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Review article

Mental health of internal migrants

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Abstract
Human beings are increasingly becoming an urban species, mainly due to internal migration processes. The internal migrant status exposes the individual to a complex interplay between risk and protective factors, producing differential mental health outcomes. This review aims to provide an understanding of individual and environmental variables which might act as risk or protective factors to internal migrants' mental health. The search process was conducted from October 2022 to December 2022 across two databases: JSTOR and Google Scholar. The study followed PRISMA guidelines for systematic reviews. 32 studies met the inclusion criteria and were subsequently considered for the review. Individual level variables influencing mental health included gender, age, education, socio-economic status, personality traits and physical health. Environmental variables included urbanicity/neighbourhood characteristics, discrimination, social support, and specific socio-cultural variables. Both groups of variables interplay in complex ways, either in the roles of risk or protective factors resulting in differential mental health outcomes for individuals. Limitations included the geographical distribution of studies, the broad definition of mental health, and the great variation in socio-cultural contexts. The findings of the review suggest a need for future research on internal migration and mental health, particularly in countries where this phenomenon is most prominent.

Keywords: Environmental factors; Individual factors; Internal migration; Mental health

Introduction

Human beings are increasingly becoming an urban species as it is estimated that most of the world's population will be living in cities by 2030. Internal migration, particularly the rural-urban kind, is a global phenomenon especially obvious in those countries where there are major socio-economic differences between rural and urban areas, such as India or China (Li and Rose, 2017). This process seems to be influenced in part by the disparity in the quality of services between rural and urban areas; for instance, much research has focused on the poor quality of healthcare in rural areas, particularly in developing countries (*e.g.*, Siyal et al., 2019). Indeed, rural-urban internal migration has been associated with several positive outcomes including: better living conditions, higher quality of services, increasing employment rates, better education, and higher quality of life overall (Lagakos, 2020).

With regards to physical and mental health, studies have also found that rural-urban migrants are actually healthier than their rural counterparts (*e.g.*, Li et al., 2007). These findings have been explained not only in terms of external environmental advantages provided in urban areas, but also in terms of the inherent characteristics of the internal migrants. Several studies have provided support for the healthy migrant hypothesis, stating that the apparent health advantage of migrants is due to the fact that only the fittest individuals (smartest, healthiest, etc.) choose to migrate due to the considerable physical and psychological distress involved in the process (*e.g.*, Lu, 2008). The healthy migrant hypothesis has received considerable support from studies on international migration which conclude that migrants actually represent the fittest section of the population; significantly healthier than nationals living in their countries of origin (Salas-Wright et al., 2018). Several authors have pushed the proposition even further by suggesting evidence of a migrant mortality advantage, *i.e.*, lower mortality among international migrants compared to native populations in high-income host countries (*e.g.*, Wallace et al., 2019). However, research of the healthy migrant phenomenon in the specific case of internal migration has produced some controversial data which need further examination.

In a study of internal migrants in China, Chen (2011) found that the healthy migrant hypothesis was supported for physical but not mental health, raising questions on the physical versus mental health duality. These findings have been explained by the fact that Chinese rural-urban migrants mostly pursue manual jobs in the city, and therefore are more likely to self-select for physical characteristics (young and healthy) (Hu et al., 2008). Conversely, there is much evidence that rural-urban migrants are less physically and mentally healthy as compared to urban populations due to reduced access to healthcare services or other environmental risk factors (*e.g.*, social isolation, discrimination, etc.) (Lindert et al., 2008). Therefore, research data is quite mixed on the issue of mental health among internal migrants, and many studies have focused on exposure to specific environmental risk factors to provide further understanding. In this context several risk factors to

mental health have been identified, including social adversity, poverty, and discrimination or exclusion. All are related to the process of adaptation to the new social context and a poorer quality of life overall (Roh et al., 2011).

Additionally, urbanicity (or the effect of living in urban areas) has been described as a risk factor for poorer quality of life in general (and mental health in particular). This is mainly due to factors such as high population density, pollution, noise and accompanying social problems, which are more prominent in urban environments (United Nations, 2017). For instance, in a very early paper, Freeman (1994) described the effect of urbanicity on the onset of schizophrenia – in terms of both migration and social class. Living in urban areas and the migrant status seem to expose individuals to several risk factors for developing psychiatric disorders.

Moreover, there are several neighbourhood social environment characteristics, which seem to have an impact on mental disorders. These include litter and crime, low social cohesion, social isolation, etc. (Wilson-Genderson and Pruchno, 2013). Indeed, there is some evidence that internal migrants have poorer mental health compared to those who live in rural regions of origin, but comparable to the urban region of migration. These findings have been extended to estimates of the prevalence of several disorders, including mood disorders, addictions, and psychotic disorders (including schizophrenia) (Penkalla and Kohler, 2014).

To summarize, internal migrant status seems to involve a complex interplay between inherent/individual characteristics and external/environmental factors, resulting in differential mental health outcomes. In this context, the present review aims to identify risk and protective factors to internal migrants' mental health by categorizing them into inherent/individual factors or external/environmental factors. The identification of these factors is important in informing specific policies dealing with internal migration, particularly with regards to the identification of "high risk" target groups and the provision of mental health services for preventing or treating mental illness.

Materials and methods

Search strategy and data extraction

Two databases were searched for this review: JSTORE and Google Scholar. The search process was conducted between October 2022 and December 2022, using the following keywords: "internal migration", "mental health", "risk factors", "protective factors". The time filter used for the search was a 20 years span, from 2000 to 2022. Inclusion criteria for the studies included:

1. Original papers or reviews on internal migration and mental health.
2. Publications after year 2000.
3. Articles in English language.

Exclusion criteria included:
1. Theoretical papers.
2. Studis published before year 2000.

Studies were also excluded if the abstracts and/or full texts could not be retrieved.

A total of 492 articles were considered, specifically JSTOR: 12 articles, and Google Scholar: 480 articles. After manually removing duplicate records (171), the total number of records screened for relevance of title and abstract was 321. In total, 251 records were excluded and the remaining records were sought for retrieval of the full text. In 26 cases the articles could not be retrieved; thus ultimately 44 full text articles were read. Out of these, 12 articles were excluded because they did not include specific measures of mental health. Overall, 32 full papers were involved in the review. The PRISMA chart (Page et al., 2021) below summarizes the review process.
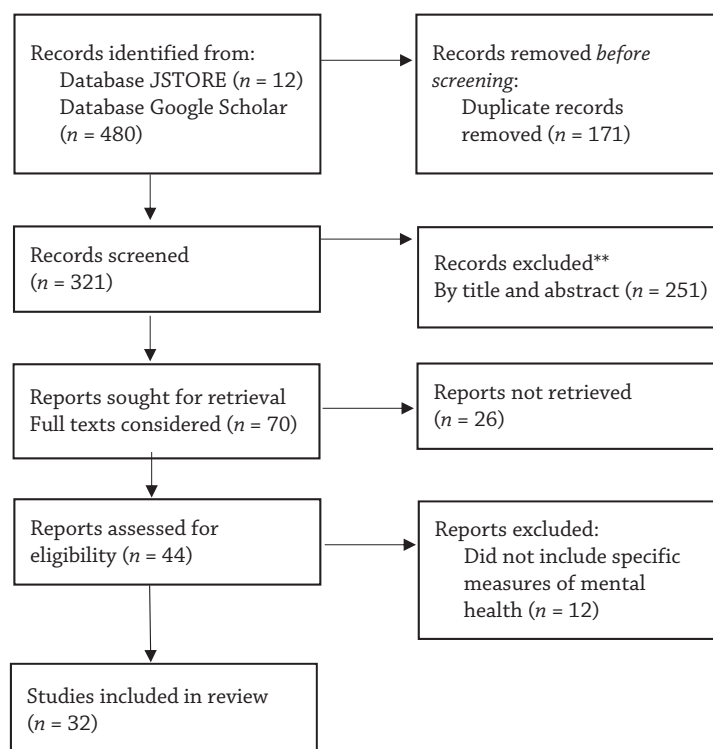

Chart 1. PRISMA chart: Identification of studies via databases

Results

The research articles included data from China (16 papers), India (8 papers), Africa (3 papers), Europe (2 papers), United States (2 papers), and Indonesia (1 paper). The review also included one paper with comprehensive data from Africa, Asia, Europe, and the USA. It might be noted that the geographical distribution of articles is proportional to the extent or relevance of internal migration in the specific countries, with a clear predominance of Asian countries over European coun-

tries. In terms of types of mental health disorders, 3 main categories were mentioned, including mood disorders, psychotic disorders and additions. There was a predominance of quantitative research methodology, with few cases using qualitative or mixed research. Out of the 32 studies, 7 were longitudinal studies, 6 were reviews, and the rest were cross-sectional studies.

Articles were classified in two tables, separately summarizing Inherent/Individual factors and External/Environmental factors.

Table 1. Inherent/Individual Factors related to the mental health of internal migrants				
Individual factors	Authors	Country/Data collection period	Methodology	Results
Gender	1. Albers et al. (2016)	India 2009–2010	– Cross-sectional study, quantitative methodology – Sample: 884 individuals, urban non-migrants ($n = 159$) urban migrants ($n = 461$), rural non-migrants ($n = 264$)	For women: depression among migrants; for men, no differences among migrants and non-migrants
	2. Krishna and Raj (2022)	India 2001–2020	Literature review on internal migration in India	Women: Greater vulnerability for psychological problems
	3. Zheng et al. (2021)	China 2014–2015	Longitudinal study: Data from China Health and Retirement Longitudinal Study – Nationally representative sample of residents ($n = 43,854$)	Higher risk of symptoms of depression among migrant women (OR = 1.08, 95% CI = 1.01–1.14, $p < 0.05$)
Age	4. Zheng et al. (2021)	China 2014–2015	Longitudinal study: Data from China Health and Retirement Longitudinal Study (CHARLS), a nationally representative sample ($n = 43,854$)	Higher risk of depression among those who first migrated at 35 years of age or older. Internal migration experience – higher risks of symptoms of depression among middle-aged adults (OR = 1.12, 95% CI = 1.06–1.19, $p < 0.001$)
	5. Sun and Young (2021)	China 2014–2015	Longitudinal study: Data from China Health and Retirement Longitudinal Study (CHARLS), nationally representative study ($n = 43,854$)	Physical and mental health of middle-aged and older adults was worse among those who first migrated between the age 18–35
	6. Ma and Xia (2021)	China 2014	– Cross sectional study Data from China Migrants Dynamic Survey (CMDS), nationally representative sample ($n = 16,000$)	Older age at migration deteriorates overall health outcomes
Education	7. Bernard and Bell (2018)	56 countries, 18 in Africa, 15 in Asia, 7 in Europe and North America, 16 in Latin America and the Caribbean, 2017	Cross-sectional Data from Integrated Public Use Microdata Series-International (IPUMS) database, accessed 2017	Likelihood to migrate compared to individuals with no education is: 1.7 times more for those with primary education, 2.9 times more for secondary education, 4.2 times more for tertiary education
	8. Ginsburg et al. (2016)	Africa 2009–2011	Longitudinal data: total of 900,000 people living in eight sub-Saharan African sites	Education has no clear patterns on internal migration in regions such as Burkina Faso, Mozambique, and South Africa
	9. Firdaus (2017)	India, Delhi 2012	Cross-sectional field study 1,230 respondents	Mental health was significantly poorer among the illiterate individuals
Socioeconomic status	10. Li et al. (2007)	China 2005	Cross-sectional study sample: 4,453 migrant workers and 1,957 urban workers in Hangzhou city, and 1,909 rural residents	Independent predictors of better mental health status: higher salary, good self-reported health, and good relationships with co-workers
	11. Ma et al. (2020)	China 2008–2009	Longitudinal study based on rural-Urban Migration in China (RUMiC) survey data, two waves of a nationally representative survey dataset	Migrants had better mental health than urban residents after controlling for socioeconomic status

Table 1. *(continued)*

Individual factors	Authors	Country/Data collection period	Methodology	Results
Socioecokomic status	12. Mou et al. (2013)	Literature review China 2000–2012	Literature review: Medline, EBSCO platform, ISI Web of Science China Knowledge Resource Integrated Database	Impact of social and economic risk factors on overall health of internal migrants
	13. Kusuma and Babu (2018)	Literature review India	A systematic review: Web of Science, Medline (PubMed),Google Scholar 42 papers	Poor migrants, more addictive behaviors and less access to health care
Personality traits	14. Coope et al. (2020)	Literature review India	Narrative review Articles on internal migration in India published up to 2017	Resilience, including hope and optimism, relates to the mental health of migrants
	15. Raghavan et al. (2021)	India 2018	Qualitative research: case study analyses of three slum-dwelling internal migrants	Resilient personality traits and the urge to live characterized mentally healthy migrants
Physical health	16. Lu (2008)	Indonesia 1997–2000	Longitudinal data from 1997 and 2000 waves of the Indonesia Family Life Survey (IFLS). Study sample: 87% of population represented	Internal migrants self select for physical health
	17. Kang et al. (2022)	China 2014	Cross-sectional study: China Migrants Dynamic Survey dataset Sample 12,686 rural-urban migrants, 2,037 urban-urban migrants	Better physical health leads to higher social integration levels

Table 2. External/Environmental Factors related to the mental health of internal migrants

Environmental factors	Authors	Country/Time of data collection	Methodology	Results
Urbanicity, Neighbourhood characteristics	1. Chen et al. (2016)	China 2015	Cross-sectional study 61 migrants in older inner city housing, 67 in neighbourhood units, 115 in urban villages, 84 in private housing	The type of neighbourhood affects psychological health. Best health of internal migrants is in urban villages and private housing
	2. Chukwuedozie et al. (2017)	South Africa 2012–2014	Longitudinal study Data from the National Income Dynamics Study (NIDS), waves 3–4	Province of residence was significantly associated with mental health status
	3. Firdaus (2017)	India 2012	Cross-sectional study 1,230 respondents	Poor housing is a predictor of poor mental health
	4. Roh et al. (2011)	USA 2010	Cross-sectional study Sample: 420 residents of New York	Link between perceived neighbourhood safety and symptoms of depression
	5. Wilson-Genderson and Pruchno (2013)	USA 2006–2008	Cross-sectional study Sample: 5,688 New Jersey residents	Higher levels of depression associated with neighborhood violent crime
	6. Penkalla and Kohler (2014)	Literature review: European Countries	Literature review EBSCOhost and PubMedArticles between January 2002 and October 2012	Significantly more mood and anxiety disorders, psychosis and substance abuse in urban as compared to rural areas
Discrimination, stigma	7. Cardano et al. (2018)	Italy 1997	Qualitative secondary analysis Archive of data from the Turin Longitudinal study	Offspring of Southern migrants are at a higher risk of psychosis compared to "natives", due to exclusion and discrimination
	8. Li and Rose (2017)	Literature Review: Studies from China, 2007 onwards	Systematic literature review Databases: Ovid MEDLINE, PsycINFO, Web of Science and China Academic Journal Database	Social exclusion and discrimination negatively associated with migrants' mental health
	9. Wang et al. (2010)	China 2004–2005	Cross-sectional study 1,006 adult rural-to-urban migrants	Social stigma and discriminatory experiences have direct negative effects on psychological distress.
	10. Zhang et al. (2009)	China 2004–2005	Cross-sectional study 1,006 rural-to-urban migrants	Discrimination experience had a direct significant negative effect on quality of life
Social support	11. Liu et al. (2022)	China 2018–2019	Cross-sectional study 470 elderly internal migrants	Subjective wellbeing was associated with social cohesion
	12. Choudhari (2020)	India	Narrative review paper	Risk factors to mental health of internal migrants-lack of social support

Table 2. *(continued)*				
Environmental factors	Authors	Country/Time of data collection	Methodology	Results
Social support	13. Liu et al. (2019)	China	Qualitative study In-depth interviews among 27 elderly (15 elderly migrants and 12 local elderly)	Migrants concluded their well-being improved due to family reunion.
Sociocultural variables	14. Guy et al. (2011)	China 2009	Cross sectional study 787 Chinese internal migrants	Cultural integration is the best strategy for wellbeing
	15. Chen (2011)	China 2009	Cross sectional study Household survey (*N* = 1474)	High levels of psychological distress because of hukou system
	16. Du et al. (2015)	China 2011–2012	Longitudinal study over 1 year Sample: 641 Chinese internal migrants	Collectivistic orientation predicted decreased depression and alleviated it through reducing acculturation stress

Discussion

This review aimed to identify risk and protective factors to internal migrants' mental health by categorizing them into inherent/individual factors and external/environmental factors. The review identified several individual level factors including: gender, age, education, socio-economic status, personality traits, and physical health. Environmental factors were classified into neighbourhood characteristics, urbanicity factors, social exclusion/social support, and specific sociocultural variables.

Individual risk factors
Data focusing on the negative effects of internal migration on mental health have shown particularly strong effects on specific sections of the population depending on gender or age. For instance, Zheng et al. (2021), in their study with a nationally representative sample from the China Health and Retirement Longitudinal Study, found that negative mental health effects were particularly prominent among middle-aged individuals or those migrating after the age of 35. Most important, this longitudinal study found significant associations between internal migration experience and the onset of depression later in life, suggesting that risk factors might produce negative effects on mental health over time. In developmental terms, age is certainly an important factor to consider when it comes to adaptation stress (change related stress), as younger individuals tend to show higher flexibility and adapt better to changing circumstances (Hadfield, 2022). Nonetheless, studies investigating this specific variable have considered it in the context of other variables that might interact with age or moderate its effect on mental illness (*e.g.*, marital status, socio-economic status, physical health, social support, etc.) (Zheng et al., 2021). Hence, age at migration might be considered a partial indicator of an individual's mental health, but definitely not a determining risk factor for developing mental health issues.

Gender is also an important variable to consider as authors have suggested a differential impact of risk and protective factors based on this variable. For instance, studies report that women are subject to specific risk factors for developing mental disorders. These derive from gender specific experiences such as pregnancy or maternal care, which add further burden to the already stressful experience of migration (*e.g.*, perinatal or post-partum depression, anxiety disorders, etc.) (Krishna and Raj, 2022). These findings are in line with data from the general population across different cultures, identify-ing female gender as a risk factor for developing mental health disorders, particularly internalizing disorders (*e.g.*, anxiety and mood disorders) (*e.g.*, Otten et al., 2021). However, from existing studies it so far unclear whether internal migrant status significantly increases the already existing gender-specific risk. Nonetheless, it should also be mentioned that male gender exposes the individual to several other risk factors to mental health that need to be considered, such as lack of social support, an important factor that negatively influences mental health (*e.g.*, Choudhari, 2020). So far, studies on gender only seem to suggest that the effects of internal migration on mental health need to take gender specificity into consideration, particularly due to the differential impact on men and women.

Individual protective factors
Within the internal migrants category, educational selectivity seems to provide a significant protective factor when it comes to developing mental illness. Similarly to studies on international migration (*e.g.*, Ichou and Goujon, 2017), research suggests that educational selectivity is present among internal migrants too, and it positively affects a range of quality of life dimensions, including mental health. In a review that included 56 different countries worldwide, Bernard and Bell (2018) found that educational achievement significantly increases the probability of internally migrating from 1.7 to 4.2 times (highest in individuals with tertiary education). Indeed, in 80% of the countries considered in the study, having a secondary and tertiary education significantly increased the probability for internal migration. The educational selectivity of internal migrants provides them with an important protective factor against mental illness, and this is supported by research on the positive effects of education on mental health. Indeed, there is a stable and growing body of research concluding that more educated individuals are more likely to take better care of their health in general, including mental health, and are also equipped with better coping mechanisms for stressful situations (Kondirolli and Sunder, 2022). Nonetheless, other studies have mentioned that in some countries or regions there is a migration trend toward pursuing manual jobs (which require a minimal level of education) in urban areas (*e.g.*, Chen, 2011). However, it is not clear whether the mental health disadvantages of this category are related to lack of education, or another very important indicator, such as socio-economic status. In fact, it is hard to disentangle the effects of education and socio-economic status, as much research shows that they generally tend to go together in the same direction.

Studies show that the healthy migrant advantage seems to be moderated by socio-economic status: for instance, research with nationally representative samples from China (2008–2009 survey data) found that internal migrants had better mental health than urban residents, but only when controlling for socio-economic status variables (Ma et al., 2020). Therefore, the authors concluded that the crucial protective factor was socioeconomic status, as the smaller the disparity in status between migrants and urban residents, the larger the migrant health advantage (Ma et al., 2020). In fact, internal migrants do not always represent the poorest factions of the population and can be sometimes classifed as economically better off than poor urban residents (*e.g.*, Tacoli et al., 2015). Socio-economic status might in fact be an important protective factor, ensuring better quality of life overall in urban areas. Therefore, a higher socio-economic status exposes migrants to higher quality physical and social environments by providing better access to healthcare and educational services, job opportunities, safer neighbourhoods, etc. (Firdaus, 2017; Kusuma and Babu, 2018; Mou et al., 2013). Socio-economic status presupposes the existence of several other risk and protective factors, which might interact in very complex ways and make it difficult to come to conclusions on the relevance of each factor per se.

Other important protective factors in internal migrants' mental health include: good physical health and personality characteristics. In line with the healthy migrant hypothesis, physical health and personality characteristics seemingly differentiate internal migrants from their counterparts in rural areas. Studies have shown that both international and internal migrants are healthier than the urban population they migrate to; a result generally attributed to the positive selection process. These findings have been replicated in longitudinal studies with nationally representative samples (*e.g.*, longitudinal study with national representative sample from Indonesia) (Lu, 2008). The complex interactions between physical and mental health have been widely discussed in research studies, and strong positive relationships have been reported (Ohrnberger et al., 2017). Hence studies have demonstrated that physically healthy individuals have better mental health and show better management of environmental stressors (Gerber and Pühse, 2009). In addition to physical health, resilient personality characteristics such as problem solving skills, flexibility, self-control or awareness, facilitate the adaptation process and reduce stress levels related to environmental change (Coope et al., 2020). Personality plays an important role in socio-cultural adaptation and provides a buffer to environmental stressors (*e.g.*, cognitive schemata considering stressors as challenges rather than obstacles). Some qualitative research on the resilient personality traits of internal migrants suggests that even great adversities can be overcome by individuals possessing these specific personality traits (Raghavan et al., 2021). Nonetheless there are very few studies focusing on individual traits such as resilience. Most of them focus on external indicators of success such as the extent of social integration (Kang et al., 2022). Further research on resilience is important to determine ways of externally promoting this factor, in order to buffer vulnerable groups against developing mental health problems.

To summarize, so far, research on the mental health of internal migrants allows for the identification of several individual level factors which might serve as indicators for high risk target groups within this specific fragment of the population. Female gender and older age at migration represent two important risk factors, while protective factors include educational selectivity, socio-economic status, physical health, and resilient personality traits. However, as previously mentioned, there is a need to carefully consider interactions between the several risk and protective factors, especially in the specific socio-cultural contexts of the different countries.

Environmental risk factors

Environmental factors influencing mental health were classified into neighbourhood characteristics, urbanicity factors, social exclusion/social support, and specific sociocultural variables. Each of these factors separately affects stress levels of individuals, which in turn might be considered as the most prominent proximal risk factor of mental health. There is research evidence showing that these stressors might trigger psychiatric symptoms in individuals with a genetic predisposition to mental disorders (Zuckerman, 1999). However, research has also shown that subjective perception of these indicators is more relevant than their mere objective presence. Therefore, considering the stress experience involves a subjective appraisal of triggers (potential stressors), there might be inconsistent findings in relation to the negative effects of objective indicators (*e.g.*, pollution, noise, marginalization, adaptation to change, etc.). There are also several protective factors involved that might buffer the effects of these risk factors in complex interplays within the individual (*e.g.*, resilient personality traits, as discussed above).

In addition to urbanicity factors, more specific neighbourhood characteristics also seem to be relevant to mental health. In their study with New York City residents, Roh et al. (2011) found that low levels of satisfaction with the neighbourhood environment were related to symptoms of depression, with the strongest relationship being with perceptions of neighbourhood safety. Several studies have shown that the types of neighborhood where migrants settle have a great impact on their mental health. It has been proposed that improving neighbourhood environments is one of the best ways to improve mental health (*e.g.*, Chen et al., 2016). Nonetheless, it should be mentioned that improved services does not necessarily mean protection from mental health issues, as studies have shown that internal migrants who adapt better to urban environments show similar depression levels to urban residents (Albers et al., 2016). Therefore, both general environmental factors (urbanicity) and also more specific factors (neighborhood), seem to be involved as both risk and protective factors to mental health; although none of the reviewed studies considers them as strictly determinant to the outcome.

Similar to international migration, internal migration is associated with negative social phenomena such as stigmatization, discrimination, and marginalization. Research has shown that discrimination experiences have very negative mental health outcomes, ranging from anxiety to depression and even suicidal tendencies (Wang et al., 2010; Zhang et al., 2009). Data from a longitudinal study conducted in Italy, suggest that the negative effects of unfavourable social circumstances might be passed on to migrants' children; this same study found that second generation migrants were at a relatively higher risk of psychosis than natives (Cardano et al., 2018). Hence social environment is just as important, if not more so, than physical environment in promoting good mental health.

Aside from these general factors which are found across countries, several studies have proposed the need to consider specific sociocultural factors, which certainly add unicity to the phenomenon in the different countries. While sociocultural characteristics might be quite subtle and little investigated in the context of mental health, much research attention has

focused on the hukou system in China, which is thought to exacerbate and fuel already existing risk factors. The hukou system refers to the Chinese household registration system which indicates the original place of residence for each individual (where he/she was born) and obliges the person to use services in that area only – hospitals, schooling, etc. (Li and Rose, 2017). Research from China suggests that the hukou system makes permanent residence for rural-urban migrants very difficult, and hinders their socio-economic integration. Indeed, it is very common that rural-urban migrants in China never move away from the poorest and most disadvantaged peripheral areas of big cities. In this context, the integration process also involves acculturation stress, which is more prominent in countries with large urban-rural differences, such as China or India, and has detrimental effects on mental health (*e.g.*, feelings of marginalization, hopelessness, pessimism, depression, etc.) (Du et al., 2015; Guy et al., 2011). Hence it is not only very important to consider cultural specificity, but also the role of each of the previously mentioned factors within the specific socio-cultural contexts (*e.g.*, the perceptions of gender roles or the relevance of social support in collectivistic versus individualistic cultures, etc.). This discussion is particularly important when considering the complex interplay between risk and protective factors, and ways in which the latter might act as a significant buffer against the development of mental disorders (*e.g.*, Kleiman and Liu, 2013).

Environmental protective factors

Compared to studies on environmental risk factors, studies focusing on environmental protective factors are considerably fewer and point toward a single important factor: social support. Research has consistently reported positive relationships between subjective well-being and perceived social support among internal migrants; some authors have even suggested that social support is more relevant than personal characteristics in promoting mental health (Liu et al., 2022). Considering internal migration involves the weakening or loss of social ties as individuals move away to new environments, it is quite obvious that this variable serves an important buffering role to environmental stress and consequently mental disorders (Mulder, 2018). Several studies have shown that loss of social support has strong correlations with poor mental health, and this research evidence accumulated further during the Covid pandemic. Findings have shown that lack of social support was particularly problematic among migrants living alone, as they were quite vulnerable to developing severe, acute and chronic, adverse mental health issues (Choudhari, 2020). Qualitative research suggests that family reunions are an important protective factor to overall wellbeing and mental health, particularly among the elderly (Liu et al., 2019). Hence studies agree that social support probably represents one of the most important protective factors for mental health, particularly for specific target groups such as internal migrants who face considerable risk factors in their environment.

Conclusions

This review aimed to provide an understanding of risk and protective factors to internal migrants' mental health by categorizing them into inherent/individual factors and external/environmental factors. The review identified several individual-level factors including: gender, age, education, socio-economic status, personality traits, and physical health. Environmental factors were classified as neighbourhood characteristics, urbanicity factors, social exclusion/social support, and specific sociocultural variables. Both individual and environmental characteristics might act as risk and protective factors to mental illness. Up to now, research studies have allowed for the identification of several individual-level factors which might serve as indicators for highrisk target groups within this specific fragment of the population. However, there is a need to carefully consider interactions between the several risk and protective factors, especially in the specific socio-cultural contexts of the different countries (*e.g.*, the hukou system in China). It is not only very important to consider cultural specificity, but also the role of each of the previously mentioned factors within the specific socio-cultural contexts (*e.g.*, the perceptions of gender roles or the relevance of social support in collectivistic versus individualistic cultures, etc.).

This review has several limitations, including the geographical distribution of studies, the broad spectrum definition of mental health, and the great variation in socio-cultural contexts. In fact, the research studies mainly came from countries with great rural-urban disparities such as China and India. Studies from European countries and the USA comprised a small fraction of the overall number of studies and mainly focused on external/environmental factors influencing mental health, including neighborhood characteristics or social aspects such as discrimination or marginalization. Conversely, studies from Asia (and particularly China) investigated both environmental and individual-level factors. Also, this review only focused on one type of internal migration; the rural-urban one, neglecting other types (*e.g.*, urban-urban). The dynamics in urban-urban internal migration might be quite different in terms of both the risk and protective factors involved (*e.g.*, disparity in services or socio-cultural differences might not be as pronounced). Countries with less pronounced rural-urban disparities, such as European countries, might display quite a different pattern when it comes to the risk and protective factors involved. Finally, it is worth noting that mental health studies are quite varied, including mood disorders, psychotic disorders, and addictions. Despite similarities in the etiology of the different disorders, it remains important to consider the level of specificity that distinguishes each category in order to come up with more solid conclusions in future research, as well as actual community interventions. Regardless of its limitations, the study has several implications for future research of the mental health of internal migrants, particularly in countries where this phenomenon is most prominent. The identification of specific environmental/contextual factors might provide important incentives for informing community based policies for improving mental health in this specific target group.

Ethical aspects and conflict of interests

The author has no conflict of interests to declare.

Duševní zdraví vnitřních migrantů

Souhrn

Lidé se stále více stávají městskými druhy, a to především v důsledku vnitřních migračních procesů. Status vnitřního migranta vystavuje jednotlivce složité souhře mezi rizikovými a ochrannými faktory, což vede k rozdílným výsledkům v oblasti duševního zdraví. Tento přehled si klade za cíl poskytnout pochopení individuálních a environmentálních proměnných, které mohou působit jako rizikové nebo ochranné faktory pro duševní zdraví vnitřních migrantů. Proces vyhledávání probíhal od října 2022 do prosince 2022 ve dvou databázích: JSTOR a Google Scholar. Studie se řídila pokyny PRISMA pro systematické kontroly. Kritéria pro zařazení splnilo 32 studií, které byly následně zváženy k přezkoumání. Mezi proměnné úrovně ovlivňující duševní zdraví patřily pohlaví, věk, vzdělání, socioekonomický status, osobnostní rysy a fyzické zdraví. Mezi environmentální proměnné patřily charakteristiky urbanicity/sousedství, diskriminace, sociální podpora a specifické sociokulturní proměnné. Obě skupiny proměnných se vzájemně ovlivňují složitým způsobem, ať už v roli rizikových nebo ochranných faktorů, což má za následek rozdílné výsledky v oblasti duševního zdraví jednotlivců. Omezení zahrnovala geografickou distribuci studií, širokou definici duševního zdraví a velké rozdíly v sociokulturním kontextu. Zjištění přehledu naznačují potřebu dalšího výzkumu vnitřní migrace a duševního zdraví, zejména v zemích, kde je tento fenomén nejvýraznější.

Klíčová slova: duševní zdraví; environmentální faktory; individuální faktory; vnitřní migrace

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