

## External locus of control and perceived stress in times of crisis: A study of sub-Saharan immigrants with irregular status in Morocco during the COVID-19 pandemic

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### Abstract

This study investigates the impact of external locus of control on perceived stress among undocumented sub-Saharan immigrants in Morocco during the Covid-19 pandemic. Using a quantitative design, data were collected from 514 participants residing in Fez between 2021 and 2023. Two dimensions of external locus of control were measured: belief in a powerful other (P) and belief in chance (C), alongside perceived stress. Results indicate that most participants reported high levels of perceived stress. Correlation analyses revealed strong positive associations between external locus of control (both P and C dimensions) and perceived stress. These findings support the hypothesis that external control beliefs may constitute a psychological vulnerability factor in times of crisis. The data are interpreted in light of perceived control theory and vulnerability models within migration contexts.

**Keywords:** External Locus Of Control; Perceived Stress; COVID-19 Pandemic; Undocumented Immigration; Mental Health.

### 1 Introduction

The COVID-19 pandemic, which emerged at the end of 2019, rapidly evolved into a global health crisis, disrupting social, economic, and psychological equilibrium on a worldwide scale. While populations across the globe were affected, the repercussions were particularly severe for groups living in precarious or socially excluded conditions. Among them, undocumented immigrants found themselves in a situation of extreme vulnerability, exposed to multiple psychosocial risk factors (HCP, 2022). Their precarious legal status, limited access to healthcare, lack of institutional support, and often unstable living conditions placed them in a state of structural isolation that was further exacerbated by the health crisis.

In Morocco, the presence of undocumented Sub-Saharan migrants (especially in cities such as Fez) constitutes a complex social reality. These individuals frequently live on the margins of protective systems, within a climate of chronic uncertainty. In this context, the pandemic acted as a magnifier of psychological distress. Perceived stress, understood as a subjective response to events deemed overwhelming or uncontrollable, is particularly useful in understanding their psychological experiences during the pandemic. Importantly, this stress is not solely determined by objective factors but also by individual psychological variables, particularly beliefs about control.

Among these variables, locus of control constitutes a key dimension for understanding how individuals interpret and respond to threatening events. Specifically, external locus of control, which refers to attributing the occurrence of events to external forces such as chance or the actions of others, may play a role in the experience of stress during a crisis perceived as uncontrollable. This dimension is especially relevant among undocumented immigrants, whose actual capacity to influence their environment is objectively limited, potentially reinforcing their tendency to perceive themselves as powerless in the face of constraints imposed by the pandemic.

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This study is situated within this framework. It aims to examine the relationship between external locus of control and perceived stress among undocumented Sub-Saharan immigrants residing in Morocco during the COVID-19 pandemic. We hypothesize that individuals who display a strong orientation toward an external locus of control (whether attributed to chance (external-C) or to powerful others (external-P)) will exhibit significantly higher levels of perceived stress compared to those with a less pronounced orientation. The objective is to contribute to a better understanding of the psychological factors influencing adaptation in times of crisis, while also highlighting the specific needs of a population that remains largely invisible in scientific research.

To deepen our understanding of the conceptual foundations underlying the relationship between external locus of control and perceived stress, we present below the theoretical framework that informs our study.

## 2 Theoretical Framework

### 2.1. Locus of Control: Concept and Typology

The concept of locus of control was introduced by Julian B. Rotter (1966) within the framework of his social learning theory. It refers to the way individuals perceive the origin of events that affect their lives, depending on whether they attribute them to their own actions (internal locus) or to external factors such as chance, fate, or the influence of others (external locus) (Touzani, 2024). This concept is based on the idea that control expectancies influence adaptive behaviors, particularly in situations of uncertainty or threat (Rotter, 1966).

In his original conceptualization, Rotter (1966) viewed locus of control as a relatively stable personality trait. Since then, several authors have refined the notion by subdividing it. The external locus of control is typically broken down into two subtypes (Levenson, 1981):

- External locus P (Powerful Others): the belief that events are controlled by powerful people or institutions;
- External locus C (Chance): the conviction that events are due to luck, fate, or misfortune.

These dimensions have been incorporated into specific measurement tools, notably Levenson's (1974) Multidimensional Locus of Control Scale, which is widely used in empirical studies.

Recent research has shown that these different orientations of locus of control significantly influence emotional responses, particularly in stressful contexts (Lefcourt, 2014). An internal locus is generally associated with better management of difficult situations, whereas an external locus tends to be linked to perceptions of helplessness or passivity in the face of events (Nowicki & Duke, M. P., 2016).

### 2.2. External Locus of Control and Psychosocial Vulnerability.

External locus of control is considered by several authors to be a vulnerability factor in the face of stressful situations (Sweeney & Sheldon, K. M., 2002). Individuals with an external orientation tend to perceive events as uncontrollable and unpredictable, which limits their active engagement in problem-solving and increases their psychological distress (Montgomery & McCracken, L. M., 2000). In contexts marked by precarity or social exclusion, this external perception of control can be reinforced by objective conditions that genuinely restrict individual agency. Among undocumented migrants, for instance, the lack of legal status, exclusion from social and medical services, and exposure to discrimination all contribute to sustaining a belief that events are imposed by inaccessible or hostile external forces (Abularrage, Bousquet, C, & Mahdi, A., 2024).

The COVID-19 pandemic further amplified these vulnerabilities. In environments where access to information, healthcare, and financial support is limited, individuals with an external locus of control are more likely to perceive the health crisis as overwhelming and inescapable (Ahorsu, Lin, C.-Y, Imani, V, Saffari, M, & Griffiths, M, 2022). Several studies conducted during the pandemic confirmed that this external control orientation is associated with elevated levels of stress, anxiety, and psychological distress (Sigurvinssdottir, Thorisdottir, I. E, & Gylfason, H. F., 2020).

### 2.3. Perceived Stress in the Context of a Health Crisis

Perceived stress refers to an individual's subjective evaluation of a stressful situation, based on their personal resources and coping strategies (Lazarus, 1984). In crisis contexts, this stress is related to the unpredictability of events, their perceived intensity, and the sense of control that the person believes they have.

During the COVID-19 pandemic, numerous studies have highlighted a significant increase in levels of perceived stress across populations, particularly among vulnerable groups (Vrabel, Warren, A. M., & McManus, K., 2023). This stress is exacerbated by fears of infection, economic losses, social isolation, and prolonged uncertainty. For undocumented migrants, these factors are further intensified by structural conditions such as precarious housing, lack of access to healthcare, and social exclusion (Abularrage, Bousquet, C., & Mahdi, A., 2024).

The interaction between external locus of control and perceived stress is therefore crucial to understanding the psychological experience of undocumented immigrants in the pandemic context.

### 3 Methodology

#### 3.1. Study Design

The present research adopts a quantitative correlational design aimed at examining the relationships between external locus of control (dimensions P and C) and perceived stress among Sub-Saharan immigrants in an irregular situation. This design allows for the investigation of statistical associations between psychological variables without experimental manipulation, making it well-suited for studying vulnerable populations in a naturalistic context.

#### 3.2. Participants

The sample consisted of 514 Sub-Saharan immigrants living in an irregular situation in the city of Fez, Morocco, recruited between 2021 and 2023. The participants came from various Sub-Saharan African nationalities, reflecting the cultural and linguistic diversity of this migrant population.

Recruitment was conducted using the snowball sampling method, due to the difficulty of accessing this marginalized population. The initial group of participants was contacted through local associations and informal solidarity networks. They were then invited to recommend other participants, resulting in a progressive recruitment chain. This method is recognized as appropriate for hidden or hard-to-reach populations (Heckathorn, 1997).

Inclusion criteria were established to ensure the sample's relevance:

- Be aged 18 or older;
- Be of Sub-Saharan nationality;
- Live irregularly on Moroccan territory;
- Have resided in Fez during the Covid-19 pandemic period;
- Have provided informed consent.

#### 3.3. Measurement Instruments

Two main tools were used to measure the variables of interest:

##### 3.3.1 *External Locus of Control*

The Multidimensional Locus of Control Scale (Levenson, 1974) was employed to assess the two subdimensions of external locus of control:

- External Control P (Powerful Others): measures the belief that outcomes are determined by powerful people or institutions;
- External Control C (Chance): measures the belief that events depend on luck, fate, or misfortune.

Each subscale consists of items rated on a 6-point Likert scale (ranging from 1 = strongly disagree to 6 = strongly agree). Scores can range from 7 to 42 for each subscale, with higher scores indicating a stronger conviction in external locus of control. Internal reliability observed in our sample was satisfactory ( $\alpha = .83$  for P;  $\alpha = .79$  for C).

##### 3.3.2 *Perceived Stress*

The Perceived Stress Scale (PSS-10), developed by Cohen, Kamarck, and Mermelstein (1983), was used to assess the level of perceived stress. This scale measures the subjective perception of unpredictability, overload, and lack of control in daily life, particularly during stressful situations.

It comprises 10 items rated on a 5-point Likert scale (0 = never, 4 = very often), with a total score ranging from 0 to 40. Higher scores reflect greater levels of perceived stress. In our study, the scale demonstrated good internal consistency ( $\alpha = .85$ ).

### 3.4. Procedure

Data collection took place between February 2021 and June 2023, in strict adherence to ethical principles. Questionnaires were administered face-to-face in social centers, shelters, or community locations frequented by migrants, in the presence of a research assistant. To overcome language barriers, simplified French versions were used, with oral explanations provided when necessary.

Each participant was informed of the study's objectives and gave their free, informed, and anonymous consent prior to participation. No financial compensation was offered, in order to respect research ethics in a vulnerable context.

### 3.5. Data Analysis

Data were processed using SPSS version 28. Analyses included:

- Descriptive statistics (means, standard deviations, frequencies) to describe the variables;
- Pearson correlations to assess the relationships between external locus of control (P and C) and perceived stress;
- Regression analyses to test the predictive effect of external control beliefs on perceived stress levels.

The significance threshold was set at  $p < 0.05$ , with a stricter threshold at  $p < 0.01$  for strong correlations.

### 3.6. Ethical Considerations

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki (Mondiale, 2013). Authorization was obtained from the partner host organizations, and participation was based on voluntary consent, ensuring complete anonymity. No personally identifiable data were collected.

## 4 Results

This section presents descriptive and inferential results related to external locus of control (dimensions P and C) and perceived stress among undocumented Sub-Saharan immigrants in Fez, Morocco, during the COVID-19 pandemic. The objective is to test the hypothesis that a strong orientation toward an external locus of control is associated with a high level of perceived stress.

### 4.1. Descriptive Statistics

Analyses show that participants obtained high mean scores for both dimensions of external locus of control. The mean score for external locus P (powerful others) is 25.39 ( $SD = 6.71$ ), and that for external locus C (chance) is 29.06 ( $SD = 6.62$ ). The mean perceived stress score is also high: 30.71 ( $SD = 8.13$ ) (Table.1).

**Table 1** Descriptive statistics for external locus of control and perceived stress (N = 514)

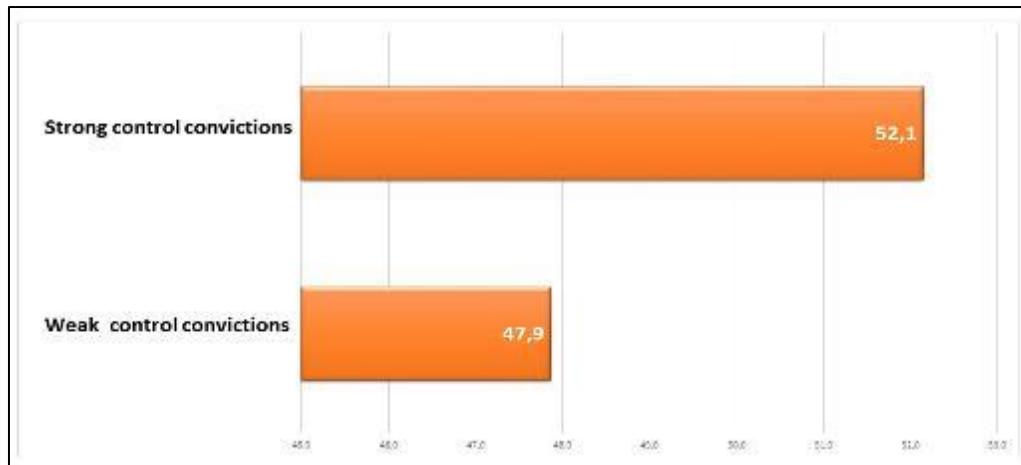
Variable	Mean (M)	Standard Deviation (SD)	Minimum	Maximum
External Locus of Control P	25.39	6.71	7	42
External Locus of Control C	29.06	6.62	7	42
Perceived Stress	30.71	8.13	0	40

Furthermore, the distribution of perceived stress levels shows that 67.9% of participants exhibit a high level of stress, compared to only 5.1% with low stress (Table.2).

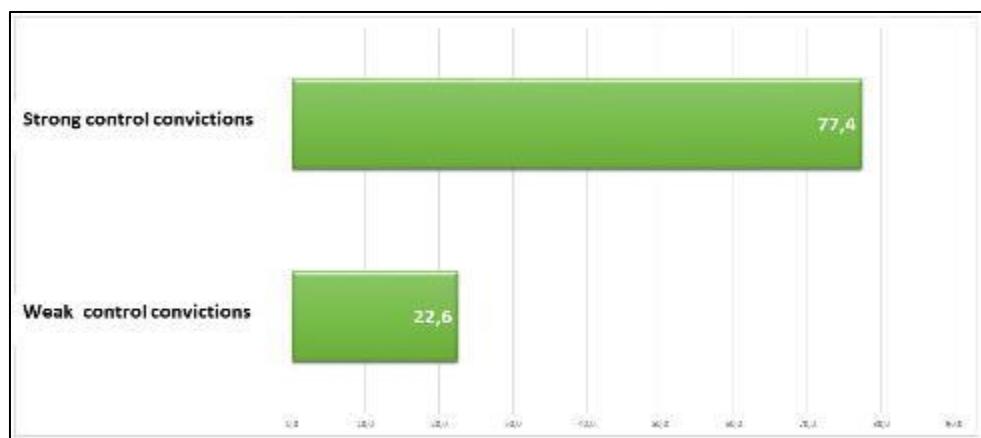
**Table 2** Distribution of participants by perceived stress level

Perceived Stress Level	Frequency	Percentage
Low Stress	26	5.1%
Moderate Stress	139	27.0%
High Stress	349	67.9%

Regarding the external locus of control P (powerful others), results show that 268 participants (52.1%) hold strong beliefs in this dimension, while 246 irregular migrants (47.9%) show weak beliefs (Figure.1).

**Figure 1** Distribution of Immigrants According to the Belief in External Control P

The majority of migrants (77.4%, or 398 out of 514) exhibit strong beliefs in the external locus of control C (chance), while 116 migrants (22.6%) display weak beliefs in this dimension (Figure.2).

**Figure 2** Distribution of Immigrants According to the Belief in External Control C

Pearson correlation analysis revealed significant relationships between the two dimensions of external locus of control and perceived stress. Specifically, the "powerful others" (P) dimension was strongly positively correlated with perceived stress ( $r = 0.777, p < 0.001$ ), while the "chance/fate" (C) dimension showed a moderate positive correlation ( $r = 0.565, p < 0.001$ ) (Table.3).

**Table 3** Pearson correlations between external locus of control and perceived stress (N = 514)

Variable	Perceived Stress	External Locus P	External Locus C
Perceived Stress	1	0,777**	0,565**
External Locus of Control P		1	0,506**
External Locus of Control C			1

Note. p &lt; 0.001 (\*\*).

#### 4.2. Interpretation of Results

The results obtained confirm the central hypothesis of the study: undocumented immigrants who hold a strong belief that the events in their lives are controlled by external forces (such as powerful others (P) or chance (C)) experience higher levels of stress. This suggests that an external locus of control constitutes a psychological vulnerability factor in the context of a crisis perceived as uncontrollable, such as the COVID-19 pandemic.

### 5 Discussion

The results of this study reveal significant and robust relationships between external locus of control beliefs and perceived stress levels among irregular sub-Saharan immigrants in Morocco. More specifically, correlational analyses indicate that the beliefs attributing life events to external forces (whether powerful others (P) or chance (C)) are associated with higher levels of perceived stress. This pattern corroborates the initial hypotheses, which posited that an external locus of control exacerbates psychological distress during times of crisis.

This finding is consistent with several previous studies. Lefcourt (2014) demonstrated that individuals who believe their destiny is determined by external forces are more vulnerable to stress, particularly in unpredictable or unavoidable contexts (Lefcourt H. M., 2014). In the case of undocumented migrants, the Covid-19 pandemic exacerbated this vulnerability: health restrictions, the lack of social protection, and limited access to healthcare intensified the feeling of helplessness, thereby increasing the impact of external locus of control on mental health (Krampe, Danbolt, L. J. Stålsett, G. Haver, A. & Lien, L, 2021). Moreover, these results help to nuance some traditional interpretations of external locus of control. Contrary to the idea that external beliefs might serve a protective function against events perceived as inevitable, our data suggest that they rather contribute to an aggravation of stress. This perspective aligns with the work of Montgomery and McCracken (2000), who demonstrated that external attributions are associated with lower perceived efficacy, greater psychological distress, and increased somatic symptoms (Touzani, 2024).

The specific context of undocumented immigrants also deserves to be emphasized. This group accumulates multiple structural vulnerabilities (economic precariousness, social marginalization, exposure to racism, etc.) that limit their sense of control over their environment. External locus of control, far from being a mere personality trait, appears here to be part of an adaptive dynamic constrained by objective social factors (Abularrage, Bousquet, C, & Mahdi, A., 2024). The impossibility of accessing minimal resources for safety and health makes the health crisis even more unbearable for this population.

Finally, the results of this study offer an original contribution to the field of intercultural psychology and migrant mental health. They call for specific support for individuals in irregular situations, including targeted and culturally sensitive psychosocial care that addresses not only symptoms of stress but also the underlying beliefs related to perceived control.

Future research could explore the interaction between external locus of control, social support, and emotion regulation strategies in order to gain a deeper understanding of the mechanisms of adaptation in situations of prolonged crisis.

#### *Limitations and Future Directions*

Despite the relevance of the findings obtained, this study presents certain methodological and contextual limitations that should be acknowledged. First, the cross-sectional design of the research precludes any causal inference regarding the direction of the relationship between external locus of control and perceived stress. A longitudinal study would allow for a better understanding of how these variables evolve over time and across different phases of the crisis.

Second, the data were collected exclusively in the city of Fez, which limits the generalizability of the results to other regions of Morocco or to different migratory contexts. The experiences of migrants may vary depending on local socioeconomic conditions, public policies, and the presence of community networks in each area.

Third, although the instruments used in this study are validated, their cultural translation and adaptation to the specific context of Sub-Saharan immigrants may have affected the understanding or interpretation of certain items. Complementary qualitative research could enrich the comprehension of the subjective dimensions of locus of control and perceived stress.

Finally, the study does not account for certain potential mediating or moderating factors such as perceived social support, trauma history, internal psychological resources (e.g., resilience, self-esteem), or specific living conditions during the pandemic. Including these variables could help refine explanatory models.

For future studies, it would be relevant to:

- Integrate a mixed-methods approach, combining quantitative data with qualitative interviews;
- Broaden the geographical scope of the investigation;
- Examine the moderating effect of social support or other coping strategies on the relationship between external locus of control and stress;
- Develop psychological interventions tailored to this vulnerable population, focusing on strengthening the sense of control and personal competence.

Thus, this research opens up promising avenues for better understanding and supporting migrant populations psychologically in contexts of health and social crises.

## 6 Conclusion

The impact of social media on adults' body image represents a major psychological concern in the digital age. This study explored the influence of external locus of control on perceived stress among Sub-Saharan immigrants in an irregular situation in Fez during the Covid-19 pandemic. The results clearly revealed a positive correlation between external beliefs (whether oriented toward powerful others or chance) and higher levels of perceived stress.

These findings highlight how a perceived lack of control exacerbates psychological distress in a context of structural vulnerability. Undocumented immigrants, already facing social and institutional exclusion, are more exposed to the harmful effects of major crises when they adopt external attribution styles.

Beyond confirming theoretical assumptions, this study makes an empirical contribution to the fields of intercultural psychology and mental health in migration contexts. It underscores the importance of taking into account the cognitive dimensions of perceived control when assessing and supporting vulnerable populations.

In sum, the findings call for stronger institutional and scientific commitment to developing targeted, culturally sensitive, and integrated interventions. Such efforts should aim to enhance individuals' sense of personal competence and provide appropriate support in times of crisis. Understanding the role of locus of control in the dynamics of stress can thus contribute to improving resilience and psychological well-being among the most marginalized groups.

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