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Effects of Information Provision on Undocumented Migration to Europe: Evidence from a Survey Experiment

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Abstract

Using an experimental design embedded within a nationally representative survey implemented in Algeria, this study seeks to evaluate the effect that information campaigns have on willingness of individuals residing in the Global South to engage in unauthorized migration to Europe. In particular, in line with the discursive priorities of policy-makers focused on deterrence of irregular migration, we examine the impact of messages on the “risks and dangers associated with illegal migration”, “anti-migrants walls and other fences”, “undocumented immigrants regularization programs” and “access to welfare”. Using an experiment embedded within a national survey implemented in Algeria, we did not find any statistically significant effect of information provision on those issues on the willingness of individuals to engage in irregular migration to Europe. These results question the efficiency and legitimacy of the existing approach to migration-information campaign. They also dispute the frequently used argument in policy debates that regularization programs and immigrants’ access to welfare trigger undocumented migration.

Keywords: International Migration, Migration-Information Campaigns, Survey Experiments, Undocumented Migration.

JEL Classifications: C99, F22, J61, J68

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Introduction

For several decades, National Governments, the European Union (EU) and the International Organization for Migration (IOM) have used information campaigns as part of their actions to deter undocumented migration to Europe. Their underlying objective is to combat human trafficking and prevent potential migrants-including asylum seekers-from leaving source and transit countries via smuggling routes. Next to stricter visa policies, the signature of migration cooperation agreements with third countries and the increased resources spent on maritime interception operations and on building walls and other fences at the border, information and awareness-raising campaigns belong to the realm of European remote border control policies targeting unauthorized migrants (see FitzGerald, 2020). As documented by the existing literature, such campaigns focus mainly on the dangers and risks associated with irregular migration and on the harsh living conditions that undocumented immigrants should expect to meet in destination countries (see Nieuwenhuys & Pécoud, 2007; Carling & Hernández-Carretero, 2011; Heller, 2014; Hartig, 2017; Pagogna & Sakdapolrak, 2021). As we discuss below, there has been abundant scholarly discussions both questioning the premises upon which such campaigns are built as well as their effectiveness as deterrent of migration. In this article, we wish to build upon those contributions using the result of an online experiment embedded within a survey conducted with Algerian residents. Our aim is to answer the following research question: what effects do information campaigns have on undocumented migration to Europe? More precisely, we aim to test how four kinds of messages on migration (i.e. a messages “on the risks and danger associated with illegal migration”, on “anti-migrants walls and other fences”, on “undocumented immigrants regularization programs” and on “access to welfare”) affect individuals’ willingness to migrate irregularly.

To respond to this question, the article first starts by conceptualizing migration-information campaigns and reviews the existing evidence on their effect. In that first section, we also highlight the limitations of existing evaluations of information campaigns and how to address them. We subsequently present the methods and data of the survey experiment conducted with Algerian residents in order to measure the effect of information on migration on the willingness of individuals to engage in irregular migration to Europe. Overall, the article concludes by calling for a continued evaluation of these campaigns as well as by discussing the implications of our results for migration policy design.

1. Information and Awareness-Raising Campaigns about Migration

Public Authorities have used information and awareness-raising campaigns about migration for several decades. In the first half of the 20th century it was not rare for North Western European States in particular to advertise the attractiveness of their labour markets and the quality of their welfare systems as ways of convincing Southern European workers to migrate (Rass, 2012). Trying to discourage potential migrants to come to Europe through such campaigns is also not a recent practice. Pécoud, for one, notes that migrants' information campaigns have been employed by European states and the IOM since the early 1990s (Nieuwenhuys & Pécoud, 2007; Pécoud, 2010) but evidence of the existence of this type of campaigns by local British authorities even dates back to the early 1970s (BBC, 2012).

What is newer, however, is the intensity at which such campaigns are now used and the amount of resources that are invested in them by actors such as national governments, the European Union and the IOM. According to Brändle and Tolochko (2023, p. 1) “at least 130 information campaigns have been implemented in 2015–2019, of which at least 104 are from or with the involvement or support of EU governments”. As a sign of the growing interest for this issue, in recent years, scholars have looked at different campaigns launched in different countries (see Nieuwenhuys & Pécoud, 2007; Schatral, 2010; Heller, 2014; Oeppen, 2016; Bartels, 2017; Hartig, 2017; Rodriguez, 2019; Brekke & Thorbjørnsrud, 2020; Bah et al., 2023). At the EU level, in particular, such campaigns were an integral part of the 2015-2020 EU action plan against migrant smuggling (2015-2020) and the latest Pact on Migration and Asylum (European Commission, 2020).

1.1 Defining migration-information campaigns

As noted by Cham and Trauner (2023), there is a diversity of activities targeting diverse profiles of individuals that have been conducted under the labels of “information campaigns”, “awareness-raising campaigns” and “strategic communication”. Similarly to these authors, our approach is therefore to focus on information campaigns for migrants in origin and transit countries. These campaigns are based on two main assumptions. The first assumption is that potential migrants are badly informed about the dangers and risks associated with illegal migration and the difficult living conditions that undocumented migrants can expect in destination countries. Indeed, looking at the existing literature on decision-making, Andor et al. (2022), for instance, have noted in other domains than migration that generally individuals are not completely informed when making decisions and information provision has been shown to influence individual decision-making processes. Applied to the field of migration, one could

legitimately expect that information campaigns implemented by national governments, the EU and the IOM can make a difference. Based on this assumption, these actors collaborate with various local partners in destination countries and diaspora communities and use various channels, including radio and TV broadcasts, newspapers, magazines, posters, brochures, concerts, workshops and social medias posts to reach the targeted audience. As noted by Heller (2014) as well as Cham and Trauner (2023), such campaigns therefore aim to avoid imperfect information among individuals willing to consider irregular migration by making them aware of the risks and dangers of illegal migration. In other words, the underlying idea is that if people were properly informed, they would change their plans and not leave.

This assumption is however contested by existing evidence on risk perception among prospective migrants. As demonstrated by the existing literature, the majority of migrants are well-aware of the risks involved in undocumented migration and this does not deter them from migrating (Alpes, 2014; Hernández-Carretero & Carling, 2012; van Bommel, 2020). In particular, a study by van Bommel (2020) among male prospective and returned unauthorized migrants aged between 18 and 35 years in three Ghanaian cities (Accra, Kumasi and Sunyani) found that participants were well-informed about the risks associated to migration prior to their departure, believed that the information on risks credible, but still decided to leave. Similarly, other studies insist on the fact that immigrants sometimes consider the risks associated with staying higher than those associated with migrating. Mbaye (2014) and Oeppen (2016) for instance stress that victims of wars, armed conflicts, persecutions, and other situations of violence are often willing to accept a substantial risk of death upon migrating irregularly.

The second assumption upon which information and awareness-raising campaigns are based is that the target audience of these campaigns in the Global South will trust messages designed and funded by public authorities of the Global North (Vammen, 2021). Existing scholarship has indeed looked into the question of trust in information about migration. Carling and Hernández-Carretero (2011) for instance, suggest that people may consider themselves better informed about the risks than the producers of information campaigns. Also, “when potential migrants perceive that information campaigns are driven by vested interests, they are likely to dismiss them as biased propaganda” (p. 49). Similarly, Nieuwenhuys and Pécoud (2007) underline that the overly negative image of migration to Europe presented in information campaigns may be insufficient to counter positive narratives about migration spread by friends, relatives, and smugglers. In line with this, Trauner et al. (2024) have found that the narratives on migration of young people in the Gambia and of Afghan migrants in Turkey are unaffected by deterrence

messages contained in information campaigns. This, they argue, is to be explained by the fact that these campaigns are outweighed by a myriad of other information sources that convey a positive image about migration and Europe. Overall, and because of these poorly supported assumptions, there exist a widely shared doubt in the literature about the effect of information campaigns on people decision to migrate (see Carling & Hernández-Carretero, 2011; Heller, 2014; Rodriguez, 2019).

1.2 The necessity to evaluate migration-information campaigns

In spite of the questionable assumptions on which these campaigns are built, information campaigns remain widely used by public authorities at the national and EU levels as well as by the IOM. As argued in different qualitative analyses and discussions that question the ethical dimension of migration-information campaigns, one explanation for this continued usage of information campaigns is that their role is not exclusively to deter migration. Heller (2014), for one, analysed an IOM campaign in Cameroon that showcased images of suffering endured by migrants which, in his view, shows similarities with the practice of colonial educational cinema. He concludes that such campaigns serve to justify rather than denounce the policies that produce this suffering. Similarly, for Brändle (2022, p. 158), information campaigns serve to support the current official discourse on migration. Triandafyllidou (2022), for one, refers to the concept of hegemonic discourse on migration to convey the idea that migration is defined and controlled mostly by states and international organisations in contrast with irregular migration associated with risks and illegality. For Brändle (2022), information campaigns therefore serve to establish authority about who is entitled to state ‘facts’ or ‘the truth’ about migration. In that sense, the role of information campaigns is also to support current securitization approaches to migration policy.

Given the questioning of the assumptions upon which they are built and the ethical dilemma they raise, evaluating the effects of migration-information campaigns is of primary importance. As argued noted by Toms and Thorpe (2012), the evaluation of the effectiveness of the campaigns is however rarely performed. In a scoping review, Tjaden and colleagues (2018) have examined 60 evaluations processes of information campaigns and noted they usually suffer from methodological limitations which severely limit their ability to conclude that a change in outcome is solely attributable to the campaign in question. This finding is in line with the observation of Browne (2015) according to which the lack of adequate evaluation is related to the fact that information is hard to collect about the level of awareness and change of attitude of individuals exposed to these campaigns. In another scoping exercise of the peer-reviewed

literature on migration-information campaigns, Pagogna and Sakdapolrak (2021) similarly come to the conclusion that there exist a consensus among scholars that information-campaigns are not adequately evaluated and that more empirical studies focused on the effectiveness of these campaigns on migrants' aspirations are needed.

In recent years, several studies have taken this direction. First, Tjaden and Dunsch (2021) published the first study using a randomized controlled trial design with potential migrants aged 18-35 in eight neighborhoods of Dakar, Senegal that were exposed to a documentary film in which West African returnees shared their personal experiences of the risks and dangers of unauthorized migration, followed by face-to-face discussions. They found this campaign increased their perceptions of various risks (i.e. deportation, imprisonment, witnessing death and violence...) and reduced their willingness to migrate irregularly.

Similarly, using a difference-in-difference quasi-experimental approach, Tjaden and Gninafon (2022) ran mobile cinema events and community discussions around a documentary film in which migrants gave personal testimonies about their experiences of the risks associated with unauthorized migration followed by community discussions in villages in northern Guinea. They found that the treatment effect increased perceptions of the costs of unauthorized migration, reduced the intention of potential migrants aged 15-39 to migrate irregularly, and improved their perceptions of future economic prospects in Guinea. Closely related to these studies, using a cluster-randomized experiment, Bah et al. (2023) found that providing information about the risks of unauthorized migration to Europe enhanced the short-term knowledge of young men aged 18-30 from Gambian villages regarding unauthorized migration. However, it had only modest and statistically insignificant effects on their longer-term migration intentions. Most recently, Florio (2024) used a randomized experiment to assess the impact of migration-information campaigns on perceptions and intentions to migrate among high school students in Dakar (Senegal) and found that information treatments (actors and source) had no effect on the perception of the risks of the irregular migration and intention to migrate. These findings equally suggest that the effectiveness of information campaigns to raise awareness of irregular migration is limited.

1.3. Three Limitations of existing evaluations and how to address them

In spite of the above-mentioned developments, Cham and Trauner (2023, p. 53) rightly point out that “the picture is not yet fully clear-cut” when it comes to the impact of information campaigns on individuals. Through their analysis of the existing literature, we can indeed identify three limitations which this paper, in turn, is intending to address. First, evaluation

exercises need to be more specific about what they are actually measuring. This means that evaluations of information campaigns need to be explicit about who is a potential migrant and what exactly the campaigns are expected to impact. As noted by Carling (2019), one can indeed wish to migrate but currently not be able to do so. This entails that the perimeter of the participants in/excluded in the evaluation and the exact question they are asked with regard to their future migration behaviour may generate significantly different results in terms of impact of information campaigns. For this reason, the present study has taken the decision to test the impact of factual information contained in typical information campaigns. Similarly, in line with Carling's recommendation, we first asked individuals about their preferences as "preference is perhaps the most fundamental aspect of thoughts and feelings" that reveal "a conviction that leaving is preferable to staying" (2019, p. 30). Because our focus is on the impact of information campaigns on irregular migration, survey participants who expressed a preference to migrate were subsequently asked more specifically on their intentions to migrate irregularly.

In addition, the second limitation identified by Chan and Trauner (2023) is that with existing evaluations of information campaigns, it remains uncertain whether different communities respond in the same way to similar messages. Thus far, evaluations of migration-information campaigns have primarily focused on Western Africa where a number of campaigns have taken place due to the perceived importance of the region as a transit and departure place for undocumented migrants. In our study, the focus on Algeria was therefore guided by the perceived necessity to evaluate migration information campaigns in a different region as well as by the fact that Algerians represent one of the largest population of undocumented migrants in Europe (ICMPD, 2025) which, from the deterrence perspective of policy-makers, make this national group a particularly relevant group to focus on.

The third and most important limitation is that existing evaluations of information campaigns have focused primarily on measuring the impact of negative messaging on irregular migration. In particular, the risks associated with the journey (e.g. death, abuse, risks related to the use of smugglers...) and with the arrival in Europe (e.g. militarized borders, arrest, harsh living conditions as an undocumented migrant...). In line with this approach, our own evaluation of the impact information provision on migration preferences in Algeria therefore tests two different messages on the risk and dangers associated with irregular migration on the one hand and on the building of walls and other fences in Europe for deterrence purposes on the other hand. Because information campaigns usually combine a message with a visual stimulation, we

decided to test these two messages both with and without a picturing supporting the negative framing of these messages.

Though much less frequent, scholars have also evaluated the impact that messages using positive frames on successful alternative to emigration rooted in local communities or safer regional migration alternatives to moving to Europe have on attitudes towards migration (see Musarò, 2019; Florio, 2024). However, there seem to exist a consensus in the literature that migration-information campaigns rarely provide information on legal pathways and rights in destination countries that could empower the individuals exposed to these campaigns. In our view, and inspired by the seminal work of Watzlawick and colleagues (1967) according to which one cannot not communicate (i.e. even silence or omission is a form of communication), we consider that minimizing or omitting this type of information is also a form of communication about migration. In fact, migration scholars such as Brekke and Thorbjørnsrud (2020) and Gatta (2021) have already shown that silence, omission and selective communication by public authorities are indeed tools of migration governance. In our evaluation of information provision on migration preferences, we have therefore decided to carefully test two messages on policies which, are frequently referred to by policymakers in public debates as “pull factors” for potential migrants and are accordingly never included in information campaigns: regularization programs for undocumented migrants and access to welfare benefits in destination countries.

In the past decades, countries such as France, Italy, Portugal, and Spain have made repeated use of large regularization programs for undocumented immigrants. Yet, with the notorious exception of more specific and targeted campaigns during the COVID-19 crisis, such campaigns have become less frequent and more contentious. The argument frequently heard in policy debates to oppose regularization programs is that they encourage more people to migrate irregularly in the hope of benefiting from ongoing or future amnesties. For example, this argument was discussed within debates in the Parliamentary Assembly of the Council of Europe (2007) in relation to Spain’s 2005 regularization program that raised about possible negative externalities on other EU Member States. Similarly, the supposed triggering effect of regularization programs inspired the French Presidency of the Council of the EU to call for a ban on them in the EU (Mayr et al., 2012). Such positions are contradicted by existing research on the impact of regularization programs on future irregular migration. In the United States, numerous studies have shown that the 1986 Immigration Reform and Control Act did not lead to an increase of irregular border crossings (see White et al., 1990; Orrenius & Zavodny, 2003;

Linder, 2011) and more generally do not have neither deterring nor encouraging effects on future undocumented immigration (Donato et al., 1992). Similarly, in Europe, Larramona and Sanso-Navarro (2016) found that Spain's 2005 regularization program did not lead to an increase of immigration. What this research has not yet done however-and that this paper is aiming for-is to test the impact on migration preferences of information provision on undocumented immigrants' regularization programs.

Migrants' access to welfare in destination countries is an equally contentious topic within migration policy debates. At the scientific level, the idea according to which generosity in welfare state provisions acts as a pull factor for prospective migrants was first conceptualized by Borjas (1998) as the "welfare magnet hypothesis". This work triggered a large number of studies, especially in Europe, aiming to verify the existence of such effect. Recently, Kahanec and Guzi (2020) conducted a scoping exercise to review the existence evidence behind welfare induced migration and concluded that "the consensus in the literature is that the effects of welfare on migration are relatively small compared to other drivers of migration" (p. 2). Another well-studied concept in the literature is that of welfare chauvinism according to which welfare policies should benefit primarily or exclusively natives. The concept has been particularly successful in Europe in recent years both in terms of electoral gains for parties who use it and in terms of restrictive policy changes it has justified (see Eick, 2024). It is therefore unsurprising that policymakers galvanized by the success of welfare chauvinist postures continue to defend the existence of a welfare magnet effect and do not support the inclusion of information on welfare rights in migration-information campaigns. In our survey experiment, we accordingly included a vignette on access to welfare in order to test the impact of such message on migration preferences.

2. Experimental Design and Method

In the framework of the "Migration, Social Protection and Public Opinion" (MiPOP) project funded by the Belgian Fund for Scientific Research (F.R.S-FNRS), we conducted an online experiment embedded within a survey representative in terms of age and gender of Algerian residents aged 18-75 years (n=1,206) fielded in March 2023. Ethical approval of this project was received from the Ethical Committee in Social Sciences of the authors' university. The survey was administered in both Arabic and French by YouGov, a leading marketing research

firm. The original French version of the survey questionnaire was translated into Arabic by professional bilingual translator hired by YouGov¹.

The participants average age was 38 years, 49.5% were female, 42.1% had below or equivalent high school diploma and 57.9% had tertiary education level. Around half of the respondents were married (50.8%) and the majority were employed (60.5%), living in urban area (69.2%) and satisfied with their financial situation (53.6%). In terms of language used to complete the survey, Arab was the language used by nearly nine out of every ten respondents (87%). Although we do not pretend that Algeria is representative of all global south countries and generalizable to other contexts, it represents an appropriate case for our research because Algerian nationals were identified in 2022 as the largest group of undocumented migrants ordered to leave the territory of the European Union member states (European Migration Network Belgium, 2023).

Respondents were asked a question on their migration preference “If you had the choice, would you wish to live in a European country, or would you prefer to continue living in Algeria?” Globally, 46.8% of our respondents answered “yes”. To this group of participants who expressed a wish to live in a European country, we asked two follow-up questions on their migration intention. First, we asked “Do you intend to move to Europe in the next two years, or not?” which was answered positively by 69.3% of those who had expressed a desire to live in Europe. Second, to this group of participants who intend to move within two years, we asked the following question: “If it were not possible for you to go to Europe legally², would you be prepared to try to go there illegally, i.e. without a visa or without going through border controls?”. Out of those ready to leave within two years, 17.9% indicated their intention to migrate to Europe irregularly if no official channel was available.

The study participants were randomly assigned to a control group and one of six treatment groups. The control group, which received no treatment, was asked the same three questions. The treatment groups were instead asked to answer the same questions immediately after reading the content of a single experimental vignette. As discussed in the previous section, the content of the vignettes was based, on the one hand, on the frequently used deterrence arguments in migration-information campaigns and, on the other hand, on key rights-related information on migration whose omission in information campaigns-we argued above-can be

¹ The Arabic translation was checked by one of this paper's authors who is a native Arabic speaker.

² In the questions' wording and the experimental scenarios, we have used the term “illegal”. In spite of the fact that we dispute the appropriateness of using this term in migration debates (see Lafleur and Marfouk 2017), we decided to use it to ensure that respondent understand clearly the question and stimulus.

considered as an integral part of European States' migration policies. In addition, in line with findings in media studies and to approach the format of actual information campaigns, we also decided to duplicate the two deterrence vignettes in a version accompanied by an image supporting the message as "the inclusion of an attention-grabbing image increase[d] the salience of and attention to the accompanying text" (Powell et al., 2015, p. 1011).

Based on these different considerations we developed the following six vignettes (see below for the English version): The first vignette contained information on large-scale undocumented immigrants regularization programs implemented in some European Union countries. The second vignette contained information on risks and dangers associated with unauthorized migration to Europe. The third vignette contained the same information plus an image illustrating the danger of crossing the sea. The fourth vignette contained information on anti-migrants' walls and other fences built in Europe. The fifth contained the same information plus a picture representing a militarized border. The sixth vignette contained information on the rights deriving from the bilateral social security agreements between Algeria and various European countries.

Experimental vignettes and English translation of the questions on migration and the vignettes text

Control group (n=176)

No message

Treatment group 1: Undocumented immigrants regularization programs (n=174)

In recent years, European countries have regularized the status of undocumented migrants to allow them to settle permanently, live and work in the country. In Belgium, for example, since 2017, an increasing number of undocumented migrants have received a positive decision. In 2020, more than half of the submitted applications received a positive decision. During the same year, other countries, such as Italy and Portugal, took measures to temporarily regularize the status of some of the immigrants residing illegally in these countries.

Treatment group 2: Risks and dangers associated with unauthorized migration (n=174)

Migration involves significant risks for candidates wishing to reach Europe illegally. They risk death during the journey: Between 2014 and 2021, 46,906 migrants died or went missing at sea. They also expose themselves to violence from smugglers. The risks of arrest and detention are real during the trip or arrival on the European territory: in 2021, 13 702 Algerians in an illegal situation were arrested. The arrest can lead to long-term detention and forced expulsion from European territory. In France, for example, nearly 2 000 Algerians were expelled from the country in 2020.

Treatment group 3: Risks and dangers associated with unauthorized migration with picture (n=171)



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Treatment group 4: Anti-migrants walls and other fences (n=170)

Today, Europe is dotted with walls and other fences of several meters high guarded by law enforcement and reinforced by surveillance systems. They are used to control borders and prevent the arrival of illegal immigrants. Spain, for example, has built fences to prevent migrants from entering Europe through the enclaves of Ceuta and Melilla. France, for its part, has installed fences in Calais protecting the port and the Channel Tunnel. Other countries such as Bulgaria, Greece, Hungary and Slovenia have also strengthened their borders. In total, it is estimated that almost 1000 kilometres of walls and other fences have been built in Europe in recent years.

Treatment group 5: Anti-migrants walls and other fences with picture (n=176)



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Treatment group 6: Bilateral Social security bilateral agreement between Algeria and EU countries (n=165)

There are bilateral social security agreements between Algeria and different European countries which offer social protection advantages to Algerians who come to live and work in these countries. For example, the agreement between Belgium and Algeria covers particular benefits relating to family allowances, health care and sickness and disability compensation. It also guarantees that the period of work of Algerians who have worked in the two countries will be added to open the right to retirement pensions and determine the amount. Finally, this agreement allows Algerians who settle in Belgium to receive, under certain conditions, Algerian social security benefits when they reside in Belgium.

3. Analysis and Results

As our main variable of interest is the people's intention to migrate to Europe irregularly, we used this last question to construct our dichotomous dependent variable. The answer options "yes" and "no" were coded 1 for "yes" and 0 for "no". The mean of this variables captures the percentage of those who are ready to migrate to Europe irregularly.

The results are analysed from two perspectives. First, we begin our analysis by examining differences by treatment assignment in the estimated proportion of participants who have an intention to migrate to Europe irregularly, which represent our variable of interest in this paper. Second, we ran a series of regression models to see if the difference in proportions result still holds when considering a set of variables gathered from the survey. To further validate our regression results, we performed robustness checks excluding participants who failed the attention control questions, those who completed the survey to quickly and those who did not commit to provide accurate and honest information.

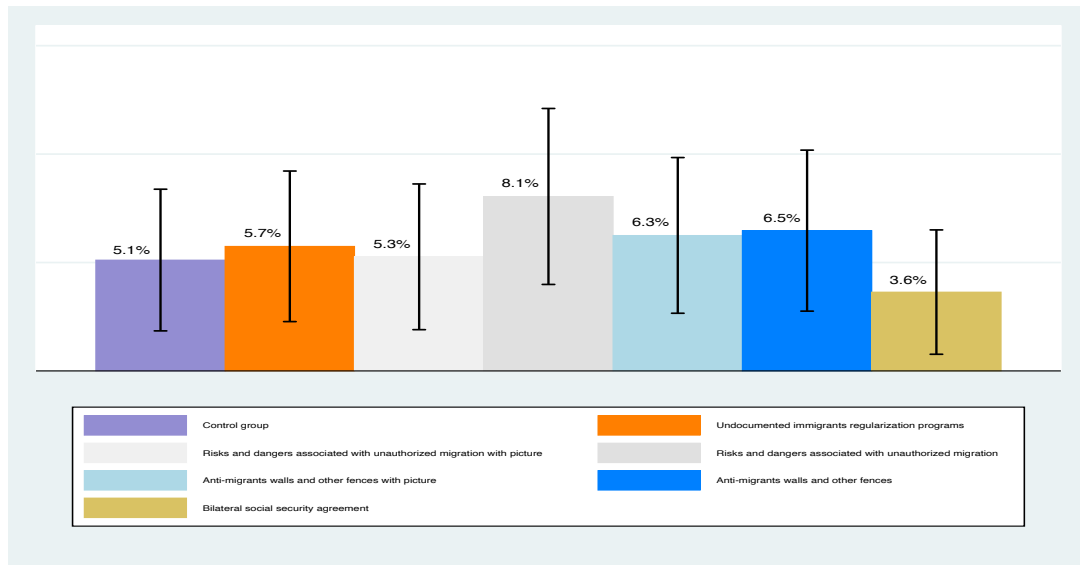
3.1. Comparison of treatment and control groups

Given that migration with an undocumented status is a rare event, we applied the standard rule of thumb to confirm that it was appropriate to compare the proportions in the control and experimental groups. Specifically, we verified that $n \geq 5$ and $n(1 - p) \geq 5$, where n is the group size and p is the proportion of individuals who indicated their intention to migrate to Europe irregularly. These conditions, which are used to justify the normal approximation for binomially distributed outcomes (Sun et al., 2021 ; Borm et al., 2009 ; Lumley, et al, 2002), were satisfied in all cases.

Figure 2 provides the first estimate of the effect of the vignettes on the proportions, expressed as percentage, for respondents in the control and treatment groups who have the intention to engage in unauthorized migration to Europe. When asked "If it were not possible for you to go to Europe legally³, would you be prepared to try to go there illegally, i.e. without a visa or without going through border controls?", the result show a small difference in proportion between those who said "yes" in the control (5.1%) and the "undocumented immigrants regularization programs" treatment group (5.7%).

³ In the questions wording and the experimental scenarios we have used the term "illegal". In spite of the fact that we contest the use of this term in migration debate, we decided to use it to ensure that respondent understand clearly the question and stimulus.

Figure 2 - Proportion of respondents in the control and experimental groups who intend to migrate to Europe irregularly (in percent)



Note: The bars denote 95% confidence intervals.

The same Figure also shows that 8.1% of participant exposed to the “risks and dangers associated with unauthorized migration” vignette have the intention to engage in unauthorized migration, compared to 5.3% for those exposed to same vignette accompanied by an image. The equivalent proportions of respondents assigned to the “anti-migrants walls and other fences” experimental groups with and without picture are 6.2% and 6.5%, respectively. Finally, respondents exposed to the “bilateral social security agreement between Algeria and EU countries” vignette show a lower percentage of those who would try to engage in unauthorized migration to Europe (3.6%). However, despite the numerical difference between the experimental groups, no conclusion can be drawn with certainty from these results given that the confidence intervals overlap.

The next step is to test the effect of the vignettes on individuals’ intention to engage in unauthorised migration to Europe by performing a series of z-tests. In Table 2, we can see that the difference in the proportions between the control group (C_0) and the treatment group who received information on “undocumented immigrants regularization programs” (T_1) is 0.6 percentage points, which was not statistically significant ($z = -0.262$, $p = .794$). Looking at the effect of the message on “risks and dangers associated to unauthorized migration” with picture ($T_3 - C_0$) and without picture ($T_2 - C_0$), the differences were respectively 0.2 percentage points ($z = -0.063$, $p = .950$) and 3.0 percentage points ($z = -1.107$, $p = .268$). These results indicate that neither message had an effect on individuals’ intention to migrate to Europe irregularly.

Similarly, there was no significant difference in the proportion of participants who had the intention to migrate irregularly to Europe between the control group and the groups exposed to the message on “anti-migrants’ walls and other fences” with picture (T₅–C₀; 1.1 percentage points ($z = -0.461, p = .645$) and without picture (T₄–C₀; 1.4 percentage points, $z = -0.541, p = .589$).

Table 2. Differences-in-proportions (expressed in percentage) of participants intention to engage in unauthorized migration to Europe between the control and treatment groups

Experimental groups	Yes	Difference in percentage point	z	p
Control group (C ₀)	5.1%	-	-	-
Undocumented immigrants regularization programs (T ₁)	5.7%	T ₁ -C ₀ = 0.6	-0.262	.794
Risk and dangers associated with unauthorized migration (T ₂)	8.1%	T ₂ -C ₀ = 3.0	-1.107	.268
Risk and dangers associated with unauthorized migration with picture (T ₃)	5.3%	T ₃ -C ₀ = 0.2	-0.063	.950
Anti-migrants walls and other fences (T ₄)	6.5%	T ₄ -C ₀ = 1.4	-0.541	.589
Anti-migrants walls and other fences with picture (T ₅)	6.3%	T ₅ -C ₀ = 1.1	-0.461	.645
Social security bilateral convention between Algeria and EU countries (T ₆)	3.6%	T ₆ -C ₀ = -1.5	0.665	.506

The results also show that fewer than one in twenty-five participants (3.6%) in the “bilateral social security agreement between Algeria and EU countries” group (T₆) said they had the intention to migrate to Europe irregularly, which is 1.5 percentage points lower than the proportion in the control group (C₀). However, this difference was not statistically significant ($z = 0.665, p = 0.506$).

Regarding the effect of accompanying images-which we expected would reinforce the text message in the vignette-we found that the proportion of participants intending to engage in undocumented migration to Europe declined from 8.1% in the “risks and dangers associated with unauthorized migration” without-picture group to 5.3% in the with-picture group. However, this difference (-2.8 percentage points) was not statistically significant ($z = -1.036, p = 0.300$). A similar result was observed for the “anti-migrants walls and other fences” vignettes, with and without pictures, with a difference of -0.2 percentage points, also not statistically significant ($z = -0.084, p = 0.933$), suggesting that the potential impact of images needs further investigation.

From these findings arises the question of whether they are robust even when taking into consideration the potential role of other factors that might explain individuals’ intention to engage in unauthorized migration. To this end, regression analyses were performed.

3.2 Regression analysis

Since the dependent variable is dichotomous, we estimated a series of binary probit model, which provide estimates of the probability of intention to engage in undocumented migration to Europe. Table 3 summarizes the regressions results. The first regression includes only the survey treatments (Column 1). This regression was extended to include a set of variables gathered from the survey to control for the participants' demographic and socio-economic characteristics: Age measured in years, gender (coded 1 for females and 0 for males), education attainment measured by three categories (less than high school diploma, high school diploma and more than high school diploma), employment status (equals to 1 for unemployed and 0 otherwise), marital status (coded 1 for single and 0 otherwise). The economic status was measured using the following question "To what extent are you satisfied with your financial situation?". Answers options were 'very dissatisfied', 'dissatisfied', 'neither satisfied nor dissatisfied', 'satisfied', 'very satisfied'. The categories 'very dissatisfied' and 'dissatisfied' were grouped to create a binary variable 'dissatisfied with financial situation' that takes the value 1 if the answer was "dissatisfied" or "very dissatisfied", and the value 0 otherwise (Column 2).

The following regression added participants' attitude towards risks measured by a question which capture subjective self-assessment of willingness to take risks: "How do you see yourself: are you generally a person who is fully willing to take risks or do you try to avoid taking risks?". The answers given on an 11-point scale varying from 0 "not at all willing to take risks" to 10 "very willing to take risks". Information about migration was also operationalized by a binary variable which takes of value of 1 if the participant considers that he/she is informed about migration and 0 otherwise. Additionally, we exploited the responses to two other survey questions to control for participants' previous experience of migration and whether they have family members or close friends living abroad (Column 3). On average, almost 8% of the participants declared that they have resided in a foreign country during a period a period exceeding 12 months and an overwhelming majority (73%) said that that they have a family member and/or acquaintance who resides permanently in a foreign country.

As was expected, the coefficient of the variables "age" and "gender" are negative and significant, meaning that older individuals⁴ and women are less likely to engage in unauthorized migration. The results also show that people who stated that they are dissatisfied with their financial situation, those who are willing to take more risks, have prior experience of migration,

⁴ But the variable age is significant only at 10% level.

and consider themselves informed about migration were more likely to engage in unauthorized migration. In contrast, marital status, education attainment and having a family member or friends leaving abroad have no statically significant effect on the probability engage in unauthorized migration.

In line with the results of the z-tests discussed above, the regression result in Column (1) shows that the interventions (i.e. messages on “undocumented immigrants regularizations programs”, “anti-migrants’ walls and fences”, “risks and dangers associated with unauthorized migration” and “bilateral social security agreements between Algeria and EU countries”) have no significant statistical effect on the participants' intention to engage in unauthorized migration. This result holds even when considering the role of other potential determinants of unauthorized migration, Columns (2) and (3). More precisely, the findings support that information provision about regularization programs for undocumented migrants and on immigrants access to welfare do not have an incentive effect on the inflow of unauthorized migrants from the Global South. Similarly, the findings also show that messages containing negative frames on the risks and dangers associated with unauthorized migration and on militarized borders do not have a disincentive effect on the inflow of unauthorized migrants. In other words, we found no evidence that the provision of information on those issues has any push or pull effect on irregular migration.

Table 3 - Probit regression models predicting the effects of interventions and individuals control variables on the probability of persons intention to engage in unauthorized migration to Europe

	(1)	(2)	(3)
Experimental groups (control group as reference)			
Regularization programs for undocumented migrants	0.058 (0.220)	0.053 (0.228)	0.104 (0.233)
Risks and dangers associated with unauthorized migration	0.0141 (0.224)	0.0358 (0.230)	0.0541 (0.231)
Risks and dangers associated with unauthorized migration with picture	0.232 (0.210)	0.238 (0.219)	0.320 (0.221)
Anti-migrants walls and other fences	0.100 (0.217)	0.125 (0.226)	0.199 (0.232)
Anti-migrants walls and other fences with picture	0.118 (0.218)	0.134 (0.225)	0.229 (0.229)
Bilateral social security agreements	-0.161 (0.242)	-0.179 (0.250)	-0.131 (0.256)
Control variables			
Age	-	-0.015* (0.008)	-0.014* (0.008)
Female	-	-0.552*** (0.141)	-0.489*** (0.145)
Marital status (single)	-	0.091 (0.170)	0.118 (0.180)
Education	-	-0.0914 (0.078)	-0.115 (0.078)
Employed status (unemployed)	-	0.127 (0.161)	0.127 (0.162)
Dissatisfied with financial situation	-	0.386*** (0.130)	0.420*** (0.137)
Informed about migration	-		0.436*** (0.138)
Willing to take risks	-		0.072*** (0.027)
Have resided in a foreign country	-		0.491** (0.199)
Have family member or close friend living abroad	-		-0.096 (0.142)
Constant	-1.634*** (0.158)	-1.035** (0.446)	-1.848*** (0.529)
Observations	1,206	1,206	1,206
Pseudo R ²	0.01	0.08	0.14

Note: Reported values are coefficients, with robust standard errors in parentheses. Statistical significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

3.3 Robustness checks

Online surveys have become a popular in various disciplines due to the number of advantages that they have including their relative low cost, the speed of data collection, the flexibility and customization of the surveys design, or the ease of recruiting diverse samples. As with any survey method, respondents are expected to answer the questions truthfully and accurately, but this is not always the case. The available evidence suggests that a certain percentage of respondents in the sample do not make sufficient effort to read the content of the items carefully, follow instructions and provide accurate answers. A large body of literature has been devoted to the detection, treatment and prevention of irrelevant response behaviour and its impact on research results (see among others Goldammer et al., 2020; Reyes, 2020; Brühlmann et al.,

2024; Stosic et al., 2024). Scholars have paid particular attention to careless responses whose prevalence in a sample, varies considerably across studies. Goldammer et al. (2020) for instance indicate that “it generally seems reasonable to expect a rate of at least 10% to 15% in surveys” while other studies suggest a wider range such as between 1% and 30% (Curran, 2016), or from 3.5% to 50% (Meade & Craig, 2012).

Existing research contends that careless respondents seriously threatens the validity of research findings by reducing the quality of data, creating spurious relationships between variables, leading to erroneous inferences, and biasing experimental manipulations by increasing the risk of making Type 1 error (falsely finding an effect that doesn't exist) or Type 2 error (failing to find a significant effect that really exists) in hypothesis testing (Arias et al., 2020; Ward & Meade, 2023). The literature suggests two different approaches to deal with careless responding which we both used in our survey. First, researcher can use various strategies to keep respondents engaged by making them aware of the consequences of inattentive responding on research results, urging them to focus on providing truthful and accurate information, asking them to follow instructions, and warning them of potential penalties for inattentive behaviour (Arthur et al., 2021). In our case, participants were asked to commit to providing accurate and honest information when answering the questions which Hibben et al. (2022) have found improves data quality. In our survey, two participants (representing 0.2% of the total sample) refused to make the commitment.

Second, one can use tools to identify inattentive respondents in the data collected such as the instructional manipulation check (IMC) also known as a ‘trap’ question (Hauser & Schwarz, 2015; Oppenheimer et al., 2009) which consists of a task or item inserted into the questionnaire designed to determine whether participants in the online survey or experiment are attentive to the instructions by asking them to select a particular response option (see Muszyński, 2023; Ward & Meade, 2023 for a review of methods to identify careless respondents). In our survey, we placed an attention check question asking participants to identify the topic of the vignette. The proportion of participants who gave incorrect answers to these questions could be interpreted as an indication that they were not paying attention. In total, 63 participants, or 5.2% of the sample, were flagged as inattentive.

In addition to these two approaches, we used the total time it took respondents to complete the entire survey as a proxy for respondent attention. Previous studies have indeed suggested that survey completion time is an indicator of carless responding (see Schneider et al., 2018; Zhao

& Gearhart, 2023). On average, the survey took 7 minutes to complete. The median completion time was 10.8 min.

Overall, our robustness check consisted in examining whether our results are sensitive to the exclusion of participants who failed the attention control questions, those who completed the survey too quickly and those who did not commit to provide accurate and honest information. First, we excluded those who completed the survey too quickly. As shown in Table 4, our results remained robust when participants who completed the survey very quickly were excluded, regardless of the chosen exclusion threshold. The second robustness check examined whether our results were sensitive to the exclusion of participants who failed the attention control questions. The third robustness check examined whether our results were sensitive to excluding participants who answered the attention control questions incorrectly, those who completed the survey too quickly and those who did not commit to providing accurate answers. Table 5 shows that our findings remain robust when participants who failed the attention control questions or completed the survey too quickly are excluded from the analysis.

In other words, exposure to messages about “undocumented immigrants regularization programs”, “risks and dangers associated with unauthorized migration”, “bilateral social security agreements between Algeria and EU countries” had no significant statistical effect on participants intention to engage in unauthorized migration to Europe, indicating that our main conclusions hold after excluding careless respondents.

Table 4 - Probit regression models predicting the effects of interventions and individuals control variables on the probability of persons plan to engage in unauthorized migration to Europe with restricted sample size excluding “speeders” participants

	Less than 7 minutes	Less than 40% of the median	Less than 60% of the median
Experimental groups (control group as reference)			
Regularization programs for undocumented migrants	0.019 (0.293)	-0.015 (0.252)	0.066 (0.287)
Risks and dangers associated to unauthorized migration	0.205 (0.300)	0.004 (0.258)	0.181 (0.299)
Risks and dangers associated to unauthorized migration with picture	0.396 (0.275)	0.322 (0.233)	0.404 (0.271)
Anti-migrants walls and other fences	0.156 (0.288)	0.200 (0.237)	0.177 (0.283)
Anti-migrants walls and other fences with picture	0.321 (0.281)	0.227 (0.240)	0.308 (0.279)
Bilateral social security agreements	-0.066 (0.310)	-0.139 (0.267)	-0.100 (0.298)
Control variables			
Age	-0.011 (0.008)	-0.015* (0.008)	-0.013 (0.008)
Female	-0.413** (0.174)	-0.439*** (0.152)	-0.357** (0.166)
Marital status (single)	0.130 (0.190)	0.081 (0.166)	0.088 (0.185)
Education	-0.139 (0.094)	-0.135 (0.085)	-0.150 (0.092)
Employed status (unemployed)	0.250 (0.196)	0.160 (0.172)	0.230 (0.190)
Dissatisfied with financial situation	0.366** (0.161)	0.426*** (0.142)	0.416*** (0.157)
Informed about migration	0.697*** (0.178)	0.530*** (0.148)	0.727*** (0.175)
Willing to take risks	0.056** (0.029)	0.071*** (0.025)	0.063** (0.028)
Have resided in a foreign country	0.577** (0.231)	0.363* (0.216)	0.560** (0.230)
Have family member or close friend living abroad	-0.063 (0.174)	-0.099 (0.149)	-0.021 (0.172)
Constant	-2.123*** (0.553)	-1.818*** (0.484)	-2.121*** (0.547)
Observations	982	1,189	1,032
Pseudo R ²	0.15	0.14	0.16

Note: Reported values are coefficients, with robust standard errors in parentheses. Statistical significance: * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 5 - Probit regression models predicting the effects of interventions and individuals control variables on the probability of persons plan to engage in unauthorized migration to Europe with restricted sample size

	Excluding participants who failed attention control questions	Excluding participants who failed attention control questions, and those who complete the survey too quickly, as well as those who did not commit
Experimental groups (control group as reference)		
Regularization programs for undocumented migrants	0.127 (0.248)	0.007 (0.306)
Risks and dangers associated to unauthorized migration	-0.009 (0.260)	0.123 (0.315)
Risks and dangers associated to unauthorized migration with picture	0.335 (0.234)	0.409 (0.280)
Anti-migrants walls and other fences	0.240 (0.240)	0.208 (0.294)
Anti-migrants walls and other fences with picture	0.299 (0.242)	0.387 (0.286)
Bilateral social security agreements	-0.191 (0.282)	-0.176 (0.334)
Control variables		
Age	-0.017** (0.008)	-0.0142 (0.009)
Female	-0.483*** (0.154)	-0.382** (0.179)
Marital status (single)	0.106 (0.168)	0.124 (0.200)
Education	-0.094 (0.087)	-0.104 (0.100)
Employed status (unemployed)	0.174 (0.174)	0.335* (0.203)
Dissatisfied with financial situation	0.395*** (0.143)	0.302* (0.166)
Informed about migration	0.482*** (0.149)	0.811*** (0.195)
Willing to take risks	0.069*** (0.026)	0.054* (0.030)
Have resided in a foreign country	0.635*** (0.210)	0.667*** (0.239)
Have family member or close friend living abroad	-0.108 (0.155)	-0.0237 (0.190)
Constant	-1.802*** (0.494)	-2.183*** (0.585)
Observations	1,143	935
Pseudo R ²	0.15	0.17

Note: For those who completed the survey quickly we used 7 minutes as threshold. Our results remained robust when we considered 'speeders', i.e. participants who completed the survey in less than 40% or 60% of the median time. Due to space limitations, this result is not reported in Table 5.

Note: Reported values are coefficients, with robust standard errors in parentheses. Statistical significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Conclusion

Information campaigns are a widely used migration policy instrument by national and European authorities as well as the IOM which has been repeatedly described as ineffective and poorly evaluated over the past decade. The primarily qualitative scientific literature on this topic has been critical in highlighting the incorrect assumptions on which these campaigns are built. In spite of repeated calls for more empirical studies measuring more rigorously the impact of these

campaigns, quantitative research has remained surprisingly limited on this question. In this paper, we have designed an online experiment embedded within a survey representative of the Algerian population with the idea of contributing to this emerging literature. Our approach was developed with this idea of addressing three limitations of prior evaluations of information campaigns by: 1) testing both messages with negative frames associated with undocumented migration and messages with positive frames about regularization and welfare, 2) testing the effect of negative messages both in a text-only format and accompanied with an impactful image, and 3) focusing on a population outside of West Africa and using a sample representative of the entire resident population.

In terms of key results, our work demonstrates information provision on migration to Europe-whether it consists of negative frames on the dangers of crossing and residing in Europe or positive frames on regularization programs and rights to welfare-have no significant impact on one' intention to engage in irregular migration. In addition, we were able to show that negative frames that are presented with a supporting image accompanying the text do not any significant additional impact on one' intention to engage in irregular migration compared to text-only messages. While these results are in line both with prior qualitative research on the topic and recent limited empirical evaluations conducted in West Africa, our results also open new perspectives for future research and policy debates.

In terms of future research, our results invite scholar to pay more attention in future evaluation to the role of the channel through which messages on migration are communicated in the Global South. Indeed, whereas our experiment implemented in an online survey enabled us to test information with a sample representative of the entire population of a major Global South country of origin, it did not test the impact of other traditional channels of diffusions for migration information campaigns (e.g. social network posts, film, face-to-face interactions). Similarly, there is a need for further research on the role of the "messenger" identified by participants as the carrier of the message. In our case, prior to expressing consent, participants were explicitly informed that they were taking part in a scientific project which is likely to have increased their trust in the information about migration they were exposed to. As noted in the literature, even though national and European authorities as well as the IOM are often the funders behind these campaigns, the message carrier in such campaigns may vary and is not sometimes not explicit (e.g. a migrant/returnee, a local CSO, a dedicated social network account). Future empirical research on information campaigns could therefore pay more

attention to the carrier to determine whether the same information carried by different messengers produce a different impact on intention to migrate.

In terms of policy implications, this paper adds a significant contribution to ongoing debates on regularization programs and immigrants' access to welfare. Our findings show that information provision about large-scale regularization programs for undocumented immigrants implemented in European countries do not incentivize unauthorized migration from the Global South. The idea that regularization programs for undocumented migrants have a pull effect on irregular migration should therefore be contested. This calls for the reopening of an evidence-based policy discussion on regularization programs in Europe to respond to the precariousness and exploitation that a significant share of the undocumented population is exposed to. Similarly, our findings on the absence of effect on irregular migration of messages on welfare is another call reconsider the use of arguments based on the "welfare magnet hypothesis" in policy debates. In other words, since there is no scientific evidence that information on welfare entitlement has any pull effect on prospective migrants in the Global South, the retrenchment of rights-while it has obvious consequences on those already present on the national territory-is unlikely to have any deterrence effect on future migration.

Overall, our research therefore contributes to the ongoing questioning among the migration research community on the ethical dimension of contemporary migration policy debates. In spite of the limited impact of information campaigns and the lack of evidence supporting the existence of an attraction effect of regularization programs and welfare entitlements, they continue to be part of the tools and discursive arguments used to justify a European migration policy focused on securitization and deterrence. In this sense, our paper also confirms the idea already expressed that information campaigns do not necessarily serve to deter migration but rather enable authorities to assert their authority in the provision of information on migration in countries of origin as well as legitimize migration policies focused on the control and repression of irregular migration. Taking these elements into consideration and as way of concluding this paper, we argue that-if information campaigns are to remain an instrument of European migration policies-a more ethical way to go about it would be for them to also include information about the rights of migrants and the obligations of authorities towards them as these equally belong to the European migration policy framework.

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