experimental evidence on the impact of a role models intervention that aims to inspire ethnic minority households to start businesses and diversify income sources. The experiment took place in three provinces of the Northern highlands of Viet Nam. The research design enables us to disentangle the extent to which role models shift behaviour by providing information or inspiration. We find that despite successful implementation of the intervention, which was powered to detect reasonably small effects, and a high level of compliance, the role model intervention did not impact on income, livelihoods, or other welfare outcomes. This points to the difficulties involved in using role models to induce behavioural change in contexts where populations are severely marginalized and face a variety of binding constraints.

Keywords: role models, RCT, ethnic minorities, Viet Nam

JEL classification: D1, D3, I3, O12

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1 Introduction

How can development programmes reach out to communities that are geographically, politically, culturally, and economically isolated? What kind of interventions can stimulate growth and economic activities in communities that are remote from knowledge exchange, new technological ideas, markets, and policy decision making? The aim of this paper is to investigate the effect of an intervention aimed at stimulating behavioural change among remote ethnic minority communities. A recent strand of literature has investigated the effect of role models in inducing behavioural change via the use of videos. In general, these studies provide evidence of a positive impact of role model videos in either raising aspirations or affecting behaviour in terms of business activities, savings, and children's education (Bernard et al. 2014; Cheung 2012; Lubega et al. 2017).¹ However, are these interventions effective in a context of not just marginalized, but outright isolated and economically disadvantaged communities?

This paper investigates the impact of a set of role model interventions among ethnic minorities in the north of Viet Nam. Viet Nam is a stimulating case for two main reasons. First, Viet Nam has witnessed staggering growth, but this growth has not benefited its population equally. The gap between the Kinh majority and the ethnic minorities widened during the 1990s (Tarp 2017; The Economist 2015; United Nations Population Fund 2011; World Bank 2009). Identifying relevant policy interventions to address growing inequality along ethnic lines is a key policy priority. The results of this study may also be of relevance to other countries, such as China and India, which have witnessed fast growth associated with rising inequality (World Bank 2012). Second, while the Kinh ethnic majority, which accounts for 86 per cent of the population, is present throughout the country, the 53 ethnic minority groups that are officially recognized in Viet Nam are mainly confined to specific, often remote, areas in the mountainous Northern regions, the Central Highlands, and the Mekong Delta. The remoteness of their location poses numerous challenges, such as lack of access to markets, poor road networks, lack of physical mobility, and lack of education—challenges not dissimilar to those experienced by communities in remote regions of other developing countries, such as the Karamoja region in Uganda, and by ethnic minorities in China. How to reach out to such communities is central to the Sustainable Development Goals (SDGs) approved by the United Nations, which have inclusion and an overall aim of 'leaving no one behind' at their core.

This paper emerged from a long-term project that has been surveying households in rural Viet Nam since 2006, and explores the possible ways of inspiring behavioural change among ethnic minorities living in three provinces of Viet Nam. The intervention uses videos of role models to stimulate behavioural change, focusing on two channels: (1) an identification channel, whereby we explore whether behaviour changes as a result of participants identifying with the role model along ethnic lines; and (2) an information channel to explore the effect of information on behaviour provided in the videos. To test these channels we design and implement a three-arm randomized controlled trial (RCT). Participants in the project were randomly assigned to one of three treatment groups and a control group. Those assigned to the treatment groups were invited to watch one of three sets of videos. The first set of videos feature individual role models of ethnic minority background who discuss their businesses, the challenges faced, the innovations adopted, and their achievements. The ethnic minority role models were selected to represent three different ethnic minorities of the provinces selected for the intervention. The second set of videos reproduce exactly the same story as the ones presented in the role model videos, but with actors of the ethnic

¹ See DellaVigna and La Ferrara (2015) and La Ferrara (2016) for a review of the literature on media and poverty.

Kinh majority, telling the story presented in the role model videos as theirs. The ethnic majority videos therefore replicate the content of the ethnic minority videos, both visually and in terms of the script. The scope of this second treatment arm is to isolate the identification effect of the videos, if any, from the information effect. A third treatment arm was introduced as a placebo, following the work by Bernard et al. (2014), whereby individuals were invited to watch a documentary on Vietnamese food and lifestyle. The placebo treatment arm allows us to control for the effect of bringing individuals together to watch a video in measuring the identification and information effects. We also include in the design of the RCT a control group of individuals that did not participate in any screening but were interviewed at baseline and end-line. Randomization into the treatment and control groups took place at commune level.

The video screenings took place over a period of seven months. Households in the three treatment groups were visited three times during the intervention, and at each round of the intervention a new video was presented. No group discussion took place at the screenings so that they would resemble as closely as possible the way in which videos are watched in the household. Overall, we find no effect of the videos on any type of income, food expenditure, self-employment activities, agricultural production, savings, or aspirations. This is in stark contrast with the previous work by Bernard et al. (2014) and Lubega et al. (2018). Indeed, the null effects that we find are precisely identified, allowing us to conclude that interventions that may work in other settings or with less isolated communities may not work in remote areas. On the basis of our results, we conclude that the effectiveness of role models in inducing behavioural change could be context-specific.

The rest of the paper is organized as follows. In Section 2 we provide background and context for ethnic minorities in Viet Nam. Section 3 describes the research design and implementation, while Section 4 presents the data. The empirical approach is described in Section 5 and the results are presented in Section 6. Section 7 discusses the findings and relates them to the literature, and Section 8 concludes.

2 Ethnic minorities in Viet Nam

Viet Nam is ethnically diverse, comprising 54 officially recognized ethnic groups. The Kinh group constitutes the majority, representing about 86 per cent of the population according to the 2009 Census. The largest ethnic groups (apart from the Kinh), with a population above 1 million, are the Tay, Thai, Muong, Khmer, Hmong, and Hoa (United Nations Population Fund 2011). Minority communities are geographically concentrated: Tay, Thai, Muong, and Hmong are mainly in the Northern Midlands and mountainous regions, while Khmer are primarily in the Mekong River Delta (United Nations Population Fund 2011). While the overall poverty rate in Viet Nam fell from 58 per cent in 1993 to 16 per cent in 2006, ethnic minorities experienced a much slower decline in poverty, from 86 per cent to 52 per cent over the same period (Cuong et al. 2015; Nguyen et al. 2017). There is considerable heterogeneity across ethnic groups in Viet Nam, each having a different culture and set of traditions that interact with behaviour and decisions relating to work, income, and participation in society. For example, the Hoa (Chinese) ethnic minority have poverty rates in line with the Kinh majority, while Hmong and Dao present higher poverty rates than the other ethnic minorities (World Bank 2012).

The disparity between Kinh and non-Kinh ethnic communities has been at the centre of the policy agenda of the Vietnamese government: a series of programmes have been put in place in support of minority groups and to reduce the socio-economic disparities between the Kinh and non-Kinh groups. In particular, Program 135, a main initiative, has financed infrastructure improvements, such as road construction and electricity and clean water supplies (Nguyen et al. 2017). The positive

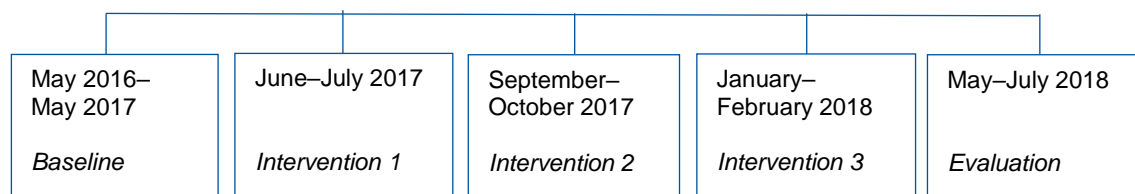
effects of such programmes on income and agricultural productivity (Cuong et al. 2015) notwithstanding, significant differences between Kinh and non-Kinh ethnic groups still persist.

A recent study by Singhal and Beck (2017) explores the ethnic disadvantage experienced in Viet Nam using the Viet Nam Access to Resources Household Survey (VARHS). While living standards have improved for both Kinh and non-Kinh groups, significant differences remain in the relative level of welfare. On average, non-Kinh households are found to have lower quality agricultural land and less access to markets in general and financial services in particular, with low access also to formal and informal credit. These findings are in line with the country social analysis conducted by the World Bank (2009), which identifies six factors explaining ethnic minorities’ disadvantage: low education, low out-migration, lack of access to financial services and markets, lower quality land, stereotyping, and other cultural obstacles. One of the recommendations stemming from the country social analysis is the need to support ethnic voices by drafting policies shaped by ethnic minorities. The intervention presented in this study is in line with this recommendation. By allowing non-Kinh role models to showcase their entrepreneurial activities, we offer a voice to ethnic minorities and a relatable example for them to follow.

3 Experimental design and implementation

The study focuses on three provinces in the North of Viet Nam, namely Lao Cai, Lai Chau, and Dien Bien, where a large number of ethnic minority households are located. The implementation of the RCT involved a series of steps and the support of a series of government departments, namely the Institute of Labour Science and Social Affairs (ILSSA) and the Department of Labour, Invalids and Social Affairs (DOLISA) in each of the three provinces. Details of the implementation of the intervention are presented in the Appendix. The baseline survey took place between May 2016 and May 2017. The first round of the intervention took place in June–July 2017, the second round in September–October 2017, and the last round in January–February 2018. A new video, different for each treatment arm, was screened during each round of the intervention. The end-line evaluation was conducted between May and July 2018. Figure 1 presents the timeline of the study.

Figure 1: Study timeline



Source: Authors’ records of intervention.

The sample was stratified by the three provinces to ensure representation of the three treatment arms and the control group in each province. Randomization took place at commune level: the 88 communes were randomly allocated to one of the four groups described below, with 22 communes in each group.

3.1 Treatment 1: Role model ethnic minority (non-Kinh) video

The main intervention took the form of three documentary videos which tell the stories of three successful ethnic minority (non-Kinh) entrepreneurs who managed to lift their household out of poverty through enterprise activities. The videos address the difficulties encountered and the strategies employed and include an inspirational message to motivate individuals starting out in a similar situation. These videos present the real-life stories of people that the individuals in our sample could relate to and be inspired by. In them, ethnic minority people narrate their own personal stories. The individuals featured in the videos are of three different ethnic minorities (Tay, Hmong, and Dao) and they speak their own language, often mixed with words in Vietnamese. Subtitles in Vietnamese were added, to ensure that the videos were understood by all participants.² Interpreters were only needed and used in three communes.

3.2 Treatment 2: Role model ethnic majority (Kinh) video

The second treatment arm consisted of the screening of three documentaries in which actors of ethnic majority (Kinh) identity reproduced exactly the same stories as those told by the ethnic minority role models in Treatment 1. The videos in Treatment 2 are an almost exact reproduction of the videos in Treatment 1, apart from the ethnic identity of the protagonist. This allows us to separate out the impact of providing information on how to overcome struggles in establishing an enterprise from the effect of providing a role model with an identity that individuals can relate to.

3.3 Treatment 3: Placebo video

The third treatment arm consisted of three placebo videos that were shown under the same conditions as those of the treatment communes. The placebo videos are short movies and documentaries on Vietnamese lifestyle and food that are typically shown on Vietnamese television. The inclusion of the placebo treatment allows us to disentangle whether it is the inspirational message in the video that impacts on outcomes or the fact that members of the community gather together in a public place to view the video (Bernard et al. 2014).

3.4 Control

The control group consisted of the remaining 22 communes in the sample, which were not exposed to any video. These households were not contacted during the intervention rounds but were interviewed at baseline and at end-line.

The number of communes and households assigned to each group for each of the three provinces at baseline and the number of households present at end-line are presented in Table 1.

² At baseline literacy rates across the three provinces were as follows: 77 per cent in Lao Cai, 84 per cent in Lai Chau, and 73 per cent in Dien Bien.

Table 1: Sample by province and treatment and control group at baseline and end-line

	Control		Ethnic video		Kinh video		Placebo	
	Base	End	Base	End	Base	End	Base	End
<i>Lao Cai</i>								
Communes	6	6	6	6	7	7	7	7
Households	64	64	64	62	55	55	55	54
<i>Lai Chai</i>								
Communes	8	8	8	8	8	8	7	7
Households	64	61	64	61	88	84	64	56
<i>Dien Bien</i>								
Communes	8	8	8	8	7	7	8	8
Households	71	70	79	73	56	55	80	75
<i>Total</i>								
Communes	22	22	22	22	22	22	22	22
Households	199	195	207	196	195	194	199	185

Source: Authors' records of intervention.

4 Data

The baseline survey is based on the Vietnamese Access to Resources Household Survey (VARHS), a panel data survey conducted biennially in 12 provinces in Viet Nam since 2006 (Brandt and Tarp 2017). We use the sample of 494 ethnic minority households covered by the VARHS in 2016 from the three provinces. The ethnic minority households are spread over 88 communes. We supplement the sample with an additional 310 ethnic minority households randomly selected from the population of ethnic minority households in these communes to ensure that there are at least 8 ethnic minority households in each commune in our study. The baseline survey for these additional households took place in April and May 2017, while the original 494 VARHS households were interviewed in April and May 2016. The baseline provides comprehensive information on households' socio-demographic characteristics, including detailed information on agricultural productivity, land holdings, savings, and economic activities.

Table 2: Ethnicity of the household across provinces

Ethnicity of the HH	Lao Cai	Lai Chau	Dien Bien
Bố Y	0.42	0	0
Cống	0	3.93	0
Cơ Lao	0	0.36	0
Dao	15.55	6.79	1.4
Giáy	3.36	4.29	0
Hà Nhì	0	5.36	0
H'Ré	0	0.36	0
Thai	28.99	30.36	29.37
Kháng	0	1.43	0.35
Khơ Mú	0	0	6.29
La Hủ	0	1.79	0
Lào	0	4.29	3.5
Lự	0	2.86	0
Mường	0.84	0	0
Nùng	17.23	0	0
Tày	33.61	0.36	0.35
H'Mông	0	37.5	58.39
X'Tiêng	0	0.36	0
Unknown/doesn't know	0	0	0.35

Source: Authors' records of intervention.

Overall, the baseline sample consists of 804 households spread across 88 communes in the three provinces and it includes 15 ethnic minority groups. The three largest ethnic groups in our sample are Thai, Hmong, and Tay, which account for 34 per cent, 30 per cent, and 10 per cent of the

sample, respectively. Ethnic distribution varies across the three provinces of this study, as shown in Table 2. Hmongs make up 58 per cent and 38 per cent of the sample in the Dien Bien and Lai Chau provinces, respectively, while they are absent in the Lao Cai province, where the largest ethnic group is Tay. Another important ethnic group in the context of our study is Dao, which is the ethnic group of the protagonist in one of the role model videos. This group comprises 15.5 per cent of the ethnic minorities in our sample in Lao Cai, 6.8 per cent in Lai Chau, but only 1.4 per cent in Dien Bien. Overall, the ethnic distribution in the sample closely matches the ethnic distribution in the 2009 Census (United Nations Population Fund 2011).

Table 3 presents summary statistics of the demographic characteristics of all the households interviewed in the 2016 VARHS in the three provinces where the randomized field experiment took place. As 494 of the ethnic minority participants were drawn from the VARHS 2016 sample, it is possible to investigate the characteristics of Kinh versus non-Kinh households using data from the full sample of households gathered using the VARHS survey. On average, ethnic minority households are more likely to have a male as head of household. Heads of non-Kinh households are more likely to be married, are younger, and are less educated than household heads from the ethnic majority. Ethnic minority households tend to be larger and have larger plots. In line with the findings from the nationally representative Viet Nam Household Living Standard Survey (VHLSS), ethnic minority households are poorer, in terms of food expenditure, and have lower levels of education (Nguyen et al. 2017).

Table 3: Comparison of non-Kinh and Kinh households based on VARHS 2016

	Non-Kinh	Kinh	Difference	(p-value)
Male HH head	0.92	0.73	0.19	0.00
Married HH head	0.90	0.75	0.15	0.00
Age of HH head	48.78	54.77	-5.99	0.00
Number of HH members	5.25	3.80	1.45	0.00
Highest education of HH head	2.48	3.23	-0.76	0.00
Area of land used for farming	5,693.90	3,281.89	2,412.00	0.01
Value of livestock	41,951.36	18,131.07	23,820.29	0.00
HH members in business	0.40	0.43	-0.03	0.77
Food expenditure last 4 weeks	1,110.42	2,018.66	-908.24	0.00
Stock of savings	11,892.01	27,483.57	-15,591.56	0.00
Savings in the past 12 months	4,817.36	12,290.71	-7,473.35	0.00

Source: Authors' calculations based on VARHS.

5 Empirical framework and experimental validity

5.1 Empirical framework

We test the impact of the three treatments on a set of core outcomes including entrepreneurial activities, income, and livelihoods, a set of secondary outcomes including savings and credit, and a set of other outcomes related to the level of ambition or inspiration of the respondents. The econometric specification we use is given in equation (1).

$$O_{it} = \alpha + \delta_1 T1_i + \delta_2 T2_i + \delta_3 T3_i + \gamma O_{i0} + \beta X_{i0} + \theta Province_i + \varepsilon_{it} \quad (1)$$

where O_{it} is the particular outcome variable of interest for household i at end-line; $T1_i$ is a dummy indicator that takes the value 1 if the household is in the treatment group that views the video featuring a member of the ethnic minority community; $T2_i$ is a dummy indicator that takes the value 1 if the household is in the treatment group that views the video featuring a member of the Kinh majority community; $T3_i$ is a dummy indicator that takes the value 1 if the household is in

the placebo treatment group (i.e. attends a screening of a standard TV show); O_{i0} is the value of the outcome variable at baseline; X_{i0} is a vector of baseline characteristics; and $Province_i$ is an indicator for the province where the household is located. We stratify the sample by province to ensure balanced representation of each treatment and control group within each province. Standard errors are clustered at the commune level, which is the unit of randomization.

5.2 Experimental validity

There are two potential problems for the validity of this experiment. First, it is possible that there are, by chance, imbalances across groups at baseline, even in the presence of random allocation of communes to treatment. Second, the experimental validity may be threatened by incorrect implementation of the intervention. In what follows we consider each of these potential issues.

Focusing on the baseline data from our sample of ethnic minority households, Table 4 presents a series of balancing tests to compare baseline characteristics of our treatment and control groups prior to the intervention. We achieve almost perfect balance in each of the variables of interest. The only exceptions are that we find a marginally statistically significant difference in the stock of savings between households in the ethnic minority video treatment group and the control group, with ethnic minority households having more savings. This works against us finding an effect on this measure. We also find that households in the ethnic majority video treatment have slightly higher levels of education than the control group. While we are not concerned about these minor imbalances, we nevertheless control for them by including baseline values of these and other control variables in the main specification as shown in equation (1) above.

Second, incorrect implementation could affect the experimental validity of the intervention. The implementation protocols were carefully planned with the long-standing implementing partner, the Institute of Labour Science and Social Affairs (ILSSA), which has implemented the VARHS project since its inception in 2006. After each video screening, ILSSA provided a full report of any implementation challenges they encountered in the fieldwork. While there were indeed some implementation challenges in the field due to the remoteness of the communes in question and the physical conditions that made travel to these communities difficult, the rates of participation and compliance were very high, while the overall attrition rate was very low at 4 per cent.

Table 5 presents the number of households present at each interview round. Compliance rates are high, with 94.5 per cent of the treatment group attending at least one screening and 67.2 per cent attending all screenings. There is some variation across treatment groups, with households less likely to attend all the placebo videos. We see similar compliance rates across provinces.

At each screening round, enumerators also reported the level of engagement of participants in each session. Overall, viewers were reported to be engaged with the video in 81 per cent of the screenings and *all* participants stayed for the entire duration of the session in 95 per cent of the video sessions. This suggests that despite the remoteness of these localities, implementation and compliance do not seem to raise any issue that could undermine the validity of the experiment.

Table 4: Balance tests across treatment and control groups at baseline

	Mean C	Mean T1	Diff T1-C	p-value	Mean T2	Diff T2-C	p-value	Mean T3	Diff T3-C	p-value
Male HH head	0.92	0.93	-0.01	0.76	0.90	0.02	0.49	0.89	0.03	0.31
Married HH head	0.88	0.89	-0.01	0.77	0.90	-0.03	0.42	0.91	-0.04	0.25
Age of HH head	46.18	45.57	0.61	0.64	46.87	-0.70	0.61	46.39	-0.21	0.87
Number of HH members	3.05	3.00	0.05	0.58	2.97	0.08	0.38	3.13	-0.08	0.33
Highest education of HH head	2.40	2.31	0.08	0.47	2.64	-0.24	0.05**	2.38	0.02	0.86
Area of land used for farming	4,664	5,764	-1,100	0.17	4,988	-325	0.49	7,344	-2,680	0.12
Value of livestock	42,425	43,660	-1,235	0.78	36,158	6,267	0.10	40,496	1,929	0.63
HH members in business	0.30	0.35	-0.05	0.44	0.29	0.01	0.88	0.39	-0.09	0.16
Food expenditure last 4 weeks	973	1,089	-115	0.39	1,040	-66	0.49	881	92	0.31
Stock of savings	8,976	13,036	-4,059*	0.07*	12,700	-3,725	0.12	10,936	-1,960	0.46
Savings in the past 12 months	4,169	5,526	-1,357	0.15	4,330	-161	0.83	3,590	579	0.44

Note: C refers to the control group, T1 to ethnic minority (non-Kinh) video treatment, T2 to the ethnic majority (Kinh) video treatment, and T3 to the placebo treatment.

Source: Authors' calculations based on VARHS.

Table 5: Compliance and intensity of treatment

Ethnic video	R1	R2	R3	% At least one	% All
Lao Cai	53	59	55	95.3	83.3
Lai Chai	56	58	59	95.3	71.9
Dien Bien	65	66	68	89.9	59.5
Total	174	183	182	92.7	66.7
Kinh Video	R1	R2	R3	% At least one	% All
Lao Cai	48	54	50	100.0	78.2
Lai Chai	75	74	78	95.4	68.2
Dien Bien	51	50	49	98.2	75.0
Total	174	178	177	99.5	74.4
Placebo	R1	R2	R3	% At least one	% All
Lao Cai	48	48	49	96.4	72.7
Lai Chai	55	61	59	87.5	67.2
Dien Bien	54	65	66	91.2	47.5
Total	157	174	174	91.5	60.8

Source: Authors' calculations based on VARHS.

6 Estimation results

The aim of the intervention was to inspire ethnic minority households to engage in new enterprise activities and generate higher levels of income. In Table 6 we explore the extent to which the intervention impacted on the income level of households and/or the sources of income. As is common in surveys of this type, our income data are quite noisy and so we remove the top 1 per cent and use a log transformation whereby we add a value of 1 to each observation to account for zero income levels. We use the specification given in equation (1) and also present the results from a simple regression of the outcome of interest on the different treatment indicators at end-line without the inclusion of any additional controls.³ We do not find any evidence that the treatment had any statistically significant effect on income or its sources. We consider this evidence of a null effect of the intervention, given that we are powered to detect reasonably small effects of the intervention, as indicated by the minimal detectable effect (MDE) reported at the bottom of each estimation table. In Table 7 we consider the agricultural and non-farm business activities of households. As in Table 6, we find no evidence that the treatment had any impact on the types of income-generating activities that treated households engage in. In Table 8, we also check for impacts on other possible welfare outcomes including food expenditure, land owned, and savings, and we find no evidence of a statistically significant effect of the treatment.

³ We also consider a specification (available on request) where we look at the impact of the treatment intensity (i.e. the number of times the video was seen) instrumented by assignment to treatment on outcomes. All our results hold.

Table 6: Impact of treatment on household income and its sources

	Total Income		Income from agriculture		Income from non-farm business		Income from wages	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
T1: Ethnic video	-0.0676 (0.108)	-0.102 (0.0683)	0.0628 (0.261)	0.0492 (0.178)	0.00105 (0.360)	-0.126 (0.316)	0.594 (0.742)	0.458 (0.582)
T2: Kinh video	0.0800 (0.100)	-0.0370 (0.0727)	-0.0164 (0.331)	-0.133 (0.215)	0.398 (0.332)	0.259 (0.308)	1.049 (0.681)	0.337 (0.532)
T3: Placebo	-0.0501 (0.116)	-0.0518 (0.0843)	0.362 (0.255)	0.202 (0.181)	-0.126 (0.346)	-0.339 (0.310)	0.0500 (0.853)	0.0615 (0.591)
Outcome at baseline	No	Yes	No	Yes	No	Yes	No	Yes
Baseline controls	No	Yes	No	Yes	No	Yes	No	Yes
Strata dummies	No	Yes	No	Yes	No	Yes	No	Yes
Observations	762	754	734	715	763	757	763	757
R-squared	0.007	0.255	0.006	0.300	0.005	0.103	0.010	0.219
Baseline mean control		10.76		9.63		1.37		7.10
MDE		0.20		0.52		0.90		1.37

Notes: MDE refers to the minimum detectable effect with 80 per cent power for the given sample size. Baseline controls include the sex, marital status, age, and education level of the head of household, the size of the household, whether the household has political connections, whether the head of household speaks Vietnamese, and the ethnic group of the household. Robust standard errors (s.e.) clustered at the commune level are presented in parentheses *** p<0.01, ** p<0.05, *p<0.1.

Source: Authors' calculations based on VARHS.

Table 7: Impact of treatment on livelihoods

	Number of livestock units		Quantity of crop output produced		Quantity of crop output sold		Runs a non-farm business	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
T1: Ethnic video	5.254 (4.208)	3.751 (3.890)	-237.2 (279.2)	-225.5 (205.8)	-343.6 (283.0)	-413.7* (241.9)	0.00453 (0.0394)	-0.00791 (0.0380)
T2: Kinh video	2.737 (5.491)	0.723 (4.659)	-326.3 (268.6)	-303.8 (216.9)	-356.9 (285.7)	-412.9 (265.8)	0.0367 (0.0402)	0.0174 (0.0375)
T3: Placebo	0.461 (3.595)	-2.076 (3.532)	-184.9 (259.6)	-356.0 (214.4)	-144.7 (314.0)	-313.3 (293.4)	-0.00471 (0.0397)	-0.0278 (0.0382)
Outcome at baseline	No	Yes	No	Yes	No	Yes	No	Yes
Baseline controls	No	Yes	No	Yes	No	Yes	No	Yes
Strata dummies	No	Yes	No	Yes	No	Yes	No	Yes
Observations	763	755	763	757	770	770	770	770
R-squared	0.005	0.120	0.008	0.234	0.008	0.141	0.002	0.081
Baseline mean control		19.8		1,753		691		0.206
MDE		7.3		427		373		0.14

Note: MDE refers to the minimum detectable effect with 80 per cent power for the given sample size. Baseline controls include the sex, marital status, age, and education level of the head of household, the size of the household, whether the household has political connections, whether the head of household speaks Vietnamese, and the ethnic group of the household. Robust standard errors (s.e.) clustered at the commune level are presented in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' calculations based on VARHS.

Table 8: Impact of treatment on food expenditure, land and savings

	Food expenditure		Number of plots owned		Stock of savings		Flow of savings	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
T1: Ethnic video	43.06 (168.9)	-13.66 (128.4)	-0.0364 (0.157)	0.0666 (0.0741)	-1,185 (3,789)	-3,334 (2,964)	1,552 (2,478)	1,312 (2,280)
T2: Kinh video	-27.83 (136.7)	-162.1 (116.4)	-0.158 (0.187)	0.0538 (0.0820)	7,496 (6,378)	3,712 (5,271)	5,496 (5,049)	5,253 (4,927)
T3: Placebo	-75.82 (143.4)	-126.7 (127.6)	0.165 (0.158)	0.120 (0.0762)	3,297 (5,578)	2,069 (4,275)	1,216 (2,340)	1,543 (2,298)
Outcome at baseline	No	Yes	No	Yes	No	Yes	No	Yes
Baseline controls	No	Yes	No	Yes	No	Yes	No	Yes
Strata dummies	No	Yes	No	Yes	No	Yes	No	Yes
Observations	770	770	770	770	770	770	770	770
R-squared	0.002	0.156	0.011	0.615	0.008	0.183	0.005	0.047
Baseline mean control		973		3.06		8,976		4,169
MDE		351		0.36		6,100		2,401

Note: MDE refers to the minimum detectable effect with 80 per cent power for the given sample size. Baseline controls include the sex, marital status, age, and education level of the head of household, the size of the household, whether the household has political connections, whether the head of household speaks Vietnamese, and the ethnic group of the household. Robust standard errors (s.e.) clustered at the commune level are presented in parentheses *** p<0.01, ** p<0.05, *p<0.1.

Source: Authors' calculations based on VARHS.

7 Discussion

As stated in Section 5, implementation and compliance do not raise any concerns that could undermine the validity of the experiment. Therefore, in this section we explore other possible explanations for the null effects on welfare outcomes. It is possible that the treatment led to behavioural change and that this did not translate into improved income or welfare outcomes due to other constraints. It could also be that the intervention was simply not effective and did not have the anticipated inspirational impact.

To explore these possibilities we examine the impact that the interventions had on measures of psychological well-being and aspirations. Respondents were asked to rank, on a scale of strongly disagree to strongly agree, their reaction to the following statements:

- I have little control over the things that happen to me.
- I often feel helpless in dealing with problems in life.
- What happens to me in the future mostly depends on me.
- There is little I can do to change many of the important things in life.
- If I try hard I can improve my situation in life.

If the intervention had the intended effect and shifted beliefs about aspirations and ambition in life, we would expect to see respondents more likely to report afterwards that they have more control over their lives. We code each of the variables as a 0–1 dummy variable which takes on a value of 1 if respondents agree or strongly agree with these statements and estimate the same regression as in equation (1).⁴ The results are presented in Table 9. We find no impact of the intervention on any of these outcome variables. As with the previous results we can interpret these as precise null effects given that we are powered to detect small effects.

⁴ Baseline data were not collected on the fifth statement: ‘If I try hard I can improve my situation in life.’ For this outcome we include the baseline levels of the other four outcomes as controls.

Table 9: Impact of treatment on household income and its sources

	I have little control over the things that happen to me		I often feel helpless in dealing with problems in life		What happens to me in the future mostly depends on me		There is little I can do to change many of the important things in life		If I try hard I can improve my situation in life	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
T1: Ethnic video	-0.0119 (0.0660)	-0.00113 (0.0603)	0.0400 (0.0506)	0.0418 (0.0499)	0.0373 (0.0585)	0.0251 (0.0555)	0.00856 (0.0703)	0.0154 (0.0599)	-0.0801 (0.0754)	-0.0867 (0.0573)
T2: Kinh video	-0.0344 (0.0619)	-0.0418 (0.0573)	0.000872 (0.0490)	-0.0145 (0.0489)	0.0757 (0.0519)	0.0636 (0.0520)	0.00167 (0.0706)	0.00422 (0.0681)	-0.0788 (0.0699)	-0.0930 (0.0593)
T3: Placebo	0.0394 (0.0634)	0.0243 (0.0604)	0.0632 (0.0550)	0.0587 (0.0546)	0.0536 (0.0595)	0.0362 (0.0596)	0.0607 (0.0740)	0.0566 (0.0729)	-0.0644 (0.0737)	-0.105* (0.0579)
Outcome at baseline	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Baseline controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Strata dummies	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	770	770	770	770	770	770	770	770	770	770
R-squared	0.003	0.052	0.005	0.040	0.004	0.023	0.003	0.082	0.005	0.098
Baseline mean control		0.518		0.266		0.749		0.528		N.A.
MDE		0.15		0.15		0.12		0.15		N.A.

Note: MDE refers to the minimum detectable effect with 80 per cent power for the given sample size. Baseline controls include the sex, marital status, age, and education level of the head of household, the size of the household, whether the household has political connections, whether the head of household speaks Vietnamese, and the ethnic group of the household. Robust standard errors (s.e.) clustered at the commune level are presented in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' calculations based on VARHS.

Overall, unlike other studies, our results suggest that providing role models is not an effective means of inspiring behavioural change. While we cannot pinpoint the exact reason why the intervention did not work in our case, it is likely due to the significance of other constraints associated with day-to-day life in these provinces that cannot be easily overcome. For example, baseline data from VARHS show that almost 60 per cent of households in these provinces experience losses associated with unanticipated shocks such as natural disasters or weather-related events compared with only 25 per cent of households in other provinces in Viet Nam. Moreover, within these provinces over 62 per cent of ethnic minorities experience losses due to shocks compared with only 45 per cent of the Kinh households in the sample.

We conclude that role models may have very limited or no effect in changing behaviour or in providing information to isolated communities. The results of this study stand in contrast with earlier findings of the effect of this type of intervention in affecting behaviour (Banerjee et al. 2018; Bernard et al. 2014; Lubega et al. 2018). More specifically for Viet Nam, our findings are aligned with those of the World Bank (2009) in its recent country social analysis, which calls for a sea-change in the way in which marginalized ethnic minority communities are targeted and supported in Viet Nam.

8 Conclusion

This study explored whether providing role models to ethnic minority groups is an effective tool for inspiring households to start businesses and increase incomes. Our research was motivated by the increased focus of development policies on reaching the most vulnerable and marginalized populations, an objective which lies at the heart of the SGG agenda. A recent literature has found promising evidence that providing role models through the medium of videos could be effective in inspiring vulnerable groups and improving welfare outcomes. Such interventions, if effective, could well be an easy way to reach marginalized groups and inspire behavioural change towards achieving attainable welfare-enhancing goals.

The setting for our study was rural Viet Nam, where large income disparities persist between the ethnic majority and ethnic minority groups. We implemented a three-arm randomized controlled trial in three rural provinces in Northern Viet Nam where a large proportion of the ethnic minority population of Viet Nam live. Participants in our study were randomly assigned to one of three treatment groups and a control group. Each treatment arm involved the screening of three different videos over the course of a seven-month period. The first treatment group was exposed to videos that featured individual role models of ethnic minority background who discussed their businesses, the challenges faced, the innovations adopted, and their achievements. The second treatment group were exposed to videos of actors of the ethnic majority telling exactly the same story as the ones presented in the role model videos. The third treatment group was the placebo group, which was exposed to a Vietnamese food and lifestyle show. The control group of individuals did not participate in any screening. They were interviewed at baseline and end-line. Our focus was on disentangling the impact of the treatment in the first and second groups to isolate the identification effect of the role model videos, if any, from the information content.

Despite careful design and effective implementation of the experiment, low levels of attrition and high levels of compliance, we find no effect of the videos on any of the outcomes of interest. Given that our experimental design was such that we had power to detect reasonably small effects, we interpret these effects as precisely identified null effects. Overall we conclude that role model interventions may not be an effective means of targeting vulnerable groups in all settings. In particular, our findings suggest that they are ineffective in remote areas, where marginalized

communities are isolated as well as economically disadvantaged. Our findings cast doubt over the generalizability of role model interventions to different population groups and contexts.

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Appendix

Implementation of the intervention involved a series of steps and the support of a series of government departments. At the start of the intervention implementation, an official letter from the Institute of Labour Science and Social Affairs (ILSSA) was submitted to the Department of Labour, Invalids and Social Affairs (DOLISA) in each of the three provinces, with an official request for support. Upon receiving a response, ILSSA assigned an enumerator team to each area. A schedule of the fieldwork was put together by ILSSA enumerators, in consultation with the local DOLISA contact person. Official letters were then sent to the communes in the study. The commune chair assigned a person responsible for the actual implementation. Village heads were then contacted by ILSSA and participant households were informed about the screening either by the village head or by staff at the local commune. Two or three days before screening, the enumerators contacted the households directly, to confirm the screening. In cases where three or fewer households attended the screening, the screening was rescheduled at another time or date.

Ethnic minorities may vary significantly in terms of living arrangements: some ethnicities, such as Tay, tend to live in close-knit communities, with houses built very close to each other. Other ethnicities, such as Hmong, tend to live in houses scattered around the commune. In most cases, the videos were shown in commune headquarters, but in the case of communities in close living arrangements, the videos were screened in one household in the village. Due to treacherous road conditions and heavy rain, in some communes where households were widely spread, screening took place in two separate community halls.

Each round of the intervention faced different challenges. The main challenge for the first round was to convince and involve the local authorities. The main challenge of the second round was that during the harvest season households were often only available in the late afternoon, hence the screenings had to be rescheduled depending on their availability. The main challenge for the third round was that heavy rain and weather conditions made roads impassable both for the fieldwork team and for the households.

Power calculations

We use the baseline VARHS data to construct our power calculations focusing on the main outcome of interest: total household income. At baseline the average household income for the ethnic minority sample was around VND60 million (approximately US\$2,600) with a standard deviation of VND50,000. The minimum detectable effects at selected sample sizes for one treatment arm are presented in Table A1.

With 200 households in each arm we have the power to detect changes in household income of approximately VND15 million, which is equivalent to approximately US\$650 per annum, or a 25 percentage point increase in annual incomes. Indeed at baseline around 25 per cent of the sample had incomes of VND75 million per annum and above.

Table A1: Power calculations for total household income

Households per arm	MDE
6,468	5,000
506	10,000
198	15,000
110	20,000
88	25,000
66	30,000
44	35,000
44	40,000
22	45,000
22	50,000
22	55,000
22	60,000

Note: Minimum detectable effects for 22 clusters, power 80%, and intra-cluster correlation of 0.01.

Source: Authors' calculations based on VARHS.