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ORIGINAL ARTICLE



Risky journeys – Risk and decision-making among potential irregular migrants in Senegal and Guinea

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Abstract

In response to well-documented harms inflicted on irregular migrants attempting to travel from West Africa to Europe, various actors have scaled up information interventions to counter misinformation by smuggling networks and facilitate safe migration decisions. Many interventions include information on the potential dangers involved in migration. However, there is a striking lack of empirical evidence assessing a key assumption of campaign effectiveness, that is the relationship between risk perceptions and the decision to migrate irregularly. This study contributes an empirical account based on two independently collected surveys in Senegal and Guinea. Consistent with rational choice theories on migration decisions under uncertainty, the results suggest that higher risk perceptions are consistently and strongly associated with reduced intentions to migrate irregularly. Yet, the explanatory power of risk perceptions depends on context and is generally less important than structural and socio-economic factors.

INTRODUCTION

This study assesses the link between risk information on intentions towards irregular migration based on two surveys with potential irregular migrants collected independently from each other in Dakar, Senegal and the North-Western region of Guinea.

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Migration is persistently ranking among the most important issues for voters and governments in ‘receiving’ societies. In the European Union (EU), irregular migration from Africa has been of particular concern. EU governments and institutions have substantially scaled-up policy action and funding aiming at addressing migration from Africa.¹ Such policies include, among others, development interventions to address potential ‘root causes’ of irregular migration (education, training, subsidies for infrastructure projects etc.) as well strengthened collaboration with enforcement agencies in origin and transit countries. As part of the policy mix, EU governments and the EU Commission have also scaled up funding for awareness raising campaigns in response to well-documented vulnerabilities and perils faced by irregular migrants travelling through the Sahara and attempting to cross the Mediterranean Sea (Black, 2020; Black et al., 2017; Galos et al., 2017). Risk information was one focus area of awareness raising campaigns targeting potential migrants following emerging evidence of the harrowing and perilous journeys of irregular migrants, particularly in Libya between 2015 and 2018.

So-called awareness raising and information campaigns have long been criticized, mostly on either political² grounds (e.g. Nieuwenhuys & Pécoud, 2007; Oeppen, 2016; Pécoud, 2010; Watkins, 2017) or relating to doubts regarding effectiveness (e.g. Brekke & Thorbjørnsrud, 2020; Fleay et al., 2016; Pagogna & Sakdapolrak, 2021; Tjaden et al., 2019) because campaigns violate key assumptions about decision-making among (irregular) migrants (e.g. Fiedler, 2020; Hernández-Carretero & Carling, 2012; Schans & Optekamp, 2016; van Bommel, 2020).

Recent reviews have highlighted the glaring absence of any empirical, large-N investigation of campaigns and the absence of direct tests of underlying assumptions (Browne, 2015; Pagogna & Sakdapolrak, 2021; Tjaden et al., 2018). The evidence gap is surprising relative to the salience of ‘irregular migration’ in the media and intensity of debates on awareness raising campaigns, yet maybe unsurprising given the difficulty of data collection inherent in the ‘irregular’ nature of the phenomenon (Koser, 2010). From a social science perspective, any effective policy intervention requires grounding in an understanding of the decision-making process of potential irregular migrants at the micro-level.

One key assumption for campaigns, wishing to raise awareness of the risks of irregular migration, to work, is that risk perceptions are associated with intentions to migrate irregularly as campaigns assume that increased awareness would reduce irregular migration, and as a result, potential abuse and harm. Available studies regarding the role of risk and irregular migration are almost exclusively limited to US-Mexico context (e.g. Massey et al., 2014; Ryo, 2013; Todaro & Maruszko, 1987), which is unique in various ways. Scholars using qualitative approaches in the field of ethnography, human geography and political science have highlighted the likely ineffectiveness of information provision given that norms about migration prevail in the community, risks are known and irrelevant (relative to other factors) (Alpes & Sørensen, 2015; Carling & Hernandez-Carretero, 2011; Fiedler, 2020; Hernández-Carretero & Carling 2012; Prothmann, 2018; van Bommel, 2020).

This study aims to make an empirical contribution to the limited evidence base on the relationship between risk information and irregular migration – a nascent field of research (Bah & Batista, 2018; Batista & McKenzie, 2018; Shrestha 2020; Tjaden & Dunsch, 2021; Tjaden & Gninafon, 2022).

MIGRATION CONTEXT

Migration is an important part of West African societies, including in Senegal and Guinea. While African migration has been largely intraregional for decades, a spike in migration occurred in recent years, mainly towards Europe (Beauchemin et al. 2018). Various sources indicate an increase in migration from both Senegal and Guinea in the mid-2010s (see e.g. Bernardini 2018). West Africa is among the top three regions in the world with the highest share of the adult population with plans to migrate to another country (Laczko et al. 2017). While the overwhelming majority of migrants arriving in the European Union in 2015 were nationals from the Syrian Arab Republic, Afghanistan and Iraq, several African countries were also among the top 10 origins (IOM 2018). Available data are insufficient to verify the percentage of African migration to the European Union, which occurs regularly versus

irregularly; however, due to the absence of regular channels, a rise in the numbers of migrants stuck in Libya and the number of attempted Mediterranean Sea crossings, it is widely assumed that a large share of African migration to the European Union at the time of data collection for this study (2018) occurred through irregular channels.³

This study focuses on irregular migration from Guinea and Senegal. According to a study by the Guinean National Institute of Statistics, the international emigration rate (measured as the percentage of households with a member living abroad) increased from 7 per cent in 2007 to 27 per cent in 2014 (Massandouno & Cissé, 2017: 55). Similarly, in 2017, 3 out of 10 Guineans reported that they (or a member of their household) went to live in a foreign country for more than three months in the last three years before the survey.⁴ According to national Afrobarometer surveys for 2016–2018, one in 5 Guineans depend on money sent home from abroad, and almost 1 in 3 has a family member that lives abroad.⁵ More than 80 per cent of potential migrants want to move for economic reasons in search for better living conditions, which is consistent with other survey evidence from Guinea (Massandouno & Cissé, 2017). While the overall percentage of Guineans arriving irregularly in Europe in recent years appears low, Guinean nationals are consistently represented under the 10 largest migrant groups in terms of (irregular) arrivals in Italy and under the 3 largest migration groups in terms of (irregular) arrivals in Spain.⁶

From 2015 to 2018, Senegal was among the African countries of origin with the highest number of migrants arriving irregularly in Greece, Italy and Spain, after Nigeria, South Africa and Somalia (IOM 2018a; UNHCR 2018). An estimated 50,000 Senegalese arrived (irregularly) in Greece, Italy and Spain in 2017, and approximately 10,000 arrivals were recorded in 2018.⁷ According to the United Nations, 560,000 Senegalese lived abroad in 2017.⁸ Of the Senegalese diaspora, 50 per cent lived in the European Union (European Commission 2017). Globally, the recorded remittances sent back by the diaspora accounted for approximately 10 per cent of Senegal's GDP in 2014 (World Bank, 2018).

Given the absence of accessible legal migration channels to the European Union for most migrants from African countries, the main channel of migration for many potential migrants is through irregular channels. As a result, many migrants who succeed in arriving on EU territory apply for asylum as a way of regularizing their residence status. Since 2010, there has also been a steady increase in annual asylum applications by nationals from sub-Saharan countries (Pew Research Center, 2018) – including many with entirely legitimate protection claims. As most migrants from West African countries migrate for economic reasons, recognition rates for international protection in the European Union are low, which leaves African migrants in an uncertain legal limbo and with higher obstacles towards employment. Using irregular migration channels, mostly by smuggling networks, is associated with great dangers as has been documented extensively (Black, 2020; Black et al., 2017; Galos et al., 2017).

THEORY AND PREVIOUS EVIDENCE

Various strands of literature have addressed the role of risk perceptions in irregular migration decisions, although often as an afterthought. Risk can broadly be defined as the likelihood of (mostly unwanted, negative) consequences of an event occurring (see i.e. Williams & Baláž, 2012). Economists assume a utility-maximizing behaviour among potential migrants. Each potential migrant weighs the costs and benefits of staying in his/her country of origin versus the costs of migrating to the country of destination (Massey et al., 1993; Neumayer, 2005). Risks are considered to play a role in economic models (see below), yet, at the same time, risks often remain unmeasured in empirical studies (Williams & Baláž, 2012).

Sociologists also consider risks to be relevant and highlight how social networks allow access to information which can reduce the perception of costs of migration and may reduce the risks involved in the journey (through knowing how to avoid controls) or at destination (through support in finding a job) (e.g. Haug, 2008; Massey et al., 1993). Ethnographers, anthropologists and human geographers often question the importance of risk in migration decisions. Risk in migration decision is considered but largely described as less relevant relative to alternative intervening factors such as community norms, peer pressure, masculinity norms or the absence of alternatives

at home (Alpes & Sørensen, 2015; Carling & Hernández-Carretero, 2011; Fiedler, 2020; Hernández-Carretero & Carling 2012; Prothmann, 2018; van Bommel, 2020). Risk information ‘may be irrelevant to prospective migrants who consider the attempt at changing their life to justify the risks’ (Carling & Hernández-Carretero, 2011:49). Raising awareness of the dangers of irregular migration is to ‘deny migrant agency and convey a distorted picture of migrants’ alleged nescience’ (Fiedler, 2020: 1).

This study makes use of one of the traditional rational-choice models of irregular migration proposed by Todaro and Maruszko (1987). According to the model, irregular migrants are (on average) rational decision makers that weigh the costs and benefits of leaving. Migration is a function of the relative perceived benefits (income, education, access to health care etc.) at home and at destination; costs associated with migration (monetary and non-punitive) and the perceived probability (i.e. risk) of the benefits to materialize.⁹ Risks enter the model as a weighting factor for the perceived benefit. Hence, the higher the (perceived) risk of failing to reach the destination or to failing to secure a job at destination, the less likely migrants reap the benefits of migrating and, in turn, the less likely they will want to migrate in the first place. Risks may also apply at origin. The higher the risks at home (relative to the risks during the journey and at destination), the more likely intentions to migrate will increase because the benefits at home (income, health, education etc.) are less likely to materialize.

Based on the Todaro & Maruszko model, I will test whether perceptions of the risks associated with irregular migration journeys and risks associated with the situation at destination are associated with intentions to migrate irregularly. Consistent with the model, I expect that risks are relevant as they reduce the probability of realizing the main benefits of migrating.

The limited empirical survey-based literature on the question of risk in the decision-making process of irregular migration has focused – almost exclusively – on ‘undocumented’ migration from Mexico into the United States. Massey (2014) and Ryo (2013), among others, highlighted the limited effect of perceived and objective risks associated with irregular migration on intentions and behaviour. Massey highlights the impact of the large, settled diasporas that are a source of information and assistance and therefore may downweigh the potential effect of risks associated with the journey.

Among the few empirical studies available for irregular migration in West Africa, Mbaye (2014) models family abroad as a proxy for access to information (Mbaye, 2014). Her findings support the conclusion that ‘these networks are a source of information, whether true or not, that can trigger the desire to migrate illegally’ (Mbaye, 2014: 14).

There are only very few experimental studies available that test the role of risk information migration decision-making more generally.

Bah and Batista (2018) conduct a lab-in-the-field experiment to assess the effect of knowledge ‘actual’ risk of dying en route and of obtaining a residence permit on migration intentions for a sample of potential migrants in the Gambia. The authors find the migration decisions of potential migrants actively respond to information about relevant facts regarding costs and benefits of migration. However, the findings suggest that migrants overestimate the risk of death caused by irregular migration and that providing more accurate information increases their intention to migrate irregularly. Similarly, Batista and McKenzie (2017) test the role of incomplete information for migration in a lab experiment with a sample of university graduates in Portugal and Kenya. The authors find that adding features on risk and uncertainty makes a difference in terms of predicting the rate of migration and the selection pattern. Providing information on the risk of unemployment at destination, for example, reduces the likelihood to choose migration (in the lab game).

Shrestha (2019) – in one of the few experimental studies conducted outside the lab – highlights the importance of access to information for potential migrants’ expectations and their subsequent (internal) migration decisions using a randomized controlled trial in Nepal. Findings suggest that providing information on mortality rates during the migration journey affects subsequent migration decisions. Providing information on mortality rates lowers expected mortality rates, which increases propensity to migrate. Providing information on wages at destination reduces expected wages and, in turn, reduces migration intentions.

It is important to note that mortality rates as used by Shrestha (2019), and Bah and Batista (2018) are arguably prone to measurement error as actual mortality is likely to be vastly underestimated based on available sources, particularly in the context of irregular migration from Africa to Europe (Black, 2020).

In contrast to some emerging evidence underlining a potential role of information migration decisions, there is a wealth of accounts (largely based on qualitative methods) questioning the relevance of risk perceptions for potential migrants. First, several authors have argued that migrants are fully aware of the potential perils but decide to migrate anyways (Alpes & Sørensen, 2015; Fiedler, 2020; Hernández-Carretero & Carling, 2012; Ryo, 2013; Van Bommel, 2020). Migrants may often believe these risks can be avoided if they behave smartly (Townsend and Oomen 2015), or they do not think that the presented information is relevant for them specifically (Carling & Hernández-Carretero, 2011). Risk perception may also be conditioned by culture and social norms as people, acting within social groups, may downplay certain risks and emphasize others as a means of maintaining and controlling the group (Douglas & Wildavsky, 1983). This notion is consistent with work questioning whether migration decisions should be modelled as rational cost-benefit calculations at all. Migration can be driven by norms of masculinity, honour, pride or religion (Prothmann, 2018; Hernández-Carretero 2012). Ryo (2013) agrees that '[t]he view of would-be migrants as atomistic, utility maximizing opportunists diverts our attention away from the complex and wide-ranging moral systems within which prospective migrants are embedded'.

DATA & METHODS

Data

The analysis is based on two surveys collected independently in Senegal and Guinea in 2019.

In Guinea, the sample consists of 2825 potential migrants living across 64 villages in the Boké region, namely Boffa, Boké, Gaoual and Koundara. Sixty-four villages were selected based on migration propensity (according to advice provided by local experts from the International Organization for Migration), logistical feasibility (accessible by a road) and permission by local authorities. Random walks were conducted in each village to recruit individuals who have considered migrating and were between the ages of 15 and 39. Figure A1 in the annex shows the survey sites in Guinea. Table A1 in the annex shows the summary statistics for the Guinea sample.

In Senegal, the survey was conducted in eight districts of the capital Dakar. In each sample, enumerators conducted random walks to recruit respondents. The net sample for the analysis contains 918 respondents who had generally considered migration and were between 18 and 35 years old. Figure A2 in the annex shows the survey sites. Table A2 in the Annex displays summary statistics for the Senegal sample.

Both surveys were collected by trained local enumerators in local languages. Respondents were not paid any incentive for participation in the baseline survey. Only respondents with general interest in migration were filtered for participation.

It is important to highlight that both surveys are purposive, non-probability samples targeting potential migrants. The results are not generalizable to a larger population (e.g. general population or population of irregular migration in Senegal or Guinea). Both samples were created in the context of programme evaluation (Dunsch et al. 2019; Bia-Zafinikamia et al. 2020).¹⁰ The data were chosen for the purpose of this study due to the availability of a large and diverse set of risk measurements and the uniquely large number of respondents meeting the profile of potential migrants.

One important concern regarding the sample is selection on the dependent variable (i.e. irregular migration intentions). The sample is restricted to individuals who have *generally considered* migrating (regardless of how). The interest of this study is in factors driving the preference for migrating *irregularly* among those with general interest in leaving the country. The sample is suitable given that specific conditions of the migration journey, such as the risks involved, may simply be irrelevant for people who are not considering migration at all.

It is not clear how the effect of risk may differ for a sample of the general population. Several directions are possible. The effect of risk on irregular migration intentions may be larger among potential migrants compared to a sample of the general population assuming that individuals with no interest in migration may perceive lower risks associated with irregular migration, perhaps because of not having deliberated a move and not having gathered information about it. Alternatively, it is also possible that the risk effect on irregular migration intentions is equally strong or even more pronounced. Some scholars argue that migration decisions are best conceived as a two-step process (Carling & Schewel, 2018) of, first, forming general interest in migration (aspiration) and, second, deciding whether to pursue migration given the specific context. The context in Guinea and Senegal is characterized by the general absence of legal channels, which leaves irregular migration as the only viable option to realize migration aspirations. No or low aspirations in migration more generally may be associated with high perceptions of risks of irregular migration if individuals are aware that irregular migration is the only means of leaving. If this is the case, the effect of risk perceptions may even be stronger on the general population compared to the population of potential migrants as potential migrants have already gathered more information and, as a result, are more likely to consider migrating irregularly despite the risks. If the latter logic holds, the results presented in the next section would be a conservative estimate of the true population effect.

Regardless of the direction of the effect, it is important to consider the sample selection when interpreting the results. The lack of generalizability to the general population is mitigated by the fact that this study is mainly interested in the association between risk perceptions and migration intentions rather than making broader statements about the average perceptions, knowledge and intentions of potential migrants *per se*. The sampling limitations must be weighed against the limited availability of large-N surveys on the issue in general, especially in West Africa.

Measurements

The key outcome for the analysis is ‘irregular migration intentions’. In Guinea, potential migrants indicated the likelihood of migrating to Europe within the next two years. Irregular migration was inferred based on high emigration intentions combined with perceiving it unlikely to receive a legal visa for travel. This strategy was taken because enumerators provided feedback in the pilot survey that asking about irregular migration intentions directly would be considered inappropriate and may result in measurement bias. In Senegal, irregular migration intentions were measured more directly through eliciting the respondents’ perceived likelihood of travelling to Europe through irregular channels (see [Table A5](#) in the annex for a full list).

The key independent variables in both studies are a battery of risk perception measurements covering both general risk perceptions and perceptions regarding the likelihood of specific risks occurring during the journey or at destination (see [Table A5](#) for a full list). The effects of multiple risk variables are displayed to assess the consistency and robustness of the risk effect using different measurements.

For both samples, the association between risk and migration intentions was adjusted for a broad range of socio-demographic, socio-economic and geographic characteristics. Socio-demographic characteristics include age, ethnic group, religion, family status and children. It is well established in the migration literature that young, male and single individuals without children are more likely to migrate than older, female, married individuals with children. Ethnic group and religion are adjusted to account for heterogeneity across both characteristics in both Senegal and Guinea. The results remain unchanged when excluding ethnic group and religion.

Socio-economic characteristics include employment status, wealth, poverty levels as well as amenities such as access to health care, transport and clean water reflecting measures for the ‘benefit’ parameter in the Todaro and Maruszko model described above. Greater benefits of staying at home because of employment, wealth and amenities reduce the likelihood of wanting to migrate irregularly. It could also reduce the risk involved given that ability to pay higher costs of certain smugglers may reduce the risks involved in the migration journey.

It should be noted that not all theoretical concepts relevant in the Todaro and Maruszko model could be included in the model due to data limitations. This relates especially to measures for the benefit of migrating abroad including perceived incomes abroad or access to education and health care abroad. This omission should be tackled in future research. However, at least conceptually, the unavailability of these measures appears less severe than measures for the benefits of staying. While greater benefits of leaving would certainly increase the likelihood of being willing to do so irregularly, the link between benefits abroad and risk perceptions regarding the journey or the likelihood of securing a job at destination are not clear. As a result, incomes abroad may not be a classic 'confounder' that would need to be considered.

Lastly, the full model also adjusts for possible confounding by the level of knowledge about migration and exposure to migration through family abroad. Migration knowledge is used as a proxy for being at different stages of the migration plan and alternative sources of information on migration risks. Potential migrants who are more advanced in their preparations may have sought out more information about migration journeys and the risk involved. As a result, migration knowledge may drive both risk perceptions and intentions to migrate abroad. Migration knowledge was measured based on several items on subjective (how much do you know about migration?) and objective knowledge about migration (costs, duration, asylum procedures, deaths), see [Table A5](#) in the annex for a full list.

Analytical strategy

The main aim of this observational study is to carefully assess associations between risk perceptions and irregular migration intentions. The evidence is descriptive in nature. Causal claims were avoided.

First, the association between various risk perception measures on migration intentions net of a range of socio-demographic, socio-economic and geographic factors in both samples is estimated. Ordinary least squares regressions were applied (see Mood, 2010) using village/district fixed effects in addition to a range of controls (see previous section). In addition, standard errors were clustered at the district level (Dakar, Senegal) or village level (Guinea).

Second, based on a more comprehensive model including subjective and objective migration knowledge, and migration context, the relative importance of risk perceptions vis a vis other characteristics is assessed. Comparisons of coefficients with varying scales are difficult to interpret in a meaningful way even when variables are standardized. Therefore, relative importance is calculated using variance partitioning/decomposition technique based on Lindeman and colleagues (1980: 119). The intuition behind this method is decomposing the variance of irregular migration intentions that the model can explain (i.e. *r*-squared) by the sets of variables that entered the model. For example, how much do sex, age and family status contribute to explaining migration intentions relative to other factors? The algorithm iteratively adds different sets of variables to the model and evaluates relative changes in the explained variance.

RESULTS

The link between risk perceptions and intentions

[Figure 1](#) illustrates the association between various risk perception measurements and intentions based on 11 separate OLS models based on the Guinea sample. Each model is adjusted for a range of socio-demographic and socio-economic factors (see caption). The y-axis displays each measure (5 items for risks associated with irregular migration *journeys*; 5 items for risks associated with the *destination*, and 2 items for *general* perceptions regarding the danger of migration). The x-axis displays the effect size in percentage points.

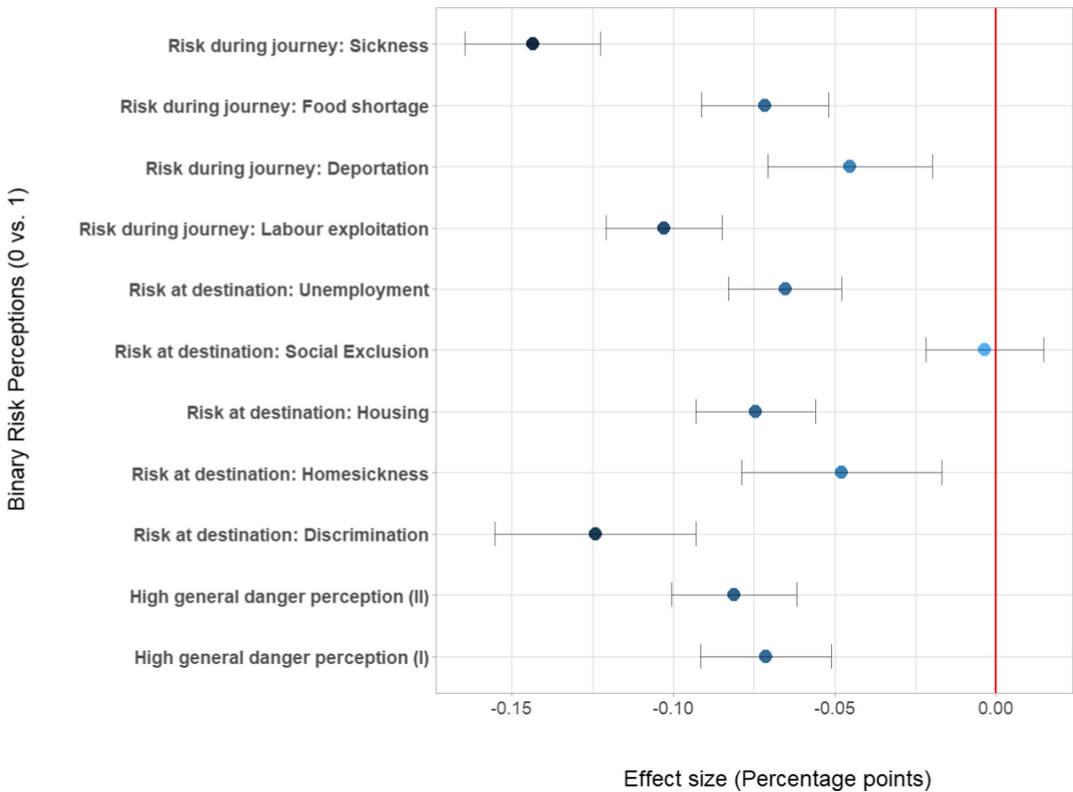


FIGURE 1 The adjusted association between various risk perception measures and irregular migration intentions (Guinea sample). Note: Guinea dataset 2019, author's calculation. N=2674. Each OLS model adjusted for sex, age, family status, ethnic group, household size. All models include village fixed effects and clustered SEs. See [Table A3](#), models 2, 5 and 8 for examples)

The results show a clear pattern. For 10 out of the 11 risk perception measures, the association is negative and statistically significant ($p < 0.05$) ranging between 5 and 15 percentage points. For example, perceiving a risk of labour exploitation during the irregular migration journey is associated with a 10-percentage-point reduction in irregular migration intentions. See [Table A3](#) in the annex for regression output for a selection of risk perception measures.

[Figure 2](#) illustrates the association between various risk perception models and intentions based on 11 separate OLS models based on the Senegal sample. Again, each model is adjusted for a range of socio-demographic and socio-economic factors (see caption). The risk items vary slightly compared to Guinea. The Senegal survey did not contain measures of perceived risks at destination. Instead, there are additional items on the perception of the general risk for life, the risk of violence and the overall probability of arriving in Europe and being able to stay in Europe. See [Table A4](#) in the annex for regression output for a selection of risk perception measures.

Again, the results indicate a clear pattern. For all risk perception measures, the association is negative and statistically significant ($p < 0.05$) ranging between 10 and 20 percentage points. There are two positive associations: Perceiving a high likelihood of arriving in Europe as well as a high likelihood of being able to stay in Europe associated with a 4 to 7 percentage point increase in the likelihood to want to migrate irregularly. [Figure 2](#) shows strong associations of general perceptions regarding the danger associated with irregular migration. Perceiving a very high risk for life or violence reduces the likelihood of wanting to migrate irregularly by 20 percentage points.

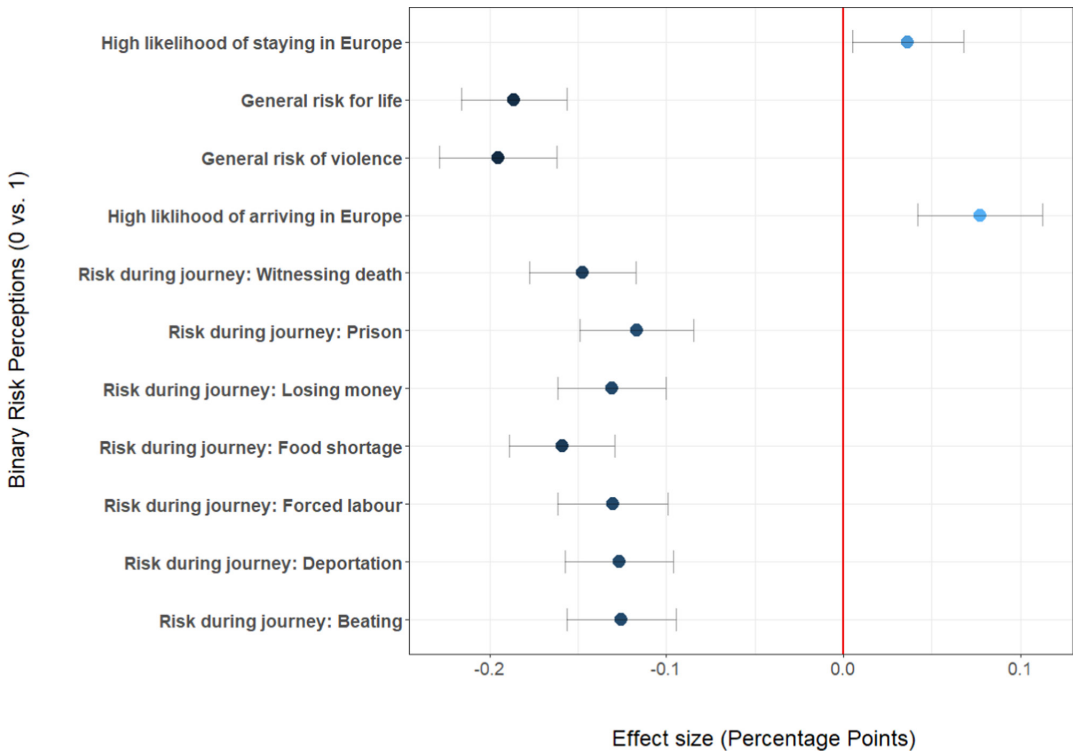


FIGURE 2 The adjusted association between various risk perception measures and irregular migration intentions (Senegal sample). Note: Senegal dataset 2019, author's calculation. N=873. Each OLS model adjusted for sex, age, family status, religion, ethnic group and household size. Models include district fixed effects and clustered SEs. See [Table A4](#), models 2, 5 and 8 for examples)

Relative importance

The results in 5.1 suggest a consistently negative association between risk perceptions and irregular migration intentions net of standard socio-demographic and socio-economic characteristics as well as village/district fixed effects.

In this second step, a full model including additional concepts that may be considered intervening factors is used to compare the relative importance of different parameters. The model includes various measures for the overall level of available information and knowledge that potential migrants have. Better knowledge regarding the subject of migration towards Europe as well as better access to information sources through contacts abroad could reduce risk perceptions because contacts abroad who have successfully migrated share information about the modalities of organizing irregular travels. Alternatively, less knowledge and less access to information may also be associated with lower risk perceptions given that potential migrants may be less aware of the particular perils associated with irregular migration.

[Table 1](#) shows the variance explained of each comprehensive model in each country. In Guinea, the model can explain 27% of variation in the dependent variable. In Senegal, the model can only explain 15%. Lower overall explanatory power may be related to the fact that the sample in Senegal was restricted to urban areas in Dakar.

[Table 1](#) shows the relative contribution of different sets of parameters in the model to explaining the variation in irregular migration intentions. Furthermore, parameters are divided in structural factors (which are more stable and less likely to be affected by policy in the short- to medium term) and information factors (subject of interventions in the field). Overall, the results show that structural factors can be attributed to 91% (Guinea) and

TABLE 1 Relative contribution to variance explained (in %)

		Guinea	Senegal
Overall variance explained		27.44%	15.39%
Category	Parameter	Share of explained variance	
		Guinea	Senegal
Structural (Guinea total: 91%; Senegal total: 54%)	Village fixed effects	51%	11%
	Socio-demographic characteristics	14%	26%
	Access to health care and fuel	4%	n/a
	Socio-economic characteristics	20%	16%
	Exposure/ ties (remittances, contacts abroad)	1%	0%
Information (Guinea total: 9%; Senegal total: 46%)	Knowledge about migration	4%	13%
	Perceived risks	5%	33%

Note: Analysis based on full model including all variables specified in [Tables A3](#) and [A4](#), and described in [Table A5](#). For the Guinea model, risk variables include general danger perceptions regarding irregular migration, perceived likelihood of labour exploitation during the journey and perceived unemployment risk at destination. For the Senegal model, risk variables include perceived risk for life during the journey, perceived risk of food shortages during the journey, perceived risk of witnessing death during the journey.

56% (Senegal) of the explained variance in irregular migration intentions. Both countries show markedly different results. The contribution of risk perceptions is 5% in Guinea and 33% in Senegal. In Guinea, risks represent a smaller share than, for example, socio-demographic or socio-economic (education, employment, poverty) factors and a far lower explanatory power than the village/district fixed effects—a catch-all factor that captures characteristics related to the location where survey respondents are living. In Senegal, however, risks play the largest role followed by socio-economic factors. The large effect of location in Guinea relative to other factors is not surprising given that respondents in the sample lived in 64 villages scattered across various North-Western regions of Guinea. There is less variation in terms of location for the Senegal sample where all respondents were living in just 8 districts within Dakar city (leaving more room for alternative factors such as risk to explain variation in intentions).

The comparison between the Guinea (rural sample) and Senegal (urban sample) samples show that different factors may shape irregular migration intentions differently depending on the specific target population. The comparison also shows that the role of risk in migration decision-making may vary depending on the context.

In sum, the results suggest a consistent and strong association between risk perceptions and intentions (net of socio-demographic and socio-economic factors). Yet further analyses reveal that the relative importance of risk perception is minor for the Guinea sample, yet sizable for the Senegal sample. Overall, structural factors explain most of the variation in irregular migration intentions compared to informational factors (knowledge, risk perceptions). This may not be surprising. It is to be expected that the general living conditions may drive important life decisions to a greater extent than particular information on the modalities of migration. The explanatory power of structural factors may be lower in Senegal given that respondents live within the same city and reflect a different target group compared to the Guinea sample, which is scattered across 64 villages in rural regions. The results encourage more research – both theoretical and empirical – to assess how the context may interact with risk perceptions and migration intentions.

DISCUSSION

Information interventions targeting migrants have increased in number over recent years despite a lack of empirical evidence to their effectiveness. Many such campaigns aim to raise awareness of the risks involved in irregular migration. One key assumption of such campaigns – consistent with rational choice theories of migration – is that risk perceptions are associated with intentions to migrate, that is that awareness of high risks would reduce the likelihood of being willing to migrate through irregular channels. This assumption remains largely untested. This study aimed to contribute an empirical piece of evidence from two West African countries (Guinea and Senegal) to the debate.

The results suggest that risk perceptions are consistently negatively associated with irregular migration intentions even after accounting for a large range of geographic, socio-demographic and socio-economic factors. Risks matter. But how much do they matter? Further analyses revealed that the relative importance of risk perceptions varied substantially between Guinea (spread-out rural population) and Senegal (concentrated urban population). While risk perceptions played a minor role in Guinea compared to geographic, socio-demographic and socio-economic factors that may drive irregular migration, risk perceptions contributed a major factor in explaining irregular migration intention in Senegal – an urban sample.

What are the implications of these results for research? The finding of this study appears consistent with general rational choices models of migration decisions (e.g. Todaro & Maruszko, 1987) and emerging evidence on the relevance of information in general migration decisions (e.g. Bah & Batista, 2018; Shrestha, 2020; Tjaden & Dunsch, 2021; Tjaden & Gninafon, 2022). Irregular migrants weigh the cost and benefits of leaving and consider risks associated with the journey and life at destination when forming preferences. The comparative design of the study also allows to highlight that the role of migration risk perceptions may vary depending on the specific context and target group. One perspective is that strong initial views may be resistant to change because they influence the way that new information is regarded. Information inconsistent with prior views may be disregarded as unreliable, erroneous or unrepresentative (Slovic, 1987). From this perspective, risks may be less important for communities with a high share of previous successful migrants, more contact abroad and better access to job opportunities abroad. Whereas risk information may be received differently in communities with fewer international ties, possibly more returnees who have failed, or individuals early in the decision-making process.

What are the implications for policy? The message is mixed. First, the findings confirm one key assumption of awareness raising campaigns, namely that risks can influence migration intentions. Second, structural factors are far more important than risks in relative terms. However, they are also difficult to address through policy interventions in the short-to medium run. Furthermore, some research suggests that improved living conditions, economic development and increases in income actually increase migration through alleviating liquidity and risk constraints (Clemens & Postel, 2018; Gazeaud et al., 2020). In this context, awareness raising campaigns appear to be a viable low-cost intervention. Overall, however, the results emphasize that context matters, cautioning against one-size-fits-all approaches implemented across different communities and contexts.

The study has several limitations that must be acknowledged. *First*, both samples used in this study are purposive, non-probability samples. The limited generalizability of results, however, is mitigated by the fact that the main interest of this study is in the link between risks and intentions and purely correlational rather than in making 'representative' inferences regarding broader populations of potential migrants. *Second*, the analysis permits purely descriptive inferences due to the observational and cross-sectional nature of the data. The study design does not allow to determine the causal effect of risk on decisions. For example, albeit unlikely, some reverse causality bias cannot be excluded. In some cases, potential migrants with strong views may convince themselves that risks are low as an ex-post-facto rationale, whereas individuals with lower migration intentions may justify their lack of 'ambition' with high risks even though other factors may play a larger role. In this case, risk perceptions are endogenous to migration intentions. Further research is needed to identify the causal relationship between risks and intentions. *Third*, several important constructs that may influence

migration intentions remain unobserved in this study including expected (monetary) benefits of migration, risks at home, norms, as well as costs. Unfortunately, this information was not available consistently given that both studies were implemented in isolation from each other. Further research is needed to test how risks interact with other migration drivers. *Fourth*, the key outcome variable is irregular migration intentions. Intentions should not be confused with actual migration behaviour (e.g. flows). Some mechanism may be more pronounced regarding actual migration behaviour (e.g. family pressure; expected earnings at destination). However, intentions have been established as a relevant predictor of behaviour in numerous studies (e.g. see literature cited in Tjaden et al., 2019). In addition, actual behaviour is extremely difficult to measure given the high risk of attrition due to geographic mobility and 'irregular' legal status of individuals. The measurement issues related to irregular migration intentions also raise important questions for policymakers and practitioners implementing information interventions targeting migrants. Irregular migration – while often strongly associated with extreme dangers both during the journey and at destination – may be an imperfect measure if the objective of programmes is to promote safe migration practices and reducing harm. Additional information could also lead migrants to adjust their migration plans to avoid risks along the journey, that is to migrate irregularly but doing so in a safer way.

Despite these limitations, the study makes an important empirical contribution (based on two independently collected surveys in two different countries) to the on-going debate on the role of risks in migration decision-making among potential irregular migrants – a field that has attracted much debate, yet limited empirical investigation.

ENDNOTES

1. See for example: the European Migration Network, the European Trust Fund for Africa, European Union Migration Partnership Framework and the EU Commission's Asylum, Migration and Integration Fund.
2. Scholars argue that awareness-raising and information campaigns are used as tools for "soft deterrence", "migration management" and "border externalization". Some campaigns explicitly state reducing migration as the key objective, while others highlight humanitarian objectives such as saving lives, preventing harm and facilitating informed decisions. In practice, these logics overlap and conflate raising ethical and political concerns.
3. The formal definition of irregular migration is blurry and may vary across countries. Migrants arriving without a visa are largely considered irregular. However, many African arrivals become "regular" upon applying for asylum. Except for Eritreans, refugee recognitions for Africans are low in the EU. This is why (with the exception of family reunification) migration from West and East Africa is largely considered irregular.
4. These statistics were computed using data from the Afrobarometer surveys conducted in Guinea in 2017.
5. See afrobarometer.org/sites/default/files/publications/Dispatches/ab_r7_dispatchno288_looking_for_opportunity_africans_views_on_emigration1.pdf.
6. See <https://data2.unhcr.org/en/situations/mediterranean>.
7. See IOM Flow Monitoring – Mediterranean Arrivals. Available from <http://migration.iom.int/europe?type=arrivals>.
8. IOM Global Migration Data Portal based on United Nations Department of Economic and Social Affairs data. Available from <https://migrationdataportal.org/>.
9. In purely economic terms, the theory can be formalized as follows: $ER(0) = \int_0^n [P_1(t) P_2(t) Y_d(t) - P_3(t) Y_0(t)] e^{-rt} dt - C(0)$ where $ER(0)$ is the expected net return to migration calculated at time 0 just before departure, n is the individual's time horizon; $Y_d(t)$ is the expected earnings in the destination country; $P_1(t)$ is the probability of avoiding deportation (or other risks) and $P_2(t)$ is the probability of employment in the destination country; $Y_0(t)$ is the expected earnings in the origin country; $P_3(t)$ is the probability of employment in the origin country. $C(0)$ is the total cost of migrating; r is the discount factor (i.e. future earnings are down-weighted relative to earnings today).
10. The evaluations studied the effect of in-person edutainment events regarding irregular migration to Europe on risk perceptions, knowledge and migration intentions. Surveys were conducted with participants in the event and a comparable control group of potential migrants who did not participate in the events. The link between risk perceptions and intentions to migrate remains under-explored. The analysis presented in this study is based on baseline data collected in both surveys (i.e. before any intervention took place). In addition, all models control for treatment allocation.

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