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ENVY AND THE ISLAMIC REVIVAL: EXPERIMENTAL  
EVIDENCE FROM TUNISIA

Maleke Fourati

Working Paper No. 1235

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## Abstract

The Islamic revival defined as the call for a resurgence of Islamic culture by opposition to Western culture and an increase in participation in political Islam, has become a widespread phenomenon in the Muslim world since the 1970s. It is often discussed in the literature as being motivated by psychological factors but with little empirical evidence. In this paper, I test whether envy, defined as a feeling of grievance caused by someone else's possessions and/or qualities, is causing the Islamic revival. While testing the effect of envy on the Islamic revival is particularly challenging as envy is endogenous to a person's social state, personal characteristics, and preferences, I exogenously trigger the feeling of envy by a 2 by 2 design experiment conducted in Tunisia. I ran a dictator game with 600 nation-ally representative Tunisians to test whether participants exposed to envy, which I capture by the interaction between a priming video triggering envy and a low stake, increases participants donation share to a religious charity affiliated with the Tunisian Islamic party, Ennahdha, which represents the Islamic revival. The effect is particularly strong among participants who declare themselves as highly religious. I also test for the external validity of my experimental results and find consistent patterns.

**Keywords:** Religion, Islamic revival, religious parties, charitable organizations, envy, unfulfilled aspiration, field experiment

**JEL Classifications:** A13, C93, D03, Z12

## ملخص

الصحوّة الإسلاميّة التي ظهرت كدعوة إلى عودة الثقافة الإسلاميّة من خلال معارضة الثقافة الغربيّة وزيادة المشاركة في الإسلام السياسي أصبحت ظاهرة واسعة الانتشار في العالم الإسلامي منذ السبعينيّات. الأدبيّات غالباً ما تناقش هذه الظاهرة بوصفها مدفوعة بعوامل نفسية ولم تقدم إلا أدلة تجريبية قليلة. في هذه الورقة، أختبر ما إذا كان الاحساس بالحقْد، كشعور بالنقمة على ممتلكات شخص آخر و/أو على صفاته، هو الذي يؤدي إلى الصحوّة الإسلاميّة. فبينما يمثل اختبار تأثير الحقْد على الصحوّة الإسلاميّة تحدّي خاص، لأنّه داخلياً لارتباطه بوضع الشخص الاجتماعي، وخصائصه الشخصية، وتفضيلاته، فإنني أعمد إثارة هذا الشعور في شكله الخارجي من خلال تجربة اثنين - اثنين التي أجريت في تونس. فقامت أنا بإجراء لعبة الديكتاتورية مع 600 شخص تونسي يمثلون المستوى القومي لاختبار ما إذا كان المشاركون الذين تعرضوا للشعور بالنقمة - والذي أرصده من خلال العلاقة بين الفيديو الذي أعرضه عليهم لأول مرة والتبرع المنخفض - أقد زادت حصة تبرع أعضاء جمعية خيرية دينية تابعة للحزب النهضة الإسلامي التونسي، ممثلة للنهضة الإسلاميّة. مما يبين أن التأثير قويا بشكل خاص بين المشاركين الذين يعلنون أنفسهم متدينون للغاية. وعندما قمت أيضاً باختبار مدى انطباق العامل الخارجي على نتائجي التجريبية وجدت اتساقاً في الأنماط.

# 1 Introduction

The latest wave of the Islamic revival started in the 1970s and has become a widespread phenomenon in the Muslim world, in particular. The Islamic revival is defined as the call for a resurgence of Islamic culture in opposition to Western culture, and, an increase in the participation in political Islam. It combines two main strategies: first, building community organizations based on Islamic culture through all the society, second, calls for political movement of Islamism (Lapidus (1997)). This paper attempts to shed some light on the sources of the Islamic revival. In particular, it tests whether envy is causing the Islamic revival by using a 2 by 2 experiment conducted in Tunisia. Envy is defined as a feeling of grievance caused by someone else's possessions and/or qualities.

Psychological factors have been identified in the literature as causing the Islamic revival. Indeed, frustration among the poor towards the secular societies has motivated demand for radical and traditional Islamic values (Wickham (2005)). The two main sources of psychological factors are: envy and unfulfilled aspiration. Envy is caused by poverty and income inequality and unfulfilled aspiration is also caused by poverty and income inequality, but adds up an extra layer that is low social mobility (Carvalho (2009)). Binzel and Carvalho (2015) focus on the effect of unfulfilled aspiration in causing the Islamic revival. They develop a theoretical model which predicts that unfulfilled aspiration, experienced by highly educated individuals from low to middle social backgrounds interacting with more unequal environment, leads to the Islamic revival. To the extent that the Islamic revival translates into support for the Islamic parties, the unfulfilled aspiration hypothesis predicts that support for the Islamic parties should be higher among the more educated individuals of low and/or middle classes, especially when local inequality is high. However, district level data in Egypt shows that their support comes from districts with relatively less educated individuals (Elsayyad et al. (2014)). The literature has focused on the unfulfilled aspiration hypothesis in causing the Islamic revival, despite little empirical evidence while envy has been neglected so far.

In this paper, I experimentally investigate the role of envy in causing Islamic revival. In total, 600 representative individuals in Tunisia played a standard dictator game. Participants had six possible destinations of funds (i.e. recipients). The main recipient of interest is a religious NGO affiliated with the Tunisian Islamic party, Ennahdha. This recipient represents the Islamic revival as it associates its two features; being a community organization based on an Islamic culture with a political involvement. The others recipients enable to control

for participants' general altruism. I exogenously trigger the feeling of envy by a 2 by 2 design. First, I randomly varied participants' endowment with low stake and high stake. The high stake treatment made participants feel unexpectedly lucky, similarly to winning a lottery. Second, I randomly primed participants with a video. Some were primed with a video triggering envy and others with a control video. Both videos were symmetric in all respects but the content of the speech delivered. The video triggering envy shows a young man called Kais who comes from a privileged background. He reaches university education and managed to get good and well-paid jobs thanks to his family connections and his personal network. The control video, based on Binzel and Carvalho (2015) definition of unfulfilled aspiration, shows a young man called Makram who comes from an unprivileged background. Despite graduating from university, he could only get a low paid job, after many years of job seeking. Kais and Markram have the same level of education but the opportunity cost of education is considerably higher for Makram than for Kais while the returns to education is much lower for Makram than for Kais. The control video permits to control for the effect of unfulfilled aspiration identified in the literature as the main effect of psychological features causing the Islamic revival.

Both videos trigger feelings of inequality: one, a feeling of envy (Kais), while the other one, a feeling of solidarity (Makram). Since envy is experienced whenever a person faces high inequality while being relatively poor, envy requires two conditions to be satisfied: feelings of inequality and being relatively poor or deprived. Therefore, I capture envy by the combination of the video triggering envy and low stake. Participants also completed a survey questionnaire addressing various socio-demographic characteristics as well as attitudinal questions such as religious practices, involvement in various organizations and political preferences.

My hypothesis is that participants exposed to envy [primed with the video triggering envy and the low stake], increase their donation share towards the religious NGO affiliated with the Tunisian Islamic party, Ennahdha. However, exposure to envy should not affect their donation share to other recipients. My experimental results show that the effect of envy is particularly strong among participants who declare themselves as highly religious but is noisy when considering the entire sample. In fact, these findings may reflect other potential explanations which may therefore threaten any causal effect of envy on the Islamic revival. Rather than envy, experimental findings may results from a rejection of the secular elite which is expressed by attitudes towards the former autocratic regime and secular values. I disentangle the effect of attitudes towards autocratic regime from envy by including as control variables which ask whether the government should prosecute members of the former regime and whether it should

fight corruption as a priority. The inclusion of these variables does not alter the main experimental findings. Further, I cannot directly disentangle the effect of attitudes towards secular values from that of envy from the experimental settings. To alleviate this limitation, I test the external validity of my experimental results using answers to the survey questionnaire. I rely on Carvalho (2009) definition of envy and unfulfilled aspiration. I measure envy by the interaction between district level inequality and asset ownership and measure unfulfilled aspiration by the triple interaction between district level inequality, asset ownership and tertiary education. To account for the Islamic revival, I use two variables: (i) vote for the Islamic party, Ennahdha in the 2011 National Constituent elections which captures appeals for political Islam and, (ii) views on gender inheritance matters which captures support for Islamic precepts. Survey results show consistent patterns with my experimental findings which give support to my hypothesis.

This paper seeks to address the gap in the literature investigating the sources of the Islamic revival. To this date, there are limited empirical studies of the Islamic revival, partly because they rely on district data which enables to identify correlations between personal and psychological features and the Islamic revival but no causal relationship. Individual data solves this problem but a clear identification needs to control for unobservable characteristics and reverse causality. Indeed, testing the causal relationship between envy and the Islamic revival is particularly challenging as envy is endogenous to a person's social status, inherent to a person's preferences. It might also be correlated with a person's values and customs. In this paper, I attempt to overcome these difficulties by exogenously triggering the feeling of envy by a 2 by 2 design. It is also the first study combining field-experimental and survey data in testing the association between envy and religion, in the Arab region in particular, where the legal constraints prohibit any games involving gambling.<sup>1</sup>

In terms of policy implication, focusing on envy is important as it may have wider societal impact than unfulfilled aspiration. First, envy is likely to affect not only highly educated individuals as unfulfilled aspiration foresees, but expands to a broader range of the society, typically all individuals experiencing frustration. Second, while unfulfilled aspiration signals a political demand for better institutions, envy is more likely to cause violent social conflicts.<sup>2</sup> Gershman (2014) demonstrates that whenever inequality is high and property rights are low, envy leads the economy to a suboptimal equilibrium and may be destructive, in the sense that

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<sup>1</sup>Experimental games with gambling are strictly forbidden and punished by law in Muslim countries, as Tunisia. So, I changed the design of the experimental game to conform it to the Tunisian law.

<sup>2</sup>Psychologists describe two types of envy; malicious and benign (Van de Ven N., Zeelenberg M., Pieters R., 2009).

agents are willing to sacrifice their own money in order to destroy privileges of the richer agents. Zizzo and Oswald (2001), Zizzo (2003) and Zizzo (2007) find in their experiments that envy becomes indeed destructive especially when inequality is perceived as unjustified. Both, my experimental and survey findings suggest that not all the population experiencing envy engage with the Islamic revival. But this is particularly salient among religious individuals.

Finally, Tunisia presents a suitable case to test the effect of envy on the Islamic revival. First, the country is characterized by a homogenous population in terms of religious and ethnic affiliations.<sup>3</sup> However, it scores relatively high in terms of both, inequality and corruption level, which increase perception of unfair inequality.<sup>4</sup> Although banned under dictatorship, since its democratic transition, religious associations have managed to increasingly mobilizing people.<sup>5</sup> Similarly, the Tunisian Islamic party, Ennahdha won 37% of seats in the National Constituent Assembly in 2011. The party was by far the favourite during this first democratic election, expressing the Islamic Revival among the population.

The remainder of the paper is organized as follows; section 2 provides the background of the study, section 3 overviews the experimental design, section 4 presents the data and the empirical methodology, section 5 presents the results, section 6 addresses the external validity and section 6 concludes.

## 2 Background of the study

This section summarizes Carvalho (2009) theoretical model which provides psychological mechanisms based on envy and unfulfilled aspiration which may explain religious revival, and in particular, Islamic revival. His model is based on reference-dependent preferences; individuals in the economy are concerned by both their own direct consumption and the consumption of their reference point. Individuals belong to either lower or higher class and allocate their time between work and religious activities.

### 2.1 Envy and religious revival

In Carvalho (2009) model, consistent with Clark and Oswald (1998) concave-comparison utility model, individuals take into account their relative status in the society and consider only neg-

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<sup>3</sup>US State Department, 2007: 98 percent of Tunisians are Arabs, speak Tunisian Arabic and 99.76 percent are Sunni Muslims

<sup>4</sup><http://data.worldbank.org/data-catalog/world-development-indicators> : score 35.8 Gini coefficient compared with 40.5 in United States in 2010 and score 40 (rank 79/175) in corruption index compared with 81 (10/175) in United States in 2014

<sup>5</sup>Beissinger (2012)



ative comparison. Envy, defined as a feeling of grievance caused by someone else's possessions and/or qualities, expresses in his model individual's comparison utility. In this setting, individuals in the higher class are not affected by envy. On the one hand, envy may induce individuals in the lower class with a comparison-concave utility to work harder in order to catch up individuals in the higher class. This is the Keeping-up-with-the-Joneses effect. On the other hand, if inequality is sufficiently high, individuals in the lower class may deviate from the status race. Religion plays here the role of a coping mechanism which helps individuals in the lower class to place less weight on economic and materialistic values and more on religious values. Therefore, they would increase their time to religious matters relative to their time spent working. Hence, poverty and income inequality lead to an increase in religious values among the lower class.

## **2.2 Unfulfilled aspirations and religious revival**

There is an overall consensus in the literature that educated youth is the most radicalized in the Muslim world. For instance, based on simple descriptive statistics, Gambetta and Hertog (2009) find that engineers are more likely to engage into Islamic movement because of "relative deprivation in the Islamic world and mindset." In order to take into account this feature, Carvalho (2009) adjusts his model based on Kőszegi and Rabin (2006) which consider that individual's reference point is their expected income. Hence, individuals place their aspirations based on the expected returns from their education. It results from the model that an individual initially from the lower class who subsequently entered the higher class does not experience unfulfilled aspirations similar to an individual from the higher class. However, an individual initially from the lower class who had formed the same expectations but who did not enter the higher class will experience unfulfilled aspirations. As in the case of envy, religion plays a role of a coping mechanism for the latter type of individual. Hence, in this case, poverty, income inequality and low social mobility lead to an increase in religious values among the lower class.

## **2.3 Is this revival particular to Islam and the Muslim world?**

The question is whether the Islamic revival, defined as the call for a resurgence of Islamic culture in opposition to Western culture, and, an increase in the participation in political Islam, is a phenomenon is particular to Islam and to the Muslim world?

Religion is introduced in the model as a coping mechanism to envy and unfulfilled aspirations as it helps individuals to shift their focus from material and economic interests to religious and spiritual beliefs. Alternative models such as socialism and communism movements may have

also worked as a coping mechanism. Indeed, according to Wickham (2005) "in 1970, university student unions in Cairo were the bastion of secular leftist intellectuals. By the end of the 1970s, Islamist student leaders controlled student unions in most faculties at Cairo University and other higher educational institutions." But given the relatively high level of religiosity in Muslim countries,<sup>6</sup> Islamic movements were harder to fight by the autocratic government as they benefit from a sacred position among the population which does not hold for secular political organizations. Second, Islam provides stronger moral codes which may offer a more powerful alternative for individuals to cope with envy and unfulfilled aspiration as compared to socialism which remains limited to economic matters.

Although religious revival has been most visible in the Muslim world, it does not exclusively restrain to it. The United States has experienced both an increase in inequality and Church attendance (Keister and Sherkat (2014)). Furthermore, unlike other Western more comparable countries in terms of wealth such as Australia, religiosity is relatively high in the United States.<sup>7</sup> Bénabou et al. (2015) explains that a rise in income inequality may conduct to a coalition between the religious rich and the religious poor in order to fight secular and more left-wing ideas.

## 3 Experimental Design

### 3.1 Procedure

**Sampling frame** The study took place in Tunisia from February to April 2015. In total, 600 nationally representative Tunisians were surveyed from 22 years old<sup>8</sup> in 30 districts covering the 6 regions of Tunisia.<sup>9</sup> The sampling methodology relies on a multi-stage, random sampling design based on the latest Tunisian Census in 2014. Details of the sampling methodology are available in the Supplementary Appendix.<sup>10</sup>

**Experimental protocol** The survey, through face-to-face method, consists of a questionnaire with an embedded experimental game of 45 minutes, on average. The ordering of the questionnaire and the game is randomized throughout the study. The entire study is conducted

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<sup>6</sup><http://www.pewglobal.org/2008/09/17/chapter-2-religiosity/>

<sup>7</sup><http://www.pewglobal.org/2008/09/17/chapter-2-religiosity/>

<sup>8</sup>22 years old was set as the minimum age such that they were at least 18 in the 2011 National Constituent Assembly (NCA) elections.

<sup>9</sup>For security reason (terrorist threat), two districts were replaced with two others within the same region that were similar in terms of population size to the initial ones.

<sup>10</sup>Available upon request.

by the same enumerators divided in two teams made of female and male enumerators. This enables to overcome cultural sensibility, prevailing in environments like Tunisia, and, circumvent potential gender-enumerator effect. After the treatments allocation, each participant does six repetitions of a standard dictator game. The ordering of the six recipients is also randomized throughout the study. The two first recipients are existing NGOs introduced to participants by their names followed by a short description (e.g. "Humanitarian Association, Kolna Tounes, is not affiliated directly to a party and which does not support Islamic parties").<sup>11</sup> The four remaining recipients are real individuals. These are presented as being poor. Participants are also provided a short description corresponding to each individual: a married woman, a single woman, a married man and a single man.<sup>12</sup> In each repetition, the participant is given an amount of money and chooses whether to give some of this money to a recipient. Enumerators instruct participants that the six decisions are all independent from one another and that, at the end of the game, they will draw only one of the decision at random for effective payment. Instruction for the game is provided in the Appendix.

**Recipients** The recipient of interest is the religious NGO affiliated with the Islamic Tunisian party, Ennahdha. This recipient captures the Islamic revival as it associates its two components: a community organization based on an Islamic culture and political involvement. Participants are also given the chance to play with five other recipients. The other recipients are: the secular and apolitical NGO and four poor individuals of different gender and marital statuses. The poor recipients enable to measure participants' purely altruistic behavior. For simplicity and without affecting any results in the study, I present results of the average donations to the four poor individuals instead of considering them separately. The NGOs enable to measure participants' willingness to donate to public goods. The secular and apolitical NGO differs from the religious NGO affiliated with the Tunisian Islamic party, Ennahdha, in two respects; the religious NGO provides more religious public goods and has a political affiliation while the other NGO does not.

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<sup>11</sup>Refer to the Supplementary Appendix for details about the recipient's names and corresponding information provided to the participants

<sup>12</sup>The single woman is Sonia, the married woman is Hedia, the single man is Ayman and the married man is Mohamed.

## 3.2 Treatments

**Endowments** The feeling of relative poverty or deprivation is generated with variation in donation choices with respect to income elasticities.<sup>13</sup> 75%<sup>14</sup> of the sample is endowed with low stake; it is fixed at 10 Tunisian dinars (TND) which represents a working day for an agricultural worker. The remaining of the sample is endowed with high stake; it is fixed at 80 TND which represents about a week salary for an industrial worker.<sup>15</sup> The high stake captures the effect of winning a lottery, a "lucky day." Indeed, anecdotal evidence confirmed it, as in the high stake treatment, a participant shut down his business at 10am for the rest of the day, claiming that it was better than what he could hope to earn over an entire week.

**Priming** The feeling of inequality is triggered with a priming video. Each participant is primed with a video before the game is actually played. About 50% participants are randomly shown a video triggering envy and 50% a control video. The structure of the video is constructed based on Antonakis et al. (2014), priming video treatment. As them, I keep factors constant such that the videos appeared symmetric in all respect but the content of the speech delivered. For instance, the individual delivering the speech in both videos is the same; so as to avoiding confounds regarding appearance or other fixed-effects due to the individual. The length, 3:34 minutes each, and the sequencing of the close-up of the videos are the same. The speech delivered remains consistent across the videos regarding the themes covered as well as their ordering but vary in their content. Both videos are based on real stories. The video triggering envy shows a young man called Kais who comes from a privileged background. He reaches university education and managed to get good and well-paid jobs thanks to his family connections and his personal network. The other control video is drawn uponbased on Binzel and Carvalho (2015) definition of unfulfilled aspiration's profile. It shows a young man called Makram<sup>16</sup> who comes from an unprivileged background. Despite graduating from university, he could only get a low paid job, after many years of job seeking. Kais and Markram have the same level of education

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<sup>13</sup>Participants are not aware that there are two possible endowments (i.e. low and high). The initial experimental design intended to implement a within-subject design where participants make decision on their donation and draw a dice that will determined their endowment (i.e. a very high stake with a low probability of winning or a very low stake). But gambling is strictly forbidden and punished by law in Muslim countries, as Tunisia.

<sup>14</sup>For budget constraint, I had to split the sample between 75-25 instead of 50-50%

<sup>15</sup>For more information refer to the US Department of State: a daily wage for an agricultural worker is 9 TND (6)andamonthminimumwageforanindustrialworker – working48hoursaweekis286TND(about190) (<http://www.state.gov/j/drl/rls/hrrpt/2011/nea/186451.htm>)

<sup>16</sup>Note that both names, Kais and Makram, are common along rich and poor.

but the opportunity cost of education is considerably higher for Makram than for Kais while the returns to education is much lower for Makram than for Kais. The control video permits to control for the effect of unfulfilled aspiration identified in the literature as the main effect of psychological features causing the Islamic revival. Hence although both individuals come from different social background, they reached tertiary education. However, the cost of education is higher for Makram than it is for Kais while the returns of education are lower for Makram than for Kais. Both videos trigger feelings of inequality: one, a feeling of solidarity (Makram), while the other one, a feeling of envy (Kais). Both characters in the videos are representative of the population and based on real stories.<sup>17</sup> The full script of the speeches is available in the Appendix and the videos are available upon request.

## 4 Empirical methodology

### 4.1 Data

Table 1 presents the balance of covariates using the non-parametric Chi Square test. Regarding the priming video treatment, two variables turn out to be statistically differently allocated, i.e. the number of living children and whether the participant is a member in a humanitarian organization. Participants primed with the video triggering envy have on average 2.13 children while those primed with the other video have 1.67 and the difference is statistically significant at the 10% level. Regarding the endowment treatment, two variables turn out to be statistically differently allocated, i.e. unemployment status, support of veiling. 22% of the sample endowed with high stake is unemployed compared to 14.2% of those endowed with low stake and the difference is statistically significant at the 5% level. Those receiving high stake tend to be more supportive of veiling than those receiving low stake and the differences are statistically significant at the 5% level. A correlation test shows that these two variables are positively and statistically significantly associated at the 1% level with being highly religious (i.e., participants who report to pray every day or at least once a week). Therefore, a finer specification that may overcome these differences without facing the issue of incorporating in the econometric model endogenous variables is to restrict the sample to only highly religious participants. I further check for the baseline individual characteristics and tests for balance simultaneously across both treatment groups. Results are reported in Table 6 in the Appendix.

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<sup>17</sup>Since both videos are representative of the population and based on real stories, I can rule out "propaganda effect" or deception attached to them.

**Dependent variables** The share of the amount of money given by the participant to a recipient: the religious NGO affiliated with Ennahdha, the secular apolitical NGO and the average share donated to the four poor recipients are the dependent variables.

**Independent variables** The indicator variable, Low stake, is dummy variable that equals one if a participant receives a low stake and zero otherwise (i.e., high stake). The variable, Video envy, equals one if a participant is primed with the video triggering envy and zero otherwise (i.e., control video). The interaction term Low stake\* Video envy is the main independent variable of interest which tests the effect of envy.

**Control variables** The survey questionnaire section gathers a range of information on individual demographic characteristics. I use some of these characteristics as control variables in the analysis. Table 7 in the Appendix reports the summary statistics of the survey questionnaire variables. The average respondent is 40.38 years of age and 50% of the sample is female. The marital status index is coded from 0 to 4 with 0, the omitted category, indicating being single (mean of 0.25), 1 being married (mean of 0.65), 2 being engaged (mean of 0.05), 3 being widowed (mean of 0.23) and 4 divorced (mean of 0.02). The education index is coded from 0 to 3 with 0, the omitted category, indicating having no primary education (mean of 0.26), 1 having primary education (mean of 0.34), 2 having secondary education (mean of 0.17) and 3 having some tertiary education (mean of 0.23). Individual socioeconomic status (or wealth) is proxied by the summation of asset ownership, coded from 0 to 10. The average respondent owns 5.7 assets. The dummy unemployed equals one if the participant is unemployed and zero otherwise. The unemployment index is 0.16 on average.

Table 1: Balance of covariates

	Video Envy		Low Stake	
	$\chi$	P-values	$\chi$	P-values
Female	0.327	0.568	1.200	0.258
Age	57.608	0.343	51.966	0.553
Marital status	7.409	0.116	0.04	5.239
Education level	5.239	0.741	0.330	0.954
Unemployed	0.022	0.883	5.021	0.025**
Assets	15.805	0.105	2.996	0.982
Self-perception of local inequality	5.860	0.15	0.04	0.84
Self-perception of evolved inequality	2.011	0.366	2.874	0.238
Religiosity level	1.950	0.377	0.476	0.788
Principal component parity index	31.796	0.427	25.289	0.012**
Whether support veiling	0.056	0.253	0.899	0.826
Locus of Control: Hard work for Success	4.083	0.253	0.899	0.826
Locus of Control: Situation is not fate	0.376	0.945	0.153	0.985
Nb. of living children	18.245	0.051*	15.848	0.104
Involvement in labour union	0.967	0.617	0.782	0.676
Involvement in political party	1.836	0.399	0.294	0.863
Involvement in religious organization	3.795	0.150	1.281	0.527
Involvement in humanitarian organization	9.572	0.008***	0.454	0.797
News on internet	2.482	0.779	6.489	0.262
General Trust	0.745	0.388	0.151	0.697
Risk taker	9.489	0.393	6.113	0.729
Whether voted in the NCA in 2011	2.299	0.317	3.673	0.159
Whether supported Ennahdha in 2011	1.813	0.178	0.561	0.454
Whether Western values are harmful	3.286	0.350	3.285	0.350
Prosecution old regime	0.4453	0.505	2.5676	0.109
Fight corruption	0.5910	0.442	0.8095	0.368

Notes: The figure presents the Chi Square non-parametric test to compare across the treatments: those who watched the video triggering envy vs. the video triggering unfulfilled aspirations and those who were endowed low stake vs. high stake.

Principal Component of 8 questions on gender equality, including whether education is more important for boys than girls, whether men are more competent in a number of occupations such as business men or political leaders, or whether there should be equal pay between men and women.

## 4.2 Econometric specification

The following expression enables to investigate the effect of envy on the share given to the religious NGO affiliated with the Islamic party, Ennahdha and the other recipients.

$$W_i = \gamma_0 + \gamma_1 Lowstake_i + \gamma_2 VideoEnvy_i + \gamma_3 (Lowstake_i * VideoEnvy_i) + \gamma_4 X_i + \gamma_5 R + \epsilon_i \quad (1)$$

The subscript  $i$  refers to a participant.  $W_i$  represents the donation share given to a recipient by a participant.  $Lowstake_i$  is a dummy variable that equals one if a participant receives a low stake and zero otherwise. Similarly,  $VideoEnvy_i$  equals one if a participant is primed with the video triggering envy and zero otherwise. The vector  $X_i$  represents individual-level variables which are gender, age, marital status, education, wealth proxies by assets and a dummy variable indicating whether the participant is unemployed or not.  $R$  is the vector of district fixed effects

and  $\epsilon_i$  is individual's idiosyncratic level. I include district level fixed effect to account for unobserved heterogeneity in political preferences, religiosity or socio-economic characteristics across districts. Standards errors are corrected for potential heteroscedasticity in all regressions and clustered at the district levels, the primary sampling unit of the sampling procedure. My hypothesis is that  $\gamma_3$  is positive and significant when the recipient is the religious NGO affiliated with the Islamic party, Ennahdha but not be significant with the other recipients.

A concern with estimating (1) consists of the potential endogeneity of religiosity to the extent that treatments allocation and religiosity have not been properly randomly conducted. As discussed in section 3.1, in the endowment treatment, unemployment and support of veiling were not perfectly randomly allocated. Therefore, religiosity may influence behaviour towards the religious vs. secular NGOs. To overcome this potential influence, I also restrict my sample to highly religious participants. I capture respondents' religiosity level with a question about the frequency of prayer. 63% participants report to pray every day and/or on Friday. I consider these two groups as highly religious. 26% of participants practice less frequently or on special occasions only (e.g., the holy month of Ramadan), and are considered as moderately religious. By contrast, 11% "never" or "practically never" practice their religion and are considered as non-religious (omitted group in the analysis).

## 5 Experimental results

### 5.1 Descriptive experimental results

Fixing low stake (Figure 1), the share donated by participants tends to be higher when they are primed with the control video. However the difference is not statistically differently significant. By contrast, when the recipient is the religious NGO affiliated with the Islamic party, Ennahdha, participants' donation share is higher when they are primed with the video triggering envy and the difference is statistically significant at the 10% level for the entire sample and, at the 5% level for the highly religious only. Reversely, fixing high stake (Figure 2) the priming video treatment does not play any role regardless of the recipients and the sample considered.

Fixing the video triggering envy (Figure 3), in both samples, participants' donation share is significantly higher to the poor recipients when they are allocated low stake as opposed to high stake but not necessarily to the NGOs. Fixing the control video (Figure 4), likewise, participants' donation share is significantly higher to the poor recipients when they are allocated low stake. As for the NGOs, participants' donation share for the entire sample is significantly



higher to the secular and apolitical NGO when they are allocated low stake while highly religious do not behave differently. However, while participants' donation share for the entire sample is roughly the same to the religious NGO affiliated with the Islamic party, Ennahdha, highly religious participant' donation share is higher when they are allocated high stake. This behaviour can be interpreted by zakat, the third Pillars of Islam, and sadaqah. Although, based on pre-determined donations from disposable income, zakat is a religious obligation for all Muslim who have financial means and sadaqah is a religious contribution given in addition to zakat which in principle, increases with income.

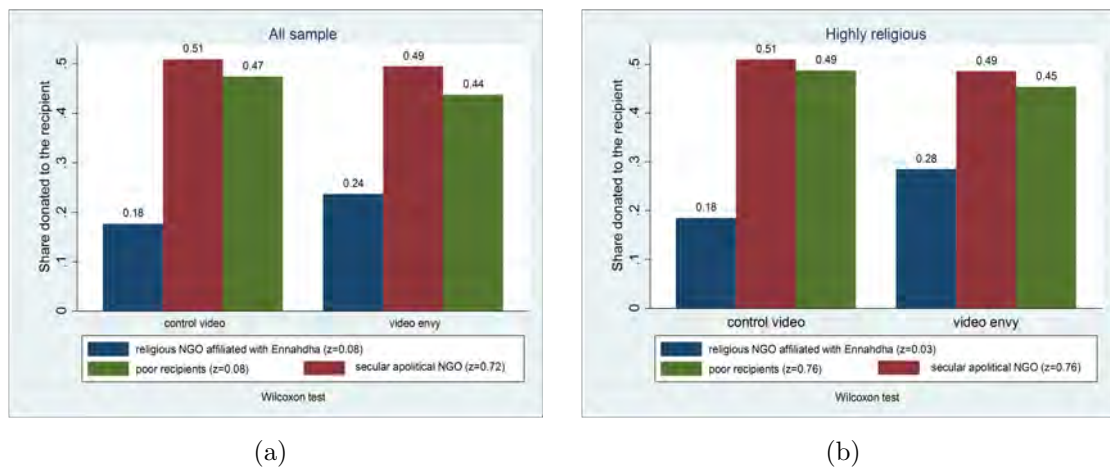


Figure 1: Video treatment effect under low stake

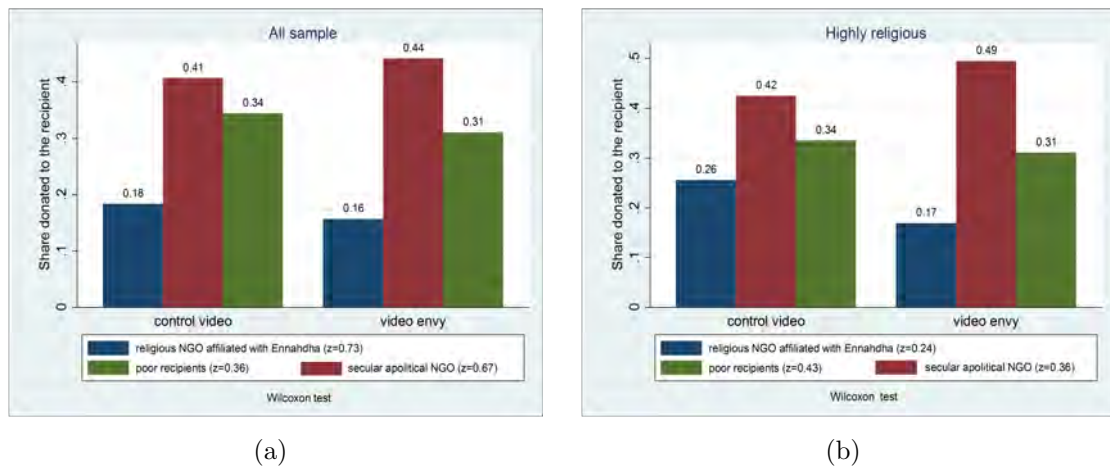


Figure 2: Video treatment effect under high stake

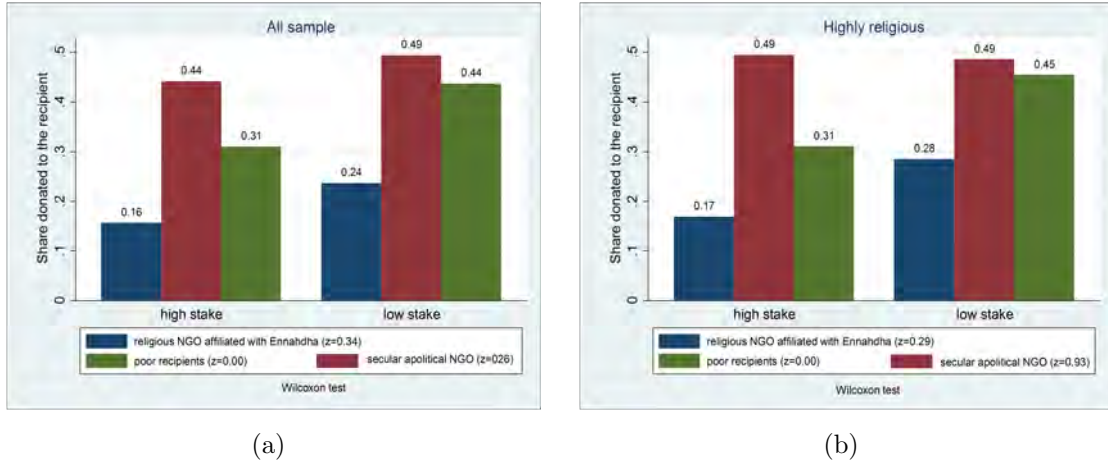


Figure 3: Endowment treatment effect under the video triggering envy

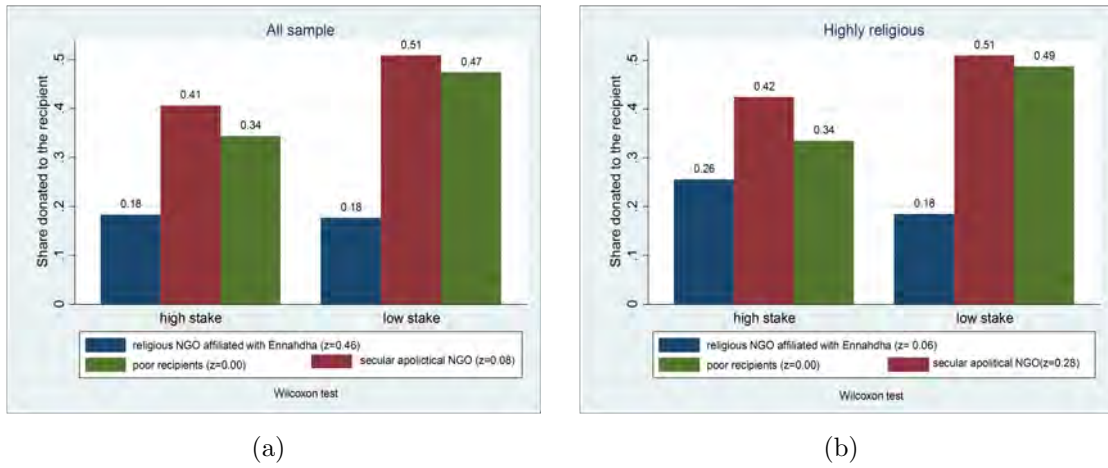


Figure 4: Endowment treatment effect under the control video

## 5.2 Regression experimental results

Table 2 presents the estimation results of regression (1), when the recipient is the religious NGO affiliated to the Islamic party, Ennahdha, for the entire sample and for highly religious respondents only (those who reported to pray every day and/or on Friday). Focusing on the entire sample, while the magnitude of the coefficient  $\gamma_3$  remains stable throughout the specifications 1-3, it is borderline at conventional level - at the 15% level under specifications (1) and (2) and significant at the 10% level under the specification (3). Overall, the interaction of the treatments: low stake and the video triggering envy, results in an increase of 9% points in the share donated to the religious NGO affiliated with the Islamic party, Ennahdha. Focusing on highly religious, the magnitude of the  $\gamma_3$  coefficient increases and remains stable throughout the specifications and the statistical significance is enhanced. Overall, the interaction of the treat-

ments: low stake and the video triggering envy, results in an increase of about 18% points in the share donated to the religious NGO affiliated with the Islamic party, Ennahdha and results are statistically significant at the 5% level. The results suggest that envy causes the Islamic revival among religious individuals while it is noisier among non-necessarily religious individuals. The control variables are not significant, but the female dummy which is marginally associated with lower donation share to the religious NGO affiliated with the Islamic party, Ennahdha and results when considering the entire sample. Table 3 and 4 present the estimation results of regression (1) for the other recipients: the secular apolitical NGO and the poor recipients, respectively. As expected, the interaction term of the treatments for these recipients does not play any role. The results are negative and not statistically significant.

Table 2: Effect of envy on donation to the religious NGO affiliated with the Islamic party, Ennahdha

	(1)	(2)	(3)	(4)	(5)	(6)
	Share donated to the religious NGO affiliated with Ennahdha					
Low stake	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.07 (0.05)	-0.07 (0.05)	-0.07 (0.05)
Video envy	-0.03 (0.04)	-0.03 (0.04)	-0.03 (0.04)	-0.09 (0.06)	-0.08 (0.06)	-0.08 (0.06)
Low stake*Video envy	0.09† (0.05)	0.09† (0.06)	0.09* (0.05)	0.19** (0.08)	0.18** (0.08)	0.18** (0.08)
Female			-0.05† (0.03)			-0.05 (0.04)
Age			-0.00 (0.00)			-0.00 (0.00)
Married			0.07 (0.04)			0.4 (0.01)
Engaged			0.03 (0.6)			-0.09 (0.09)
Widowed			0.11 (0.10)			0.06 (0.12)
Divorced			-0.06 (0.06)			-0.09 (0.13)
Primary education			0.03 (0.03)			0.05 (0.04)
Secondary education			0.05 (0.05)			0.15** (0.06)
Some tertiary education			-0.013 (0.05)			0.06 (0.07)
Asset			0.01 (0.01)			0.00 (0.01)
Unemployed			-0.01 (0.05)			-0.01 (0.07)
Observations	600	600	600	376	376	376
R-squared	0.0101	0.0472	0.0714	0.0215	0.0763	0.0993
District FE	No	Yes	No	Yes	No	Yes
Controls	No	No	Yes	No	No	Yes
Sample	All respondents			Highly religious respondents only		

Notes: OLS regressions. All regressions include a constant term. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ .

Table 3: Effect of envy on donation to other recipients - secular apolitical NGOs

	(1)	(2)	(3)	(4)	(5)	(6)
	Share donated to the secular apolitical NGO					
Low stake	0.10***	0.10***	0.10***	-0.07	-0.07	-0.07
	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)
Video envy	0.03	0.04	0.03	0.07	0.06	0.06
	(0.05)	(0.05)	(0.05)	(0.08)	(0.08))	(0.07)
Low stake*Video envy	-0.05	-0.05	-0.05	-0.09	-0.09	-0.11
	(0.07)	(0.07)	(0.07)	(0.10)	(0.11)	(0.10)
Observations	600	600	600	376	376	376
R-squared	0.0085	0.0831	0.1157	0.0042	0.0591	0.1155
District FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	Yes	Yes
Sample	All respondents			Highly religious respondents only		

Notes: OLS regressions. All regressions include a constant term. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ . Socio-demographic controls are: gender, age, education, marital status, assets and employment status.

Table 4: Effect of envy on donation to other recipients - four poor recipients

	(1)	(2)	(3)	(4)	(5)	(6)
	Average share donated to the four poor recipients					
Low stake	0.13***	0.13***	0.11***	0.15***	0.14***	0.13***
	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)
Video envy	-0.03	-0.03	-0.04	-0.02	-0.05	-0.06
	(0.04)	(0.04)	(0.04)	(0.06)	(0.06))	(0.06)
Low stake*Video envy	0.00	0.00	0.01	-0.01	0.02	0.04
	(0.05)	(0.05)	(0.05)	(0.07)	(0.08)	(0.07)
Observations	600	600	600	376	376	376
R-squared	0.0433	0.1464	0.186	0.0503	0.1381	0.1943
District FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	Yes	Yes
Sample	All respondents			Highly religious respondents only		

Notes: OLS regressions. All regressions include a constant term. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ . Socio-demographic controls are: gender, age, education, marital status, assets and employment status.

For robustness check, Tables 8, 9 and 10 in the Appendix, report results with Tobit model. Table 8 presents the estimation results of regression (1) when the recipient is the religious NGO affiliated to the Islamic party, Ennahdha and Table 9 and 10 when the recipients are the secular apolitical NGO and the poor recipients, respectively. In Table 8, while the coefficient falls short of significance when considering the entire sample, it remains significant at the 5% level for highly religious individuals. For matter of brevity, results estimation results of the video treatment and of the endowment treatment separately are not displayed but are available upon request. These estimation results confirm the findings in the Figures 1-4 regarding the religious NGO affiliated with the Islamic party, Ennahdha, and the other recipients.

### 5.3 Alternatives explanations

Experimental findings show that the video triggering envy (Kais) compared to the control video of solidarity (Makram) is positively associated with donation share to the religious NGO affiliated with the Islamic party, Ennahdha. These findings may reflect other potential explanations. Rather than the effect of envy, experimental findings may result from a rejection of the secular elite which is expressed by (1) attitudes towards the former autocratic regime as well as (2) attitudes towards secular values. According to Roy (1994), the call for fundamentalism Islam is "as as old as Islam itself and yet still new because it has never been fulfilled, it is a tendency that is forever setting the reformer, the censor, and tribunal against the corruption of the times and of sovereigns, against foreign influence, political opportunism, moral laxity, and the forgetting of sacred texts." These potential effects may be generated by the videos. If so, there may be confounded with the effect of envy and therefore threaten any causal effect of envy on the Islamic revival.

**Attitude towards the former autocratic regime** Kais may generate not necessarily a feeling of envy but a reminder of the old autocratic regime. In order to disentangle the effect of attitudes towards the former autocratic regime from that of envy, I include two variables as controls in regression (1). The survey questionnaire asks whether "Fight corruption" should be the first priority of the government in a list of 5 possible alternative policies. About 30% of participants answered that it should be the government's priority, which reflects high levels of frustration with corruption in Tunisia. The survey also asks about possible prosecution of people affiliated with the former regime. The variable "Prosecution old regime" is coded as a dummy variable that takes value 1 if the respondent is in favour of prosecution (mean: 0.76, s.d.: 0.43). Results are reported in Table 11 in the Appendix. Both variables are insignificant and do not alter the coefficient of interest.

**Attitude towards secular values** Kais may generate not necessarily a feeling of envy but an expression of secular values.<sup>18</sup> The videos as such cannot disentangle the effect of attitudes towards secular values from that of envy. In order to alleviate this limitation, I test for the external validity of my experimental results using respondents' answers to the survey questionnaire. Consistent results across the survey questionnaire and the experimental game

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<sup>18</sup>Kais may be perceived as less religious than Makram as the former uses less religious expression than the latter. Also, Kais has a girlfriend while Makram a wife, etc.

would provide support to my hypothesis, albeit not perfectly eliminating potential confounds of attitudes towards secular values that may be at play in the videos.

## 6 External validity

I test for the external validity of my experimental findings using respondents' answers to the survey questionnaire. To capture envy and unfulfilled aspiration, I rely on (Carvalho (2009)) definition. According to him, envy depicted by income inequality and poverty, causes the Islamic revival among low to middle class individuals, and, unfulfilled aspiration depicted by low social mobility, income inequality and poverty, causes the Islamic revival among highly educated from low to middle class individuals. I use assets as a proxy for wealth where the minimum assets are 0 and 10 the maximum. The average assets is 5.7 and about 60% of the sample owns 6 assets. Since I am focusing on low to middle class individual, I first restrict my sample to respondents that have 6 assets at maximum. I determine local inequality by taking the difference between the maximum and the minimum assets owned by respondent at a given district. Envy is measured by the interaction of local inequality and assets, and, unfulfilled aspiration by the triple interaction of local inequality, assets and tertiary education. To account for the Islamic revival, I use two variables: support for the Islamic party, Ennahdha in the 2011 National Constituent elections and support for Islamic precepts; gender inheritance in particular. Support for Ennahdha takes a value of 1 if the respondents voted for Ennahdha and 0 for all other respondents. This measure reflects appeals for political Islam. I focus on the first democratic elections in Tunisia after the collapse of the autocratic regime to avoid any potential incumbent effects. Support for Islamic precepts, captured by inheritance takes a value of 1 if the respondents are in favour of the application of the Islamic law and 0 otherwise. The Quran (4:11, 4:176) instructs that "the male shall have the equal of the portion of two females." Since its independence in 1956, the Tunisian Constitution follows the Islamic rule regarding inheritance. Religiosity of the respondent is included as a control in some specifications. In some specifications, the sample is also restricted to highly religious respondents from poor and middle classes. I first estimate the effect of envy alone, and then, I control for the effect of unfulfilled aspiration. I include fixed effect for the 6 regions in order to account for unobservable heterogeneity in preferences for political Islam, religiosity or individual socio-economic characteristics across regions. I also include individual-level variables which are gender, age, marital status and a dummy variable indicating whether the participant is unemployed or not. In particular, female respondents may not be in favour

of the inheritance based on the Islamic rule, not for religious matters but for gender equality matters. Therefore, the female dummy is important to take into consideration. Finally, similarly to the experimental analysis, I cluster standard errors at the district level. Table 5 reports the coefficient results with support for Ennahdha as the dependent variable in Columns 1-4 and the coefficient results with support for Islamic precepts of inheritance as the dependent variable in Columns 5-8. The coefficient of the interaction term: district-level inequality and assets, capturing envy, is positive and significant in most the specifications considering the poor to middle class sample and significant in all specifications considering the highly religious from poor and middle class sample. The results remain constant even when unfulfilled aspiration is included as a control. It implies that the more unequal is a district and the richer is a respondent within the low to middle class, especially when they are highly religious, the higher the support for the Islamic party, Ennahdha and support for Islamic precepts regarding inheritance matters. The coefficient of the triple interaction: district-level inequality in assets, assets and tertiary education, capturing unfulfilled aspiration, is positive but never significant. Hence the more unequal is a district and the richer and highly educated is a respondent within the low to middle class does not translate into higher support for the Islamic party. Indeed, the inclusion of educational attainment does not affect their feeling of frustration, and therefore does not contribute further to the Islamic revival. This provides further support for envy as causing the Islamic revival rather than unfulfilled aspiration. The female dummy is never significant with support for Ennahdha but is always negative and highly significant at the 1% level with support for Islamic precepts of inheritance. Table 12 in the Appendix, reports the results with the inclusions of attitudes towards corruption and prosecution of old regime members. Although, neither of these 2 variables are significant, the effect of envy remains significant regarding support for Islamic precepts but is no longer significant with support for the Islamic party, Ennahdha.

Table 5: External validity testing the Support for Political Islam and Islamic inheritance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Support for Ennahdha			Support for Islamic Inheritance law		
Local inequality	-0.08 (0.05)	-0.16** (0.07)	-0.12 (0.07)	-0.22 (0.14)	0.12** (0.06)	-0.15** (0.06)	-0.22** (0.08)	-0.23** (0.07)
Assets	-0.09 (0.07)	-0.27** (0.10)	-0.14 (0.16)	-0.34* (0.19)	-0.15** (0.07)	-0.21** (0.09)	-0.32*** (0.21)	-0.25** (0.12)
Local inequality*Assets	0.02 (0.01)	0.05*** (0.01)	0.03* (0.01)	0.06** (0.03)	0.03** (0.02)	0.05** (0.02)	0.06** (0.02)	0.06** (0.01)
Primary education	-0.05 (0.09)	-0.64 (0.65)	-0.9 (0.08)	1.87 (1.27)	0.00 (0.07)	-0.56 (1.16)	-0.03 (0.09)	-0.53 (0.98)
Secondary education	-0.18 (0.09)	-1.44 (1.38)	0.33** (0.12)	-0.43 (1.59)	0.15 (0.09)	0.28 (0.99)	0.07 (0.11)	0.79 (1.17)
Some tertiary education	0.03 (0.08)	0.97 (1.34)	0.00 (0.10)	1.15 (1.94)	0.20** (0.08)	2.46** (1.16)	0.18* (0.10)	2.48 (1.62)
Local inequality*Primary education		0.13 (0.10)		0.29 (0.19)		0.08 (0.08)		0.12 (0.15)
Local inequality*Secondary education		0.21 (0.19)		0.06 (0.21)		0.09 (0.17)		-0.01 (0.18)
Local inequality*Some tertiary education		-0.16 (0.20)		-0.17 (0.27)		-0.31 (0.18)		-0.25 (0.23)
Assets*Primary education		0.20 (0.17)		0.39 (0.29)		0.19 (0.12)		0.06 (0.19)
Assets*Secondary education		0.50 (0.30)		0.28 (0.32)		0.03 (0.22)		-0.20 (0.26)
Assets*Some tertiary education		-0.15 (0.31)		-0.13 (0.45)		-0.44* (0.25)		-0.52 (0.35)
Local inequality*Assets*Primary education		-0.04 (0.03)		-0.06 (0.04)		-0.03 (0.02)		-0.02 (0.03)
Local inequality*Assets*Secondary education		-0.08** (0.04)		-0.05 (0.04)		-0.03 (0.04)		0.01 (0.04)
Local inequality*Assets*Some tertiary education		0.02 (0.04)		0.02 (0.06)		0.06 (0.04)		0.06 (0.05)
Moderately religious	0.09 (0.07)	0.09 (0.08)			0.13 (0.11)	0.05 (0.11)		
Highly religious	0.18*** (0.06)	0.19*** (0.07)			0.14 (0.10)	0.13 (0.10)		
Female	-0.08 (0.05)	-0.04 (0.01)	-0.06 (0.07)	-0.05 (0.06)	-0.25*** (0.06)	-0.25*** (0.06)	-0.24*** (0.06)	-0.24*** (0.07)
Age	0.00 (0.00)	-0.09 (0.09)	0.00 (0.02)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.06)	0.00 (0.00)
Married	0.05 (0.08)	0.4 (0.01)	-0.14 (0.14)	-0.11 (0.13)	-0.08 (0.09)	-0.07 (0.09)	-0.12 (0.10)	-0.12 (0.11)
Engaged	-0.02 (0.14)	-0.09 (0.13)	0.11 (0.34)	0.18 (0.37)	-0.42 (0.19)	-0.39 (0.18)	-0.00 (0.41)	0.11 (0.38)
Widowed	-0.06 (0.14)	-0.09 (0.09)	-0.037* (0.17)	-0.32* (0.16)	0.70 (0.16)	-0.08 (0.16)	-0.14 (0.19)	0.11 (0.19)
Divorced	-0.27 (0.10)	0.06 (0.12)	-0.48** (0.15)	-0.48** (0.16)	-0.13 (0.18)	-0.08 (0.18)	-0.36* (0.18)	-0.42 (0.22)
Unemployed	0.023 (0.07)	-0.01 (0.07)	-0.35 (0.09)	-0.37 (0.09)	-0.10 (0.07)	-0.08 (0.08)	-0.25*** (0.09)	-0.25** (0.09)
Observations	356	356	239	239	356	356	239	239
R-squared	0.1073	0.1474	0.1374	0.1807	0.1576	0.1782	0.2268	0.2497
Sample	Poor to middle class		Poor to middle class & Highly Religious		Poor to middle class		Poor to middle class & Highly Religious	

Notes: OLS regressions. All regressions include a constant term. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ . Socio-demographic controls: gender, age, education, marital status, employment status and assets ownership.

## 7 Conclusion

Unfulfilled aspiration has been well documented in the literature as a psychological feature that causes the Islamic revival, though with limited evidence, while envy has been under-investigated. This study is the first empirical application using revealed and stated preferences with respect to the related literature testing the causal mechanism of the effect of envy on the Islamic revival. To capture the effect of envy, I exogenously trigger the feeling of envy by a combination of two treatments: a priming video triggering the feeling of envy and a variation in donation choice with respect to income elasticities. Overall, findings, both based on the experiment and on the survey questionnaire, suggest that the effect of envy in causing the Islamic revival is noisy when considering the entire sample but becomes salient among religious individuals. My results also suggest that religion, including Islam, could be studied as other social dynamics, such as



political ideology and/or ethnic affiliation. Per se religion (and religiosity) does not trigger much social behaviours. However, it makes one feels closer to his/her group and feels further apart from other groups. In this context, it appears that more religious individuals are not more likely per se to support religiously motivated political activism, but this behaviour can be activated in them if they perceive that inequality is unjustified.

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# Appendices

## A Tables

Table 6: Baseline Summary Statistics

	Regression coefficients and standard errors		
	(1)	(2)	(3)
	Video Envy	Low stake	Observations
Female	-0.02 (0.04)	-0.05 (0.05)	600
Age	3.19*** (1.12)	1.98 (1.29)	600
Marital status	0.03 (0.06)	0.07 (0.07)	600
Education level	-0.04 (0.07)	0.01 (0.08)	600
Unemployed	0.00 (0.03)	-0.07** (0.03)	600
Assets	-0.23 (0.17)	0.13 (0.19)	600
Self-perception of local inequality	-0.11 (0.13)	-0.06 (0.15)	600
Self-perception of evolved inequality	-0.06 (0.04)	-0.03 (0.05)	600
Religiosity level	0.07 (0.06)	0.04 (0.06)	600
Principal component parity index	0.05 (0.10)	0.15 (0.11)	600
Whether support veiling	-0.00 (0.04)	-0.12** (0.05)	600
Locus of Control: Hard work for Success	0.13* (0.07)	0.03 (0.08)	600
Locus of Control: Situation is not fate	0.02 (0.06)	0.01 (0.77)	600
Nb. of living children	0.46*** (0.15)	-0.08 (0.17)	600
Involvement in labour union	-0.01 (0.03)	-0.03 (0.03)	600
Involvement in political party	0.01 (0.02)	0.01 (0.02)	600
Involvement in religious organization	0.00 (0.01)	-0.01 (0.01)	600
Involvement in humanitarian organization	0.06*** (0.02)	-0.01 (0.02)	600
News on internet	-0.13 (0.18)	-0.16 (0.21)	600
General Trust	-0.02 (0.03)	0.01 (0.03)	600
Risk taker	-0.34 (0.22)	0.17 (0.23)	600
Whether voted in the NCA in 2011	0.03 (0.04)	0.05 (0.05)	600
Whether supported Ennahdha in 2011	0.05 (0.05)	-0.03 (0.04)	600
Whether Western values are harmful	-0.05 (0.08)	0.10 (0.09)	600
Prosecution old regime	-0.02 (0.03)	-0.06 (0.04)	563
Fight Corruption	0.03 (0.04)	0.03 (0.04)	598

Notes: OLS regressions. All regressions include a constant term. Columns 1-2 show regression coefficients and standard errors on indicated treatment groups (the omitted category is the control group). Principal Component of 8 questions on gender equality, including whether education is more important for boys than girls, whether men are more competent in a number of occupations such as business men or political leaders, or whether there should be equal pay between men and women. Significant at \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ .

Table 7: Summary Statistics

	Obs	Mean	Std. Dev.	Min	Max
Assets	600	5.71	0.50	0	1
Female	600	0.50	0.50	0	1
Age	600	40.38	13.77	22	82
Married	600	0.65	0.48	0	1
Engaged	600	0.05	0.21	0	1
Widowed	600	0.03	0.17	0	1
Divorced	600	0.02	0.15	0	1
Primary education	600	0.34	0.39	0	1
Secondary education	600	0.17	0.50	0	1
Some tertiary education	600	0.23	0.45	0	1
Unemployed	600	0.16	0.37	0	1
Moderately religious	600	0.26	0.44	0	1
Highly religious	600	0.63	0.48	0	1
Principal component of Gender parity index	600	0.00	1.24	-5.26	1.68
Support veiling	600	0.35	0.48	0	1
Detailed assets					
Water heater	600	0.63	0.48	0	1
Motorbike	600	0.22	0.41	0	1
Car	600	0.38	0.49	0	1
TV	600	0.99	0.11	0	1
Satellite antenna	600	0.98	0.16	0	1
Computer	600	0.49	0.50	0	1
Home internet	600	0.43	0.50	0	1
Fridge	600	0.99	0.11	0	1
Bank account	600	0.46	0.50	0	1
Post office current account	600	0.16	0.37	0	1
Self-perception of local inequality	600	4.05	1.62	0	10
Self-perception of evolved inequality					
Gap between rich and poor has stayed the same	598	0.13	0.33	0	1
Smaller gap between rich and poor	598	0.07	0.25	0.25	1
Locus of Control: Hard work for Success					
Disagree	600	0.22	0.42	0	1
Agree	600	0.37	0.48	0	1
Strongly agree	600	0.34	0.48	0	1
Locus of Control: Situation is not determined by fate					
Disagree	600	0.41	0.49	0	1
Agree	600	0.14	0.35	0	1
Strongly agree	600	0.04	0.19	0	1
Nb. of living children	600	1.88	0.86	0	11
Involvement in labour union					
Active member	600	0.00	0.04	0	1
Inactive member	600	0.00	0.06	0	1
Involvement in political party					
Active member	600	0.00	0.07	0	1
Inactive member	600	0.01	0.12	0	1
Involvement in religious organization					
Active member	600	0.01	0.09	0	1
Inactive member	600	0.00	0.09	0	1
Involvement in humanitarian organization (non-religious)					
Active member	600	0.10	0.06	0	1
Inactive member	600	0.02	0.13	0	1
Government priority over redistribution	600	0.12	0.32	0	1
Prosecution of old regime	563	0.76	0.43	0	1
Fight Corruption	598	0.30	0.46	0	1
Read news on internet					
Several times a year	600	0.00	0.06	0	1
About once a month	600	0.02	0.13	0	1
About once a week	600	0.05	0.21	0	1
Several times a week	600	0.09	0.28	0	1
Daily	600	0.28	0.45	0	1
General Trust					
Most people can be trusted	600	0.16	0.36	0	10
Risk taker	600	4.49	2.77	1	10
Vote in the NCA <sup>19</sup> 2011 election	600	0.60	0.50	-1	1
vote for Ennahdha in the NCA 2011 election	600	0.26	0.44	0	1
Whether Western values are harmful					
Disagree	600	0.29	0.45	0	2
Agree	600	0.33	0.47	0	2
Strongly agree	600	0.24	0.43	0	2

Principal Component of 8 questions on gender equality, including whether education is more important for boys than girls, whether men are more competent in a number of occupations such as business men or political leaders, or whether there should be equal pay between men and women. The omitted group in the categorical variables are the following: for Self-perception of evolved inequality it is Larger gap between rich and poor, for Locus of Control questions it is Strongly disagree, for Involvement in different group questions it is Not a member, for Read news on internet it is Never and for General Trust it is Need to be very careful.

Table 8: Effect of envy on donation to the religious NGO affiliated with the Islamic party, Ennahdha

	(1)	(2)	(3)	(4)	(5)	(6)
	Share donated to the religious NGO affiliated with Ennahdha					
Low stake	-0.08 (0.11)	-0.08 (0.11)	-0.08 (0.11)	-0.30 (0.16)	-0.28 (0.16)	-0.32 (0.15)
Video envy	-0.07 (0.14)	-0.07 (0.14)	-0.05 (0.14)	-0.22 (0.19)	-0.18 (0.19)	-0.22 (0.19)
Low stake*Video envy	0.26 (0.20)	0.26 (0.20)	0.25 (0.19)	0.54** (0.26)	0.51** (0.26)	0.58** (0.24)
Observations	600	600	600	376	376	376
District FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	Yes	Yes
Sample	All respondents			Highly religious respondents only		

Notes: Tobit regressions. All regressions include a constant term. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ . Socio-demographic controls are: gender, age, education, marital status, assets and employment status.

Table 9: Effect of envy on donation to other recipients -the secular apolitical NGO

	(1)	(2)	(3)	(4)	(5)	(6)
	Share donated to the secular apolitical NGO					
Low stake	0.19** (0.08)	0.19** (0.08)	0.19** (0.09)	0.20 (0.15)	0.19 (0.15)	0.19 (0.15)
Video envy	0.09 (0.12)	0.10 (0.12)	0.09 (0.11)	0.21 (0.17)	0.18 (0.17)	0.19 (0.15)
Low stake*Video envy	-0.12 (0.15)	-0.12 (0.15)	-0.12 (0.15)	-0.28 (0.22)	-0.27 (0.23)	-0.30 (0.21)
Observations	600	600	600	376	376	376
District FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	Yes	Yes
Sample	All respondents			Highly religious respondents only		

Notes: Tobit regressions. All regressions include a constant term. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ . Socio-demographic controls are: gender, age, education, marital status, assets and employment status.

Table 10: Effect of envy on donation to other recipients - four poor recipients

	(1)	(2)	(3)	(4)	(5)	(6)
	Average share donated to the four poor recipients					
Low stake	0.13**	0.13**	0.12**	0.16***	0.15***	0.14***
	(0.04)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)
Video envy	-0.05	-0.06	-0.06	-0.04	-0.07	-0.08
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Low stake*Video envy	0.01	0.02	0.03	0.00	0.03	0.05
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.04)
Observations	600	600	600	376	376	376
District FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	Yes	Yes
Sample	All respondents			Highly religious respondents only		

Notes: Tobit regressions. All regressions include a constant term. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ . Socio-demographic controls are: gender, age, education, marital status, assets and employment status.

Table 11: Control for attitudes towards former regime with the game

	(1)	(2)	(3)	(4)	(5)	(6)
	Share donated to the religious NGO affiliated with Ennahdha		Share donated to the secular apolitical NGO		Average share donated to the four poor recipients	
Low stake	-0.01	-0.10*	0.09**	0.06	0.11***	0.12**
	(0.03)	(0.05)	(0.04)	(0.07)	(0.04)	(0.06)
Video envy	-0.02	-0.08	0.05	0.07	-0.04	-0.06
	(0.04)	(0.07)	(0.05)	(0.07)	(0.04)	(0.06)
Low stake*Video envy	0.09	0.21**	-0.08	-0.13	0.02	0.06
	(0.05)	(0.08)	(0.07)	(0.10)	(0.05)	(0.08)
Prosecution old regime	0.06*	0.04	0.04	0.00	0.10***	0.08
	(0.03)	(0.05)	(0.04)	(0.06)	(0.03)	(0.05)
Fight Corruption	0.01	-0.05	-0.06	-0.12**	-0.03	-0.06
	(0.03)	(0.05)	(0.04)	(0.05)	(0.02)	(0.03)
Observations	561	351	561	351	561	351
R-squared	0.0834	0.1155	0.1321	0.1517	0.2230	0.2375
Region FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	Yes	Yes
Sample	All respondents			Highly religious respondents only		

Notes: OLS regressions. All regressions include a constant term and district fixed effects. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ . Socio-demographic controls are: gender, age, education, marital status, assets and employment status.

Table 12: Control for attitudes towards former regime with the survey

	(1)	(2)	(3)	(4)
	Support for Ennahdha		Support for Islamic Inheritance law	
Local inequality	-0.18***	-0.24*	-0.12*	-0.16*
	(0.06)	(0.14)	(0.06)	(0.09)
Assets	-0.31***	-0.37*	-0.17**	-0.16
	(0.10)	(0.20)	(0.09)	(0.12)
Local inequality*Assets	0.05***	0.07**	0.04***	0.04**
	(0.01)	(0.03)	(0.01)	(0.02)
Some tertiary education	0.79	2.76**	2.93*	
	(1.30)	(1.95)	(1.21)	(1.50)
Local inequality*Assets*Some tertiary education	0.01	0.01	0.06*	0.07*
	(0.04)	(0.06)	(0.04)	(0.04)
Highly religious	0.22***		0.09	
	(0.07)		(0.10)	
Prosecution old regime	0.02	-0.04	-0.01	-0.08
	(0.11)	(0.08)	(0.07)	(0.09)
Fight Corruption	0.01	-0.01	0.10	0.07
	(0.06)	(0.07)	(0.06)	(0.08)
Observations	329	222	329	222
R-squared	0.1721	0.1842	0.1808	0.2532
Sample	Poor to middle class	Poor to middle class & Highly Religious	Poor to middle class	Poor to middle class & Highly Religious

Notes: OLS regressions. All regressions include a constant term, region fixed effect, other interaction terms (assets and education etc.) and socio-demographic controls are: gender, age, education, marital status and employment status. Robust standard errors clustered at the district level in parentheses (30 clusters). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , †  $p < 0.15$ .

## B Game



### B.1 Video Display

Select Type of treatment (answer the applicable option)

- Kais
- Makram

#### B.1.1 Rule of the game

Now that you watched this video based on a real story, we will ask you to make very simple decisions. Your decisions are anonymous, and your identity will not be revealed to any other person who is also involved in this study. In total, there are 2 charitable institutions and 4 individuals. You are initially given 10 TND. Each time, you are asked to allocate the money between yourself and a recipient. Note that all of your decisions are independent to one another. You can choose to keep TND 10 for yourself and give TND 0 or you can give the TND 10 to the recipient meaning you will have TND 0. Alternatively, you can decide to split the money between yourself and the recipient. You can chose to split any amount between TND 0 and TND 10.

At the end of the game you will draw one of these 6 recipients at random. Only that one will be taken into consideration for the final payment, meaning you will receive the amount of money you decided to keep and we will give the rest of the money you decided to share. Both charitable institutions are involved in charitable purposes. Let's now start, one by one:

#### B.1.2 Decision rule for the first game

Report which NGO asked FIRST

- Religious Association (Association tunisienne de cooperation et de communication sociale) affiliated with Ennahdha
- Humanitarian Association (Kolna Tounes) not affilated to a party and which does not support Islamic parties

1. Please decide how you decide of the 10 TND you want to share with the following charitable association:

Type of Recipient	Amount Sent by the Participant
Religious Association	_____

2. Please decide how you decide of the 10 TND you want to share with the following charitable association:

Type of Recipient	Amount Sent by the Participant
Humanitarian Association	_____

### B.1.3 Decision rule for the second game

Now, you need to allocate the money between yourself and other persons who may use it for whatever she/he wants. These other persons are real persons. We know that these people are poor and we know their marital statuses. The rules are exactly the same as earlier; you can choose to keep TND 10 for yourself and give TND 0 or you can give the TND 10 to the recipient meaning you will have TND 0. Alternatively, you can decide to split the money between yourself and the recipient. You can chose to split any amount between TND 0 and TND 10.

3. Please decide how you decide of the 10 TND you want to share with the following individuals:

Type of Recipient	Nb	Amount Sent by the Participant
Sonia: woman unmarried		_____
Hedia: women married		_____
Ayman: man unmarried		_____
Mohamed: man married		_____



### B.1.4 Payments

(participant) draw at random one of the decision to find out which decision will be effectively paid.

## B.2 Scripts of the video

### B.2.1 Settings

We hold constant factors such as:

- The individual delivering the two speeches (so as to avoiding confounds regarding appearance or other fixed-effects due to the individual)
- The number of words used in the speeches and therefore same length (3:33mins)
- Ensure that the content of the speeches, that is, the de facto topics and themes presented, are qualitatively similar
- Only the message delivery mechanism varies, as a function of the individual's background which affects communication techniques in carrying the message (i.e. more use of French words and/or more nonchalance for the rich individual as compared to the poor one)
- The ordering of the speech content needs to be very similar

### B.2.2 Kais

My name is Kais, I am 27 years old. I live in the suburb in Carthage Byrsa where I was born. I come from a well-off family. My father is a big business man and my mother doesn't work. I have an older sister and a younger brother. I studied in the French School at Lycee Cailloux. My friends now are all from high school and from the suburb where I live. I have been spoiled to be honest, whatever I ask I get.

*Close-up (0:34)*

Except that I wasn't very good at school. Let's say that I didn't really like school. I preferred to hang out with my friends rather than study a math exam or a physic exam. Besides, I had private courses in almost every subject.

*End close-up (0:53)*

Well, I passed my high school diploma (Bac) in Science with no distinction in 2005. Then I did a year in Computer Science in Tunis but it didn't work out very well and I wanted to change. So I went to France, to Toulouse. I studied there Mechanical Engineer. Even there, it didn't

really work because let's say the truth; I didn't study much. As you can imagine, I went when I was 18, I had a flat all for myself...

*Close-up (1:27)*

... and my father sent me money almost every month. Besides, I hung out a lot with people who were in high school with me, we had fun. We didn't worry about our studies. Anyway. Then I did a BTS (BAC+2) in "Management and Commercial Unities."

*End close-up (1:47)*

... and then I did a third year at university in Toulouse as well, then I returned to Tunisia. I returned to Tunisia because I was fed up with France, and then as you know after the revolution I thought I would go back to figure out what I could do over there. At that time, dad found me a position as a Project Manager in a business whose CEO is a woman we know, our friend, a friend of the family. Besides I studied with her son at school so we know each other quite well. (smile). As you know, in Tunisia almost everyone knows everyone, "the world is small" as we say. Well, after a year, I saw most of it. It became a routine. Let's say I got bored; I wanted to see something else. Besides, I have my girlfriend who stayed in Toulouse, so I spent that year going back and forth. Then I said enough with this job. I had an offer from a friend to work in his event company that he just launched. It organizes festivals and cultural events.

*Close-up (3:02)*

(short silent) I have no clear objectives at work... don't know. Each time I want to switch to a new thing, just as now I have a project in Agro-tourism, in the alternative tourism. This is a new thing. Mum has some land; she said "Go for it." She encourages me. So I am going to see what I can do. I will try. (smile). Anyway at the end, even if things don't work out, I always have my father's job which I can take over later. (smile)

*End 3:34*

### **B.2.3 Makram**

My name is Makram. I am 34 years-old. I was born and lived in Nabul. I come from a modest family. My father is a gardener and my mother doesn't work. We are 4 brothers. One of them is a sheet metal worker and one is a metal worker and I have a brother that recently passed away. I was the only one who studied among my bothers. I always liked school since my childhood and I was studious. This is why my father always encouraged me and pushed me to finish my studies and not to stop until I made it to university.

*Close-up (0:34)*

Then to be honest, my father made many sacrifices for me and I felt that I was his pride in the family. After I passed the high School diploma in Science (BAC) I went to University where I did a Bachelor in Accounting.

*End close-up (0:53)*

I obtained the highest distinction for my final project. I managed to get a scholarship in Paris but by correspondence courses, I didn't go to Paris. I did a Master in Finance, Insurance and Risk Management and I passed my final project with distinction. Really, after all these degrees and all these studies I had the firm idea that I will get job quickly. But I hit a very bad reality. I applied in many places...

*Close-up (1:27)*

.. and I got no answers and I don't know why. The thing I know is that degrees do not lead anywhere at the end of the day. I was angry with myself... I thought why would someone work so hard all these years ... what for?

*End close-up (1:47)*

(Sigh) Because I didn't want to remain unemployed I started working with my father. I went with him to the houses and clean up the gardens because he was getting tired and old and he couldn't do it alone. But it also helped me to have some money. The thing I realized is that if you don't have connections you don't get anywhere despite all the degrees you get. That's it. My father talked to some people he knows and for whom he works and asked them whether they could help me to find something for me. They've tried I wouldn't say they haven't but after all I am the gardener's son. Nevermind. I remained 4 years unemployed. I did some internships in banks and other places but without being paid and now I've been working for two years as an accountant in a small company. It's okay. Hamdullah (I can only thank God) . My salary is so so. I get paid 420 TND. I got married and I have a little son. We're surviving. I can only thank God. What else can one say?

*Close-up (3:02)*

(Sigh) I was miles away from my dreams and what I was thinking of accomplishing in other words getting a good job and make my father proud, so that I can help him and give him back what he gave me. Nevermind. Inshallah (God willing), my son will study better than I, succeed better than I and get a better job than I did. I can only thank God, one says at the end.

*End 3:34*



(a) Kais

(b) Makram

Figure 5: Snapshots of the videos with Kais and Makram