Population Association of America 2006 Annual Meeting
March 30-April 1, Los Angeles
Session 86: Migration and Social Networks

Migration of the Health Belief Model (HBM): Effects of Psychosocial and Migrant Network Characteristics on Emigration Intentions in Five Countries in West Africa and the Mediterranean Region

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Abstract

The effects of psychosocial and migrant network factors on emigration intentions are examined. Following a review of migration and health theories, it is argued that adaptation of the Health Belief Model (HBM) conceptualization of behavioral intentions contributes to a better understanding and prediction of emigration intentions. An HBM-inspired conceptual model is derived and tested, using comparable data collected in migration surveys by a multi-country project on international migration from West Africa and Mediterranean region to Europe. Results show that indicators of the psychosocial constructs of 'perceived threat to financial living conditions', 'perceived benefits and perceived barriers to emigration', 'cues to action' and 'perceived general self-efficacy' show effects in predicted directions and contribute considerably to the explanation of emigration intentions. It is therefore recommended that international migration surveys, when examining emigration intentions, use the advocated framework to identify relevant indicators and survey questions to capture and measure the aforementioned psychosocial constructs.

1. Introduction

The growing importance of international migration is evident in the data and in increasingly restrictive immigration policies. The total number of international migrants in the world was estimated by the UN as 175 million in 2000, including 110 million living in developed countries, up from about 75 million in 1965. The number of countries wishing to change their international migration rate rose from 7 in 1976 to 35 in 2003, the majority wishing to restrict it (Castles and Miller 1998; UN 2004). Migration to the European Union (EU) also increased in magnitude and complexity in the past decades and has now become a major policy issue requiring better insight into the determinants (and consequences) of international migration (European Commission 1996; Coppel 2001; IOM 2003).

Existing data sources rarely collect the type and detail of information required for the understanding of international migration processes. In principle, specialized migration surveys can provide such data provided that adequate sample sizes and sampling procedures and questionnaires are used, that data are collected on appropriate comparison groups, and that such surveys are carried out in both sending and receiving countries, preferably in countries that belong to the same migration system (Kritz and Zlotnik 1992; Zlotnik 1992; Bilsborrow and Zlotnik 1995; Bilsborrow *et al.* 1997). However, such surveys are rarely implemented, and the few multi-country surveys implemented concern only one country of origin and one country of destination and are based on small samples and restricted geographic areas. Other surveys do not collect data on relevant comparison groups limiting the possibility of generalizing from research findings (e.g., Condé *et al.* 1986; Massey *et al.* 1987; Findley *et al.* 1988; CERPOD 1995).

In addition to these methodological and data collection constraints, insights about the migration process are further hampered by the multi-faceted and complex nature of the migration process itself, which almost defies theoretical conceptualization (IOM 2003; Arango 2000). This is reflected in a wide range of migration theories and models from different disciplinary perspectives (e.g. Massey et al 1993; Cohen 1996). One criterion to differentiate migration theories is the extent to which they effectively acknowledge individuals as active agents in the migration process. A large body of migration literature draws on macro-oriented theories where the individual decision maker is absent like in neo-classical development theories (Ranis and Fei 1961; Harris and Todaro 1970), dual labor market theory (Priore 1979), world systems theory (Petras 1981; Sassen 1988). Some approaches, like social capital and social network theory (e.g. Bourdieu 1986; Boyd 1989), take an intermediate position and identify (potential) migrants within the context of their social network in origin and destination areas. Migration theory where the individual agent occupies centre stage is dominated by neoclassical human capital theory (Sjaastad 1962; Todaro 1976; Priore 1979). The 'new economics' model of migration (Stark 1984; 1991; Taylor 1986) replaces individual decision making by a model in which decisions are made by several household members in the form of a cost-benefit analysis. However, this neo-classical micro-economic approach merely assumes – rational – decision-making, but refers to factual behavior that supposedly reveals peoples' preferences. It does not study the internal processes underlying these behavior outcomes and there is surprisingly little attention in migration theory for this psychological dimension of migration.

Theoretical achievements that do focus on the decision-making process is mainly the work of DeJong and fellow scientists (DeJong and Fawcett 1981, 1994; Gardner et al. 1996). This line of reasoning presents a value-expectancy model that assesses people's goals and values, and the subjectively expected net contribution of migration to realize these. Migration research that has applied this value-expectancy model has remained limited though.

Interestingly, in the domain of health behavioral research, psychosocial and cognitive factors have traditionally occupied a prominent place in the advancement of (health) behavioral theories (e.g. Bandura 1977; Ajzen 1991; Schwarzer 1992; Rosenstock *et al.* 1994; Ajzen and Fishbein 2004). In the context of the search for effective policies to influence migration, therefore, it is reasonable to examine what can be learned from conceptualizations of beliefs and intentions in health behavior research including successful theory-based behavioral change models, to see whether insights from the health domain can be transposed to migration research.

In the next section, we review some of the main behavioral theories and their application in the health sector (e.g., see: Glanz et al. 2002), and we conclude that the health belief model (HBM) provides, after adaptation, a useful framework for the explanation of migration intentions and it provides linkages to social network theory. In subsequent sections we examine this HBM-inspired psychosocial model of migration using empirical data collected in a multi-country study on the determinants and mechanisms of international migration from West Africa and the Mediterranean region to countries of the European Union.

Therefore, the objectives of this paper are, first, to examine the health belief model conceptualization of behavioral intentions and derive a psychosocial model of migration intentions, and, second, to empirically 'test' the model by examining to what extent HBM-inspired psychosocial determinants emigration intentions help to explain emigration intentions of potential emigrants in five migrant-sending countries, taking account of the role that ties with emigrated household may have in the formation of intentions to emigrate.

2. Conceptual framework

In contrast to the field of migration theory, health theories importantly focus on psycho-social factors that influence behavior, such as knowledge, attitudes, beliefs, intentions and personality traits. In health research, it is recognized that these factors provide essential and effective policy handles to influencing the behaviors of individuals and, therefore, are crucial in health promotion practice.

At the individual level, three main lines of theory proved successfully and are widely applied in health research: the Health Belief Model (HBM), Social Cognitive Theory (SCT), and the Theory of Reasoned Action (TRA) and its elaboration into the Theory of Planned Behavior (TPB). Over the years these approaches partly converged and reinforced each other by adapting and accommodating theoretical constructs that operate as cognitive mediators of action.

Social Cognitive Theory, as primarily developed by Bandura (1977; 1986), is a general social psychological theory of behavior. It assumes the dynamic interaction between behavior, personal factors and the environment. Among all mechanisms of personal agency in Bandura's cognitive theory, the most central and pervasive is people's self-efficacy beliefs: people's beliefs about their capabilities to implement courses of action required to accomplish specified performances. People with confidence in their abilities tend to have higher aspirations, invest more efforts in endeavors and persevere longer in the face of difficulties and setbacks. Bandura considers the self-efficacy concept the "foundation of human agency" (Bandura 2001, p. 10), and subsequently it became the core of his work (Bandura 1991; 1997; 2001) and a key concept in psychology. It is applied to a wide range of human behaviors, including educational and academic achievement, career and occupational performance, coping behaviors, athletic performance and various health-related behaviors, such as drug, alcohol and smoking cessation, condom use, breastfeeding, and disease management. Evaluation studies generally find strong support of the explanatory power of the self-efficacy concept (e.g. Holden et al. 1990; Multon et al 1991; Maddux 1993; Sadri and Robertson

1993; Stajkovic and Luthans 1998; Moritz et al. 2000; Luszczynska et al. 2004). Many, including Bandura, argue that people's efficacy beliefs are not a general characteristic, but refer to a differentiated set of self-beliefs for distinct areas of behavior (e.g. Bandura 1986; Pajeres 1997). However, they may co-vary across behavior domains when different spheres of activity are governed by similar sub-skills (Bandura 1997). Other researchers have conceptualized a generalized sense of self-efficacy, which relates to general confidence in one's coping ability across a wide range of situations (e.g. Schwarzer 1994; Luszczynska et al. 2005).

A different line of reasoning was developed by Fishbein and Ajzen (Fishbein and Ajzen 1975; Fishbein and Ajzen 1980) in their Theory of Reasoned Action as elaboration of earlier value-expectancy models. The theory asserts that it is possible to account for behavior of various kinds by reference to a relatively small number of concepts. It views people's intentions to perform a specific behavior as the immediate antecedent of that behavior. Intentions, in turn, are a function of certain beliefs related to the behavior. Some of these beliefs affect an intention through their influence on the attitude towards the behavior – a dimension evaluating the behavior's positive and negative consequences. Other beliefs are of normative nature and refer to how a person judges that 'important others' think whether the person should perform the behavior in question. These normative beliefs and peoples' motivation to comply determines the "subjective norm" as the second factor influencing intentions. Later, Ajzen (1991) extended the TRA into the Theory of Planned Behavior by adding a third component underlying people's intentions to perform a specific behavior: perceived behavioral conrol.

The original model of the TRA assumed that most actions are under volitional control and, therefore, peoples' intentions to perform a particular behavior would correctly predict its implementation. As this appears not always to be true, the motivational components influencing intentions were complemented in the TPB by perceived behavioral control, which refers to peoples' beliefs about their ability to perform a given behavior. As such, there is large compatibility between Ajzen's concept of behavioral control and Bandura's self-efficacy (Ajzen 1991; p. 184). The theories of reasoned action and planned behaviour are dominant in behavioral and behavioral change research – notably in health research – and generally find strong support (e.g. Godin 1993; Maddux 1993; Blue 1995; Godin; G. and G. Kok 1996; Sutton 1998; Albarracin et al. 2001; Armitage and Conner 2001), while the addition of perceived behavioral control concept in the TPB often improves the explanation of behaviour (Hausenblas et al. 1997; Madden et al. 1992; Armitage and Conner 2001). Ajzen and Fishbein (1980; p. 91) claim that behavior can be influenced by changing a sufficient number of these beliefs, but also indicate their limitations for social intervention strategies (Fishbein and Ajzen 2005).

Several concepts from social and cognitive psychology were incorporated in the Health Belief Model (HBM) as a framework for the explanation and prediction of preventive health behavior, health-related practices and participation in health services and screening (e.g. Hochbaum 1956; Rosenstock 1966, 1974). The health belief model argues that what people believe about a (health) condition or behavior determines what they will do about it. The original model has been reworked and expanded from four to six factors predicting the likelihood that a person adopts a specific preventive health strategy (cf. Becker 1974; Glanz et al. 1997). The six factors are:

- Perceived susceptibility — A person's beliefs about the chances of contracting a health condition
- Perceived severity — A person's beliefs about the seriousness of contracting the health condition

- Perceived benefits — A person's beliefs about effectiveness of the strategy to reduce the threat of illness
- Perceived barriers — A person's beliefs about the potential negative (tangible and psychological) consequences of adopting the health strategy
- Cues to action — Events or experiences, either personal (e.g., physical symptoms of a health condition), interpersonal or environmental (e.g., media publicity) that motivate a person to take action
- Self-efficacy — Confidence in one's ability to successfully execute the health strategy.

The first two factors – perceived susceptibility and perceived severity – together represent the perceived threat of a situation, characterized by contracting a particular disease. This perceived threat or risk perception may set the stage for contemplating about risk reduction strategies and enhance the urgency or motivation to avert the threat (Floyd et al. 2000; Milne et al 2000). The perceived benefits and barriers factors combine into the perceived net benefit of implementing a specific health-oriented strategy and affect a person's attitude towards the action. Together, the perceived risk and perceived net benefit are thought to account for people's "readiness to act". The concept of cues to action refers to events or experiences that fuel a person's direct need to take action. To date, the role of this factor has been less well studied, partly because of difficulties to operationalise the concept properly. The most recent addition to the HBM is the concept of self-efficacy, which was directly transferred from the work of Bandura on this topic (Rosenstock et al 1988). Table 1 shows an application of the HBM to HIV/AIDS.

The HBM is generally regarded as the beginning of systematic, theory-based research into health behavior and empirical support attributes the model a prominent status next to other individual-level theories applied in health research (Janz and Becker 1984; Mullen et al 1987; Harrison et al. 1992). In health education and behavioral change programs the six HBM factors are translated into practical measures to promote a recommended health action by focusing on peoples' health beliefs and self-efficacy, and providing them with cues for action.

These advances of psychology in cognitive models in health-related behaviors appeals to further explore their use, for instance in other scientific domains, such as in migration research. The HBM integrates several theoretical perspectives and has the additional attraction that it includes the component of risk perception. This corresponds to the stage in migration decision making where the urgency for moving elsewhere is acknowledged. For effective use of the HBM approach, a first step would be to transpose the model into a corresponding psychosocial model of migration behavior. This requires transposing the model to a higher level of abstraction, as is illustrated in the third column in table 1, and then identify migration as an instrumental behavior (i.e. action Y in table 1) to a more distant goal (e.g. maintaining or improving current living conditions).

Table 1: Transposing the Health Belief Model to a psychosocial model of migration.

HBM concept	*Application of the HBM*	*Generalization of the HBM*	*Transpose of HBM to the domain of migration*
Perceived susceptibility	Perceived chance of becoming infected with HIV	Perceived chance of getting into state X	Perceived chance that income will be insufficient
Perceived severity	Perceived seriousness of becoming infected with HIV	Perceived seriousness of state X	Perceived seriousness of foreseen insufficient income

Perceived benefits	Perceived benefits of condom use to prevent HIV infection	Perceived benefits of implementing action Y	Perceived benefits of emigration
Perceived barriers	Perceived barriers to condom use	Perceived barriers to implementing action Y	Perceived barriers to emigration
Cues to action	Personal or environmental events motivating a person to use condoms	Personal or environmental events motivating a person to undertake action Y	Personal, interpersonal or environmental events or experiences motivating a person to emigrate
Self-efficacy	Confidence in one's ability to successfully use condoms	Confidence in one's ability to successfully implement action Y	Confidence in one's ability to successfully emigrate

In the Health Belief Model, the factor of perceived threat and its components of perceived severity and susceptibility to disease represent an expected negative health state (Becker 1974), with the underlying distant goal of maintaining or improving good health. This can be conceived as a universal and ultimate goal, or, using terminology of Maslow (1970) or Rokeach (1973), respectively, a basic human need or a "preferable end-state of existence". The other HBM components – perceived benefits and barriers, cues to action and self-efficacy – directly relate to behavior that is strategic to avoiding a deterioration of a person's health. In other words, these components relate to behavior that is instrumental to achieving the "end-state" of good health. The aim of the HBM is explaining the likelihood of this instrumental behavior and the identification of pathways to its promotion through the intervention handles provided by the model.

Thus a main difference between the HBM and the migration variant of the model is the predetermined part of the model. In the HBM a specific perceived threat to the desired health state is the point of departure and some strategy to maintain or restore good health is a selected variable. In a transposed model for migration, on the other hand, the starting point is the likelihood of moving, while the more distant goal that is at stake is not a priori given.

Studies on international migration have shown a variety of motives for moving abroad, including economic reasons (income security, job improvement, a higher standard of living), family-related reasons (marriage, family re-unification), study-related reasons and political reasons, such as fear of war or persecution (e.g. Massey *et al.* 1999). Generally, economic reasons are the most common and often tend to produce the primary drive for international migration, although this may be different for men and women. For the sake of the exploratory application of a HBM-inspired psychosocial model in this paper, we choose 'maintaining or improving financial living conditions' of the person him or herself and/or the family as the distant goal that sets the stage to individuals' considerations about migration. In the explanatory model, this translates into the threat of having insufficient income (beliefs about the chance of ending up in an unsatisfactory financial state and the severity of doing so), the perceived net benefit of emigration (beliefs about the effectiveness of emigration to reduce the threat of insufficient income and the barriers to emigration), personal and/or interpersonal (i.e. migrant network externalities) and/or environmental cues to undertake steps leading to emigration and the confidence in one's ability to successfully emigrate (see table 1).

These HBM-inspired factors are not static but change as a result of people's interactions with others in their social, economic and physical environment, including emigrated household members living abroad (Boyd 1989; Bronfenbrenner 1979, 2004).

In the remainder of this paper we use empirical data to examine whether we find support for our transpose of the health believe model into a psychosocial model of migration.

3. Data, methods and indicators

3.1. Data

The data come from a multi-country study investigating the determinants and mechanisms of international migration to the European Union (Schoorl et al. 2000). The study was funded by the Commission of the European Community (EC), executed by EUROSTAT and the Netherlands Interdisciplinary Demographic Institute (NiDi), and implemented by national research institutes in the participating countries. Data were collected in the period 1996-1997. Five sending countries (Ghana, Senegal, Morocco, Egypt, and Turkey) and two receiving countries (Spain and Italy) were included. All these countries belong to the same migration system (cf. Kritz and Zlotnik 1992), that is, migration to the European Union from Africa and the Mediterranean region. Table 2 summarizes main survey statistics.

Table 2. Summary data of sample designs and their implementation.

Country	Statistical representative-ness aimed at	House-holds screened	Target Sample	Households interviewed	Household interviewed by migration status of households	
Italy	National	Not applicable	1,605	1,177	Egyptian 508	Ghanaian 669
Spain	National	Not reported	1,200	1,113	Senegalese 515	Moroccan 598
					Migrant	Non- migrant
Ghana	Regional	21,504	1,980	1,571	752	819
Senegal	Regional	13,298	1,971	1,740	1173	567
Morocco	Regional	4,512	2,030	1,953	1460	493
Egypt	National	27,438	2,588	1,941	1324	617
Turkey	Regional	12,838	1,773	1,564	1061	735

Samples representative of large regions rather than nations were chosen for financial and logistical reasons. In each country, a set of regions were purposely identified, using a combination of the following criteria: level of economic development (relatively high versus relatively low development), and culture of international migration (a long-standing culture of emigration versus a recently emerging one). In each region, a multi-stage stratified two-phase cluster sampling approach was applied whereby households with and without international migrants were drawn, with the latter over-sampled (for precise location of study regions and sampling details see: Schoorl et al. (2000), and, Groenewold and Bilsborrow (2004).

The aim was to interview all persons between 18 and 65 years old in the household, including all of its members living abroad. To increase the likelihood of interviewing a migrant in person in a sending household, the timing of data collection was carefully chosen; for instance, in vacation periods because this is when many migrants return to the sending country to visit the family. When a migrant's absence made a personal interview impractical, someone else was asked to answer a selected number of questions on behalf of the migrant.

For the present study we examine emigration intention data of persons between 18 and 65 years old in Ghana, Senegal, Morocco, Egypt and Turkey who never emigrated. They are called non-migrants or potential emigrants in the sections that follow and they live in either

households without members with an international migration experience, i.e. so-called non-migrant household, or in households in which one or more members have emigrated and/or returned, or a mixture of both (i.e. current migrant households, return migrant households, mixed migrant households). Depending on the aforementioned type of household such non-migrants or potential emigrants are exposed to different 'migrant network effects', which may affect the above determinants of emigration beliefs and intentions.

3.2. Methods and indicators

The dependent variable in this study is a dichotomous variable (i.e. whether or not the respondent expressed the intention to emigrate) so we use logistic regression analysis to estimate model coefficients. To address the question whether HBM-inspired psychosocial factors and other relevant factors affect emigration intentions, we use the stated emigration intentions of potential emigrants, and the following (general) equation:

$$Y(i) = a(i)X(i) + b(i)N(i) + c(i)C(i) + e(i),$$

where Y(i) = 1, if the potential emigrant intends to emigrate, and Y(i)=0, if not. Below we briefly discuss each group of factors, their indicators and their expected effect.

X(i) is the vector of HBM-inspired psychosocial factors. Although the surveys were not designed to measure HBM-inspired factors, the data do provide a useful, though limited, number of proxy indicators. We merged the concepts of perceived susceptibility and perceived severity into the embracing concept of perceived threat (e.g. Schwarzer 1992). Below, we listed the five main factors and their indicators and included a + or – sign to express the expected direction of effect of a particular group of indicators on the intention to emigrate:

1. Perceived threat to financial living conditions (+):
- Perception that the household financial status is insufficient.
- Perception that the household financial status, compared to other households in the same neighborhood is worse.

2. Perceived benefits of emigration (+):
- Perception that income benefits can be derived from emigration.
- Perception that one gains respect of peers.
- Perception that accompanying children will have a better future abroad.

3 *Perceived barriers to emigration (-):*
- Perception that is difficult to observe one's religion in a receiving country (of Europe).
- Perception that it is difficult to find paid work abroad.

4. Cues to action (+):
- Presence of an established culture of emigration that stimulates a person to emigrate.
- Receipt of remittances from emigrated relatives that trigger feelings to also emigrate.

5. Perceived self-efficacy (+):
- Perception that being well-off is due to hard work.
- Perception that improvement of living conditions is within personal control.
- Perception that it is within personal control to influence one's life.
- Perception that it makes sense to make plans in life.

Regarding the "perceived threat' factor, we included two indicators. The first one addresses the perception about the current financial status of the household and the second one is an indictor of perceived relative deprivation (see: Stark 1991b; Stark and Bloom 1985). Those who perceive that the income situation in the household is insufficient or barely sufficient and those perceiving that the household is worse-off compared to others are expected to express

more often the intention to emigrate.

Regarding the 'perceived benefits' factor the data provides information on different types of benefits that can be derived from emigration for reasons to improve living conditions: income improvement, gain of respect from peers and a better future for accompanying children. If respondents indeed associate these benefits with emigration they are expected to express more often emigration intentions.

Two pieces of information are available that can represent the 'perceived barriers' factor. The first one is the perception about how difficult it is to find paid work abroad and the second one is the perception about how difficult it may be to observe one's religion in a host country in Western Europe. Regarding the latter, this indicator may indeed act as a barrier given the importance given to religiosity in the general population in these migrant-sending countries. For instance, the findings of the Pew Global Attitudes Project in 44 countries show that religiosity feelings and desire to share this with others in the same environment are very strong in the countries concerned, which is in sheer contrast with the low level of religiosity feelings in most countries of Western Europe (Swanbrow 1997).

The 'cues to action' factor points to personal, interpersonal and contextual events or experiences that may affect a person's attitude and intentions to emigration. We identified two indicators in the data that may represent the concept 'cues to action'. The first one describes the influence that 'context' may have on a person's emigration intention, more specifically, whether or not one lives in an area with a long and established tradition or culture of emigration. The theory of cumulative causation lends support for this as it argues that a kind of culture of emigration emerges in an area when, over time, subsequent international migration flows lead to the expansion of ties between emigrants and those who stayed behind. Social contacts, information exchange and financial assistance between these persons alter both the mind-set as well as the social context. In other words, emigration may eventually become 'engraved' in the community and affect people's coping behavior (e.g. Massey *et al*. 1999, Kandel and Massey 2002). Thus, we expect that potential emigrants in regions with a longer and established tradition of emigration are more likely to express emigration intentions than those in other types of regions. The second indicator of the 'cues to action' concept is 'whether or not remittances are received by the household'. Remittances from relatives abroad are the tangible expressions of social relations between persons and households and they may convey implicit messages of financial success, worth following, so that recipients of remittances may express more often the intention to also emigrate (Dalen *et al.* 2005). Thus, the expected positive effect of both indicators for the 'cues to action' factor essentially reflect effects of social network relations between (former) emigrants and those who remained behind in places of origin.

Regarding the 'self-efficacy' factor, the surveys did not collect the required information for constructing the ten-item 'general perceived self-efficacy' scale, which has been found valid and reliable across cultures (Schwarzer and Born 1997). We explored whether the response on questions pertaining to becoming well-off, role of -personal agency in the improvement of living conditions and, more general, in life, as well as whether making plans in life makes sense, could be used to derive a crude indicator for general perceived self-efficacy. Using principle component analysis and reliability analysis we found sufficient statistical support (e.g. Cronbach alpha= .62) for the construction of a simple general self-efficacy scale (GSS). The weights associated with the first principle component were used to derive scale values for each respondent. For illustrative purposes, we classified respondents in three groups (i.e. low, medium, high) according to their GSS score and used these categories instead of the actual GSS scores in the analysis.

N(i) in the regression model is the vector capturing the ties that a potential emigrant has with relatives who emigrated or returned. The indicators of the HBM 'cues to action' factor are

essentially expressions or results of such ties. We created a household typology from the original data to disentangle and classify the various ways in which households are structured in terms of ties between those who stayed behind and who never emigrated before (i.e. non-migrants or potential emigrants), those who emigrated in the past but returned (i.e. return migrants), and those who currently live abroad but who are perceived to belong to the household. Thus, potential emigrants or non-migrants were grouped in, respectively, non-migrant, return migrant, current migrant, mixed migrant households. Depending on the household type, such persons are exposed to different types of migrant-network externalities (e.g. information on potential places of destination, work, and assistance before, during and after emigration). It is expected that potential emigrants in households with emigrants as well as return migrants are the ones most likely to be 'tied' to countries of destination and such network externalities and therefore express more often intentions to emigrate than persons in other types of households.

C(i) in the model is the vector of person and household level control variables which are generally acknowledged to influence emigration (i.e. person's age, sex, education, marital status, work status and, less often included, household wealth status) as, generally speaking, persons with emigration intentions are young, male, single, better educated and, depending on the local situation, they may already have some form of paid work but need a higher income which may not be locally available or accessible. Regarding age, we included 'square of age' as an additional model variable to reflect and examine the commonly hold belief that emigration intentions increase by age in the youngest age groups but, beyond a certain age, decrease as age increases. In terms of the odds ratio, we thus expect to find a coefficient for age that is greater than 1, and a coefficient for 'square of age' that is significantly smaller than 1. We included an objective measure of accumulated household wealth although we are not clear about what to expect in these countries about the direction of effects. For instance, one may expect emigration intentions to improve living conditions to be high in poor households but still emigration intentions may be lowest in such households because the costs of emigration to Europe may be far beyond financial means, whereas potential emigrants in relatively rich households may not have constraints financing emigration but they may not feel the need to emigrate. Principle component analysis was also used to derive a household wealth index from the possession of household assets, amenities and indicators of housing quality[1] (Filmer and Pritchett, 1999; Filmer and Pritchett, 2001; Bollen *et al*., 2002).

e(i) in the model is the error term, assumed to be normally distributed.

To conclude, we mention that multivariate results have been adjusted for clustering-effects because the data of more than one respondent from the same household may be represented in the analysis. Such clustering impinges on statistical significance of model coefficients through increased standard errors.

[1] Radio, television, bicycle, cooking stove, lounge suite, sewing machine, car/jeep or truck, telephone, video player, refrigerator, number of persons per room, piped water, flush toilet and quality of: walls, floors, roof, ceiling, windows/window frames and doors. The first principle component explains over 30 per cent of the common and unique variance in these variables in each of the five countries, which is an acceptable result. .

4. Results

Below we start out with a brief description on the context of emigration in each of the five migrant-sending countries, based on prior descriptive analyses of the survey populations (for details see: Schoorl *et al*. 2000). Then we proceed with descriptive and multivariate analyses of our study population of potential emigrants.

4.1. Context of emigration

Ghana used to attract many migrants from other African countries who came in search of work in the cocoa production, but since the country has been hard-hit by subsequent economic recessions, it has become a country of emigration in Western Africa. As a result of historical colonial ties many of the earlier emigrants moved to the United Kingdom, but later also to Germany. In addition to these EU countries, a large proportion of the emigrants move to other Non-EU countries, the USA, and Nigeria. Ghana seems to be more in tune with Western values than the other survey countries. About half of the population is Christian, and English is the official language and there is a firm government commitment to eradicate illiteracy and raise general educational levels in the population.

Senegal is one of the poorest countries in Western Africa. It is a predominantly agricultural society in which 70% of the labor force is active. The vast majority is Sunni Muslim. Senegal is a country with a negative migration balance. About 40% of all emigrants move to EU countries, where the main destination countries are Italy, France and Spain. The country's narrow resource base, lack of firm economic growth, environmental degradation and untamed population growth have been major impediments to the improvement of general and financial living conditions of families, so that many men embark on a journey to EU countries, in search of paid work. Although education is compulsory, actual education levels attained are low while school-dropout is high. Illiteracy rates are especially high among women: three out of every four women aged 15 or older cannot read or write.

In Morocco, the economy cannot absorb the growing numbers people entering the labor market. Therefore, the Moroccan government actively stimulated emigration to cope with this problem whilst at the same time benefiting from the migrant worker remittances. The emigration of Moroccans, mainly unskilled, workers has been ongoing since the early 1960s, with the majority migrating to France, and more recently, to Spain and Italy. After the recruitment of so-called "guest workers" ceased in the receiving EU countries, in the early and mid-1970s, migration flows still continued but for family reunification and family formation reasons. The attachment of Moroccans to their country is reflected by strong ties between emigrants and relatives who stayed behind resulting in some regions in an all-pervasive culture of emigration to EU countries. Education and vocational skills of emigrants are still low and illiteracy rates are still high, especially among women, many of whom emigrate as import brides of Moroccan men who emigrated to EU countries in the past. The official language is Arabic and almost all people are Sunni Muslims.

For many decades Egypt has been a country of emigration. At the time of the survey it was estimated that about two million of 63 million Egyptians lived abroad, mainly because of economic motives. From the mid-1960s to the mid-1970s, it was mostly unskilled rural workers who left Egypt. In more recent times, skilled and higher educated people emigrate, mainly as contract workers to firms in the oil-producing states in the region, mainly Saudi Arabia and Iraq. Thus, most emigration is not of a permanent nature as the migrant workers need to return to Egypt after their contract expires. Family reunification and formation are therefore less common motives for emigration. The general educational level in Egypt has remained low and among women illiteracy rates have remained high (61% in 1995). The vast majority of the population is Sunni Muslim and Arabic is the official language. The pressure

to emigrate is high in Egypt as living standards have remained low and the lure of higher earnings in Gulf States and EU will keep the pressure going. Most emigrants to the Gulf States Remittances of migrant workers are the largest foreign source of income to Egypt's economy.

Similar to Morocco, Turkey has a long tradition of labor migration to European countries, starting in the early 1960s and ending in the mid-1970s. After that period, emigration flows still continued, but a lower pace, and mainly because of family reunification and family formation. In the past decades, and in particular during the economic recession in the early 1990s, labor emigration increased again, mainly to countries of the Commonwealth of Independent States (CIS), North Africa and Gulf States. More recently, return migration has become important and Turkey has become an important transit country of asylum-seekers and other (often illegal) migrants on their way from countries in Asia and Africa to the EU. Similar to the situation in Morocco and Egypt, migrant worker remittances have become a major source of income for recipients and the economy at large. At the time of the survey, it was estimated that about 10 to 20 percent of the working age population are underemployed or working in marginal sectors of the economy. Illiteracy levels are lower than in the other countries but still about 25% of the women of age 15 years and older are illiterate. Most Turks are Sunni Muslims.

4.2. Descriptive analysis

In this sub-section we examine the distributional characteristics of the potential emigrants that are included in the multivariate analyses and we describe main across-country differences.

Table 3 shows that there are considerable differences between the five countries regarding the percentage of potential emigrants that express intentions to emigrate. Percentages are highest in Ghana and Senegal and lowest in Egypt. Apart from genuine differences between the countries, differences reflect age and sex differentials. For instance, the relatively low level of intentions among Egyptian potential emigrants may be explained by the fact that women are overrepresented among potential emigrants. Developing emigration intentions for economic reasons is not an option for most women because of cultural barriers and because the job opportunities for women abroad, in particular in the region, are scarce. Developing emigration intentions for family reunification reasons is not really an option because emigrated men, who mostly went to live and work in the nearby Gulf States, have to return to Egypt after expiration of their labor contract.

Regarding the remaining socioeconomic and demographic variables, the data show that levels of education of potential emigrants are, in general, low. About three of four potential emigrants in Senegal and Morocco and almost two third of such persons in Egypt did not even receive any form of education. In Ghana and Turkey the majority at least completed primary or even secondary levels of education.

Regarding working status, about 60% of the potential emigrants in Ghana, Senegal and Morocco indicated that they worked for pay in the week preceding the interview, which is much more than in Egypt and Turkey. Women are overrepresented among potential emigrants in Egypt, and their low participation in paid work partially reflects existing cultural barriers to female labor force participation, in particular to married women. The majority of potential emigrants in four of the five countries are 'ever-married', which generally means currently married (data not shown). However, in Ghana, the situation is somewhat different as the majority of potential emigrants are single.

Table 3: Descriptive characteristics of respondents in the five country samples (1996-1997) for which the effect of HBM-inspired psychosocial determinants on emigration intentions are examined (percentages).

		Ghana	Senegal	Morocco	Egypt	Turkey
Dependent variable						
Intention to emigrate	Yes	46	39	28	12	25
	No	54	61	72	88	75
Independent variables:						
Socioeconomic-demographic						
Age (average)		33	33	41	37	37
Sex	Male	39	44	69	27	32
	Female	61	56	31	73	68
Education	No education	21	75	72	59	41
	Primary level	17	19	16	9	48
	Secondary level	55	6	7	22	10
	Highest levels	7	1	4	11	2
Marital status	Never married	58	32	20	20	21
	Ever married	42	68	80	80	79
Paid work	Yes	64	56	56	33	31
	No	36	44	44	67	69
Accumulated wealth status	Poorest 40 percent	42	37	38	45	38
	Middle 40 percent	39	36	40	39	41
	Richest 20 percent	20	27	21	16	21
Ties with emigrated household members						
Household type	Non-migrants only	61	34	58	35	52
	With return migrants	7	21	4	27	12
	With current migrants	30	32	35	28	29
	With curr./ret. migrants	2	14	3	9	7
Perceived threat to living conditions						
Perceived financial status	Sufficient	33	28	47	68	27
of household	Barely sufficient	32	52	35	25	46
	Insufficient	36	20	18	7	26
Perceived relative deprivation	Better-off than neighbours	n.a.	n.a.	8	11	13
	Same	n.a.	n.a.	72	71	66
	Worse-off than neighbours	n.a.	n.a.	21	18	21
Perceived benefits of emigration						
Income improvement	Yes	75	82	63	73	67
	No	25	18	37	27	33
Better future for children	Yes	39	39	37	75	49
	No	61	61	63	25	51
Greater respect from peers	Yes	80	73	78	54	68
	No	20	27	22	46	32
Perceived barriers to emigration						
Finding paid work	More difficult abroad	23	8	5	75	31
	Equally difficult here/abroad	19	23	21	11	22
	Easier abroad	58	69	74	13	47
Observe one's religion abroad	Same as here/easy	72	70	69	90	60
	Difficult	28	30	31	10	40

(continued)

n.a. = this information was not collected in this country

table 2 continued		Ghana	Senegal	Morocco	Egypt	Turkey
Cues to action						
Region's culture of emigration	Long tradition of emigration	50	50	24	55	34
	Recently emerging	50	50	76	45	66
Receives remittances	Yes	30	47	32	20	22
	No	70	53	68	80	78
Perceived self-efficacy						
Becoming well-off is due to	Good luck	30	65	11	14	52
	Hard work	70	35	89	86	48
Can influence living conditions	Can do something	87	49	48	64	48
	Beyond control	13	51	52	36	52
Can influence life	Possible	69	24	38	10	22
	Impossible	31	76	62	90	78
Making plans in life	Makes sense	90	68	92	69	67
	No sense	10	32	8	31	33
General Self-efficacy Scale(GSS)	Low GSS	9	53	42	48	55
	Medium GSS	33	29	32	44	30
	High GSS	57	18	27	7	15
N (non-migrants/potential emigrants)		613	1505	532	2819	1648

Regarding the migrant network factor, table 3 shows that a considerable proportion, between about 40% and 65%, of the potential emigrants live in households where one or more members currently live abroad or are return emigrants. The table also shows that about one third of the potential emigrants in each of these countries is tied to at least one emigrated household member and thus may be exposed to information about living conditions abroad, receive forms of assistance to implement emigration intentions, receive remittances, etc. A closer look at the data reveals that, on average, between 1.2 (Ghana) and 1.7 (Morocco) persons in current migrant and mixed migrant households are currently living abroad.

Regarding the HBM factors the data show that in all countries, except Egypt, the majority of potential emigrants perceive to live in households where the financial situation is considered a threat to aspired living conditions. With respect to the perceived benefits of emigration, a majority of potential emigrants in all countries associate emigration with income improvement and personal gain in respect from peers. In light of these benefits, it is somewhat surprising to observe that, generally speaking, a minority of potential emigrants associate emigration with a better future for accompanying children.

Concerning the perceived barriers factor, there are some differences between countries regarding the perception about the ease of finding paid work abroad. Especially in Senegal and Morocco a minority perceives it as difficult to find paid work abroad, implying that this issue is not considered a barrier to emigrate abroad. However, a considerable proportion of respondents in these countries considers it "as difficult here as abroad" which suggests, given the high unemployment rates in these countries, that those who perceive this may consider that the economic and social costs and risks of emigration do not outweighed by the benefits. Egypt appears as a special case as three out of four respondents perceive it as difficult to find paid work abroad. However, the case of Egypt may not be surprising given their orientation towards the labor market in the oil-producing Gulf States and the great efforts it takes, including networking and competition, to qualify for a job contract with firms in the Gulf States. Though the question was on the perception about finding work in Europe, it may be that the majority of respondents projected their views about the difficulties of finding paid work in the Gulf States to the case of Europe. Another explanation for the observed distributional characteristics of this indicator is that women are overrepresented among the

Egyptian respondents while searching and doing paid work outside the confines of the home stead is generally not (culturally) accepted, let alone seeking work abroad. Regarding the other indicator, Egyptian respondents are also a kind of 'outlier'. Though the question referred to maintenance of one's religious customs in European countries, the unfamiliarity with the situation in Europe may have lead these respondents to project the ease with which they can observe their religion in the neighboring Islamic Gulf States to European countries.

The distributional characteristics of the cues to action factor 'type of tradition or culture of emigration' reflects sample design effects because respondents where sampled from pre-selected regions characterized by either a long established tradition/culture of emigration or by a more recently emerging one. Regarding the receipt of remittances indicator, the presented distribution is affected by the fact that respondents living in non-migrant and return migrant households do not have emigrated household members and are therefore less exposed to receipt of remittances than respondents living in current or mixed migrant households. Thus it is not surprising to find receipt of remittances to be more frequently reported in current and mixed migrant households, which is in about 52% of such households in Turkey and Egypt, 60% in Ghana, 79% in Morocco and 85% in Senegal. These figures also underline the importance of remittances flows to these countries and their potential importance as messages of financial success that may trigger emigration intentions among recipients.

Regarding the self-efficacy factor and the derived General Self-efficacy Scale (GSS), table 3 shows that there are certain country-specific differences. The Ghanaian population seems to stand out in terms of perceptions that it is in the power of the individual to influence the course of his/her life and that hard work definitively is considered to be one way to prosperity. A closer look at the data reveals that in all countries but Ghana women are considerably overrepresented in the low and medium self-efficacy level groups. Between 54% and 64% of the women in the other countries are in the lowest self-efficacy group while this is only 10% in the case of Ghana.

To conclude, the above analysis shows that potential emigrants in these five countries seem to have different profiles along the lines of the factors and indicators included in the model. In the next section we shall examine this issue in more detail.

4.3. Multivariate analysis

Table 4 shows coefficients estimated by logistic regression analysis. Coefficients are presented as odds ratios and show the strength and direction of the effect of a particular independent variable on a dependent variable. In case of a categorical independent, odds ratios express the magnitude of effect of a particular category of an independent relative to the effect of the reference category of that independent. Reference categories are in the first column and they are italicized and carry a value of 1.00. Odds ratios significantly greater than 1.00 denote a positive effect on emigration intentions, a value less than 1.00 a negative effect. As the dependent is a binary variable, we use an approximation measure, Nagelkerke's R-square, to estimate the percentage of variation in emigration intentions explained by variables included in the model. Furthermore, the factor 'country' has been included in the pooled data models to examine whether or not country-specific differences in effects of model variables might be present. Of particular interest is the difference between gross (i.e. bi-variate) and net (i.e. multi-variate) coefficients as this is a pointer to country-specific differences in effects of model variables.

We will now address the following two issues: (1) whether and to what extent the five HBM-inspired factors (and other factors) show the theoretically expected effects and whether results suggest that factors and indicators may have different effects in different countries, leading to different profiles of potential emigrants with high emigration intentions, and (2) to what

extent HBM-inspired factors and indicators contribute to the explanation of emigration intentions.

Table 4: Effects (odds ratios) of socioeconomic, migrant network, HBM model and country variables on the intention to emigrate (yes=1, no=0) of potential emigrants in five countries, 1996-1997.

		Pooled samples		Ghana	Senegal	Morocco	Egypt	Turkey
		Gross	Net	Net	Net	Net	Net	Net
Socioeconomic-demographic								
	Age	1.08 †	1.06 **	.93	1.08 †	1.21 †	.97	1.10 *
	Age squared	.999 **	.998 **	.999	.998 **	.996 **	.999	.998 **
Woman	Man	2.82 **	2.77 **	1.66 *	3.07 **	3.95 **	5.99 **	1.57 **
No education	Primary level	2.22 **	1.38 **	1.13	1.13	1.60	1.53	1.20
	Secondary level	2.32 **	1.69 **	1.37 †	.86	1.78	2.66 **	1.39
	Higher levels	1.57 **	1.99 **	4.46 **	.27	1.06	2.70 **	.98
Never married	Ever married	.26 **	.64 **	1.21	.41 **	.53	.91	1.02
No paid work	Works for pay	1.74 **	1.21 **	1.24	.91	.76	1.88 **	1.19
Poorest 40%	Middle 40%	.99	.93	.94	.62 **	.66	.90	1.16
	Richest 20%	1.12	.90	.58 †	.62 *	.53	1.05	1.08
Ties with emigrated household members								
No ties	with return migrants	1.10 *	1.34 **	.99	1.20	1.03	1.26	1.43 †
	with current migrants	1.12 *	1.41 **	2.07 **	1.18	.96	1.07	1.61 **
	with curr./ret. migrants	1.25 **	1.65 **	1.32	1.11	2.40 †	1.43	2.36 **
Perceived threat to living conditions								
Sufficient	Barely sufficient finances	1.69 **	1.40 **	1.43 †	.87	2.24 *	.93	1.63 **
	Insufficient	2.11 **	1.70 **	2.25 **	.67 †	2.63 *	1.20	2.11 **
Same/better-off [(1)]	Financially worse-off	1.48 **	n.a.	n.a.	n.a.	1.97 †	1.27	1.16
Perceived benefits of emigration								
No benefits	Financial benefits	6.44 **	5.74 **	3.07 **	11.87 **	6.99 **	6.61 **	5.09 **
Not better	Better future children	1.59 **	1.05	.73	.95	1.82 *	1.24 †	0.96
Not greater	Gain greater respect	1.91 **	1.30 **	2.13 **	1.34 †	1.13	.92	1.30 †
Perceived barriers to emigration								
Easier abroad	Same as here to find paid work	.67 **	.52 **	.53 *	.37 **	.50	.55 *	0.77 †
	More difficult abroad	.24 **	.50 **	.63 †	.42 **	.72	.41 **	0.67 **
Easy/no difference	Difficult observe relig.	.97 †	.95	.65 †	.96	.45 *	.92	1.12
Cues to action								
Recently emerging	Long emigration culture	1.33 **	1.49 **	.68 †	4.44 **	1.40	.88	1.28 †
Does not receive	Receives remittances	1.32 **	1.27 *	2.28 **	.95	1.43 †	1.08	2.22 **
Perceived self-efficacy								
Low GSS	Medium GSS	1.72 **	1.21 *	2.10 *	1.36 †	1.20	1.16	0.96
	High GSS	2.82 **	1.41 **	1.79 †	1.65 **	1.39 †	.99	1.18 †
Country								
Ghana	Senegal	.81 **	.83					
	Morocco	.81 **	.79					
	Egypt	.22 **	.34 **					
	Turkey	.50 **	.85					
Model constant			.04 **	.56	.03 **	.01	.06 **	.01 **
N (non-migrants/potential emigrants)			7117	613	1505	532	2819	1648
-2 Log Likelihood (-2LL)			5586	646	1323	365	1304	1508
Nagelkerke's R-square	Soc./econ./dem.+Ties factors		27.3	23.9	35.5	43.8	40.0	14.4
Nagelkerke's R-square	All factors (inc. country factor)		42.7	37.2	49.9	57.0	46.7	28.8
Nagelkerke's R-square	HBM factors (net contribution)		14.3	13.3	14.4	13.2	6.7	14.4

Regarding the first issue, we turn to the results presented in the 'Pooled sample' column of table 4. The 'Gross' sub-column presents coefficients describing the direct or bi-variate effect of model variables on the dependent, thus without considering effects of other variables.

The net coefficients do take account of effects of all other variables in the model. We first discuss the gross coefficients of main factors and individual indicators as these are a first test for the hypothesized effects. Then, the net effects are discussed, including changes between gross net effects. The second column in table 4 shows that the reported gross coefficients provide full support to the hypothesized effects of all HBM-inspired factors and indicators, migrant network factor and socio-economic and demographic control variables.

Regarding the block of HBM factors in the model, the highest effects are produced by indicators of the 'perceived benefits' factors. In particular if potential emigrants perceive positive expectations about income improvement abroad and finding paid work then they have considerably higher probabilities of having emigration intentions than those who don't share these perceptions.

For instance, the results show that persons who perceive that emigration contributes to increased income have a 6.4 times higher probability of holding emigration intentions than those who do not perceive this. Also the probability of having emigration intentions among those that perceive that emigration boosts respect from peers is much higher (almost twice as high) than the probability of having emigration intentions among persons who do not perceive this. In short, holding optimistic opinions about some essential aspects of life abroad is a strong predictor of holding emigration intentions.

Furthermore, the (general) 'self-efficacy' factor appears to be an important predictor of emigration intentions. That is, those having a high confidence in their general capabilities to influence their lives have an almost three times higher probability of having emigration intentions than those who do not have that type of confidence. Another important indicator is associated with the 'perceived threat' factor, that is, the perception that the current financial situation of the household is insufficient relative to the aspired situation. In a similar way the block of 'cues to action' indicators show results in the expected direction so that emigration intentions are highest among potential emigrants in regions with a long-standing tradition of emigration and among such persons in households that receive remittances from abroad. The 'perceived barrier' factor, for which unfortunately only one indicator was present in the data, is statistically relevant in the sense that emigration intentions are tempered if potential emigrants perceive difficulties in observing religious customs in a host country, but the effect is only small.

Regarding the 'migrant network' factor the indicators also show significant effects in the hypothesized direction, which is that potential emigrants in current migrant and mixed migrant households are more likely to hold emigration intentions than such persons in other types of households, in particular in non-migrant households. As argued before this is likely to be a spin-off of the contact they maintain with emigrated household members and with those who returned to the household, as the contact exposes them to information on living conditions abroad such as regarding income and paid jobs, and to various kinds of assistance before, during and after migration.

The effects of all socio-economic and demographic person and household level factors are statistically significant and in predicted directions. Ignoring the country of residence of potential emigrants, the probability of having emigration intentions first increases by age (the coefficient of age is greater than 1.00) and beyond a certain age decreases. The probability that a man has emigration intentions is almost three times higher than women have. Also, education is positively related to having emigration intentions while being married is clearly a barrier to the development of emigration intentions. Moreover, those who work for pay more

often express emigration intentions. As expected, accumulated wealth status as measured in terms of assets, access to certain amenities and housing quality, does not seem to be associated with having emigration intentions or not. Thus, this seems to suggest that perceptions about financial or wealth conditions are more important predictors of emigration intentions than objective measures.

The coefficients of the 'country' indicators show that intention levels vary between the five countries. This finding essentially reiterates the differences that were found in table 3 between the five countries regarding percentages of potential emigrants that have emigration intentions: Ghanaians have the highest probability of having emigration intentions and Egyptians have the lowest.

When we turn to the net-effects column and compare the net and gross coefficients we may conclude that the general pattern of effects that was predicted is maintained, in spite of the fact that the magnitude of effects, the coefficients, have somewhat changed because we now measure the effect of each indicator while taking account of the effect of all other indicators in the model. Related to this is the important observation that a major change is observed in the country-specific coefficients of the 'country factor' suggesting that a 'net' model that takes account of all factors essentially dilutes all structural differences that may exist between populations of these countries in terms of explaining their emigration intentions, except for Egypt. In other words, country-specific differences can largely be explained by the factors included in the model suggesting that the relevance of these factors can be generalized across all countries, except Egypt.

However, the results presented in table 3 pointed out that there are some marked differences between countries regarding the person-level socioeconomic and demographic and household-level characteristics of respondents (i.e. potential emigrants). This raises the question about whether variation in emigration intentions in these five countries is mainly due to differences in the population in terms of these characteristics or to differences in the HBM inspired factors and indicators, or to a combination of both. Therefore, we fitted country-specific models and the results show that, in spite of common features, the effects of factors and indicators do vary across countries leading to differences between countries regarding characteristics of potential emigrants with highest emigration intentions.

Regarding the second main issue that we want to address, that is to examine to what extent HBM-inspired factors contribute to the explanation of emigration intentions, over and above the contribution of the other factors.

Table 4 shows that values of Nagelkerke's R-square indicate that models with all factors included explain a considerable amount of variation in emigration intentions ranging from 29% (Turkey) to 56% (Morocco). When the intentions of respondents are examined irrespective of their country of origin, 41.6% of the variation in emigration intentions is explained by the factors included in the (pooled) model. When we also control for country of residence amount explained increases to 42.7%.

The results of country-specific models show that in all countries the HBM-factors add a fair to considerable amount of explanation for the observed variation in emigration intentions. In the case of Ghana and Senegal these HBM factors account for roughly one third of the explanation of variation in emigration intentions, almost one fourth in the case of Morocco, one seventh in the case of Egypt and even about half in the case of Turkey. Regarding the lower 'performance' of HBM factors and absence of effect of the migrant network factor in the case Egypt, we think that this is because of reasons that we already addressed in the previous sub-section: emigration intentions are more determined by whether the availability of and access to a labor contract with a firm abroad, mainly in any of the Gulf States, and less so by perceptions other than perceived benefits and barriers, and the presence of emigrated

family members. In the case of Senegal, though the HBM factors are very important, it seems that emigration intentions are not so much influenced by whether or not a person lives in a household with return or emigrated household members, but whether or not one lives in a household in an area with an all pervasive atmosphere or culture of emigration (e.g. Cotula *et al.* 2004).

To conclude, the results show that in spite of the variation in importance of certain HBM factors and indicators across countries, leading to somewhat different profiles of potential emigrants with highest emigration intentions, certain factors and indicators remain important in all countries. Putting aside the special case of Egypt, table 4 shows that all HBM factors are, statistically speaking, relevant for the explanation of emigration intentions in these countries and they add a fair to considerable amount of explanation of emigration intentions in these countries. These findings are even more encouraging in light of the limitations posed by the available data in terms of availability of good indicators to represent the HBM factors. The findings therefore suggest that examination of emigration intentions along the lines of the HBM psychosocial determinants of emigration is a rewarding research strategy, worth exploring in the design of future migration surveys.

Discussion

The main argument of this paper is that the role of psychosocial factors in migration theories and empirical research is under-exposed and under-explored. Although DeJong and Fawcett's value expectancy model stresses the importance of psychosocial factors the model does not provide for an analytical framework with different types of psychosocial factors that explain emigration intentions. Social capital and social network theories acknowledge the role of such factors but their role is considered implicit and fully determined by the type, size and quality of interpersonal networks between kin, friends and others, some of whom live broad. However, in health behavioral theories, psychosocial and cognitive factors have always occupied a prominent place, though such factors are not always linked to the processes at the interpersonal or community level. After reviewing main health theories and behavioral change models we found that the health belief model can be transformed into an operational model with psychosocial determinants of emigration and with a link to social network theory that contributes to the understanding of emigration intentions. The second objective was to seek empirical support for the adapted model by examining to what extent HBM-inspired psychosocial factors and indicators explain emigration intentions in five migrant sending countries in West Africa and Mediterranean Region.

Regarding the first objective, we found that transformation of the HBM model into a model that is suitable to explain emigration intentions includes the following five main psychosocial factors: (1) perceived threat to living conditions (2) perceived benefits of emigration; (3) perceived barriers to emigration; (4) events or experiences that may trigger emigration (i.e. cues to action); (5) perceived confidence about one's capability to implement a move abroad. To test the model, we used the survey data of five migrant-sending countries that participated in a multi-country study investigating determinants and mechanisms of international migration to the European Union. As the information collection in the survey was not fine-tuned to our needs the availability of suitable indicators was of course limited.

In spite of the limitations posed by the data, findings clearly show that examining emigration intentions along the lines of the above five HBM-inspired factors is a rewarding undertaking as a fair share of variation in emigration intentions is explained by them in the five study populations. Some factors appeared to be relevant in almost all countries such as 'Perceived benefits', 'Cues to action', and 'Perceived self-efficacy' while others were less important in some countries leading to different country-specific profiles of potential emigrants. In spite of

the crude nature of the scale that we used to derive an indicator for the level of general self-efficacy in respondents, the indicator performed fairly well enough to illustrate the importance of the concept in predicting emigration intentions. The significant effect of the 'Cues to action' factor shows that migrant network-externalities, such as receipt of remittances from relatives abroad and the existence of a tradition of emigration in a region, can have an strong positive effect on the development of emigration intentions in a local population.

One additional issue that requires attention is the relation between emigration intention and actual emigration. Although this is not the subject of our paper and the surveys did not follow potential migrants to assess actual emigration, it is clear that there is little gain pursuing conceptualization and measurement of intentions if these bear no relevance to actual emigration. There is also ample evidence of gaps between intentions and behavior and the unreliability of intentions for predicting behavior (cf. Sheeran 2001; for migration, see e.g. Gardner et al 1986; Lu 1999). Plans may change due to new situations arising, obstacles may appear more challenging than anticipated and intentions may be based on unrealistic perceptions. Furthermore, intention-behavior inconsistency may also stem from conceptualization and measurement errors. Many studies, for instance, fail to recognize the multi-dimensional and ordinal nature of intentions leading to crude indicators (e.g. Manski 1990). The incorporation in models of the self-efficacy construct, such as in HBM, or, alternatively, perceived behavioral control can partly bridge the intention-behavior gap, as it takes into account the confidence in or expected ease of performing the intended behavior. This issue seems especially important in the case of international migration, where people lack full control to implement their intentions since they require substantial investments, skills, support of others (i.e. emigrated relatives abroad) and confidence to undertake a major step in their life course. Furthermore, the bridging of the intention-behavior gap can be addressed by extending conceptual models to include the full process of decision making such as pursued by a relatively new line of theory development, with applications in the health sector that distinguishes motivational processes from volitional processes (Heckhausen and Kuhl 1985, Heckhausen 1991). The key issue here is to recognize and distinguish determinants of action implementation and maintenance from intention-forming determinants (e.g. Gollwitzer and Oettingen 1998; Abraham and Sheeran 2000; Schwarzer and Renner 2000; Sheeran 2001; Sniehotta at al 2005). Advances made in this area of theory development can be utilized in migration studies as well.

We would like to recommend the following:

First, measurement of psychosocial determinants should routinely be included in migration surveys. The HBM provides a relevant framework for this. Preferably a formative research stage, using qualitative methods, should precede the survey to identify in the local setting all relevant indicators for each of the HBM factors, including their prioritization. For the most important indicators appropriate survey questions can then be developed. Findings of surveys regarding the effects and role of relevant psychosocial factors should be used in the design of migration policies that account for the elements of the mind-set of potential emigrants and of those that have already migrated.

In this study, to illustrate the importance of the self-efficacy construct in emigration decision-making we derived a crude four-item scale as an approximation for the ten-item scale of the general perceived self-efficacy construct. Given the general importance of predicting emigration behavior for policy makers, we recommend the development and testing of an emigration-specific self-efficacy scale and compare its validity and reliability with that of the existing general self-efficacy scale.

We think the results presented in this paper provides theoretical and empirical support to justify the recommendation to further explore and develop a more comprehensive HBM-

inspired psychosocial model of emigration intentions. The current model components provide avenues to link them to key-issues in established migration theories, for instance, to social network theory by linking the role of ties between emigrants abroad and those that stayed behind to the formation of emigration-related perceptions, attitudes, and social norms through the 'cues for action' component. In addition, lessons learned in cognitive psychology for migration research should not be limited to adopting mainstream models and theories, but extend to new directions as well. This will, for instance, be relevant to establish better connections between migration intentions and actual moves.

To conclude, we believe that people take (migration) decisions on the basis of their perceptions (and misconceptions) and they do this within the context of their personal socioeconomic and demographic characteristics and their household and community context. Thus it makes sense to systematically identify, measure, and analyze perceptions about issues that are considered relevant in migration decision-making by a local population. The HBM conceptualization of behavioral intentions provides a useful framework for this.

Acknowledgements

We want to express our gratitude to our colleague Joop de Beer, research fellow at NiDi, for his comments and suggestions on an earlier version of this paper.

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