Blood pressure and psychological distress among North Africans in France: The role of perceived personal/group discrimination and gender

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Abstract

Objectives: The purpose of this study was to examine the associations between perceived ethnic discrimination and (physical and mental) health indicators among North African women and men living in France.

Methods: This study included 82 North Africans, aged 18–64 years. Perceived discrimination was measured at both group level (PGD) and personal level (PPD). The physical health indicator was blood pressure. The mental health indicator was self-reported psychological distress.

Results: Multiple regression analyses showed that higher levels of PGD predicted higher blood pressure. PPD was not related to blood pressure. PPD was positively related to psychological distress among women, but not among men.

Conclusion: PPD and PGD are associated with physical and mental health indicators in different ways among North African women and men in France.

1 INTRODUCTION

Psychological stressors can contribute to adverse health outcomes and lead to health disparities. Compared to native people, immigrants are exposed to additional risks that can threaten their physical and mental health. Among these risks, perceived ethnic discrimination (i.e., the subjective experience of being treated unfairly relative to others, due to ethnic origin) has been clearly established as an important chronic life stressor (Williams & Mohammed, 2009). As such, it has been found to be linked to biological and mental health indicators among minorities, such as blood pressure (McClure et al., 2010) and psychological distress (Tummala-Narra, Alegria, & Chen, 2012).

However, there are several limitations of past work. First, the bulk of research has usually focused on African and Latino American minorities. European studies on migrant health are still scarce. France is the country with the longest history of immigration in Europe, and North Africans represent the first immigrant population (Borrel, 2006). Stigmatization and feelings of exclusion from the host society can frequently be noticed; North African migrants are often seen as “unassimilable” in nature, mainly because of the claim that their Islamic cultural background obstructs their integration in France (Fellag, 2014). We expect to find a positive relation, among this population, between perceived discrimination and mental and physical health indicators (i.e., psychological distress and blood pressure).

Second, little attention has been given to the role of gender in the relationship between discrimination and health. If female immigrants are less likely than their male counterparts to report discrimination (Kim & Noh, 2014), research suggests that women’s stronger vulnerability to discrimination could lead them to encounter a greater risk of health...
problems (Hahm, Ozonoff, Gaumond, & Sue, 2010). Consequently, a stronger positive association between perceived discrimination and health indicators (psychological distress and blood pressure) can be expected among North African women compared to men.

Third, in the literature on ethnic discrimination, an important distinction has been made between perceived personal discrimination (PPD; perceived unfair treatment against oneself because of one’s ethnic origin) and perceived group discrimination (PGD; perceived unfair treatment against one’s ethnic group as a whole). These two facets of discrimination often have different or even opposite effects on psychosocial variables (i.e., on self-esteem; Bourguignon, Seron, Yzerbyt, & Herman, 2006) and on behavioral problems (Brody et al., 2006). However, in the health domain, most studies have only assessed PPD (Pascoe & Smart Richman, 2009), while others have used measures in which PPD and PGD were not clearly separated (see Brown et al., 2000). Are the perception of oneself as a victim of discrimination and the perception of one’s group as a victim of discrimination related to physical and mental health in the same way, or do they represent two different ways by which discrimination affects health disorders? To answer this question, we focus on both kinds of discrimination.

In sum, this pilot study examined the relationships between PPD, PGD, and physical and mental health indicators (i.e., blood pressure and psychological distress), among a population rarely covered in this literature: North African men and women in France.

2 | METHODS

A sample of 82 North African immigrants (38 females and 44 males; 18–64 years of age; $M = 31.5$ years old; $SD = 10.9$) living in France was recruited to participate in this study via local contacts and associations.

All of them received a questionnaire including self-reported indicators and instructions on how to complete it. The survey was presented as a study on North Africans’ well-being in France. They were assured that their responses would be anonymous.

Age, sex, income level, educational level, and country of birth were the sociodemographic variables.

Perceived Personal Discrimination (PPD) was assessed with four items, modeled after those from a previously used PPD scale (Dambrun, 2007). They measured the perceived degree of being personally treated unfairly due to one’s ethnic background, and were rated on a 7-point Likert scale ($1 = $totally disagree, $7 = $totally agree) ($\alpha = .80$).

Perceived Group Discrimination (PGD) was assessed with four items, modeled after those from a previously used PGD scale (Dambrun, 2007). They measured on a 7-point Likert scale the perceived degree with which one’s ethnic group is treated unfairly due to their ethnic background ($\alpha = .80$).

The Psychological Distress scale (Dambrun, 2007) assessed the mental component of health with eight items ($\alpha = .88$). Participants were asked to rate on a 7-point scale $1 = $not at all; $7 = $very much) the extent to which they often feel happy (reversed coded), stressed, discouraged, depressed, nervous, anxious, unable to relax, and tense.

Blood Pressure measurements (Systolic and Diastolic BP) were collected using an oscillometric blood pressure monitor (Digitensio, BP 3 BEO-2), at two separate times, in a quiet room, before and after the questionnaire was filled out, and following standard practice (the two scores were averaged).

All analyses were conducted using SPSS 22. The level of significance was set at $P < .05$.

Multiple regression analyses were performed to test the respective effects of PPD and PGD, as well as their interaction effect and their interaction with gender, on health measures (blood pressure and psychological distress). Age, income, education level, and country of birth were entered as covariates.

3 | RESULTS

Descriptive analyses are reported in Table 1 as means and standard deviations for all variables included in the analyses. North African men and women significantly differed in systolic blood pressure ($P < .01$) and diastolic blood pressure ($P < .05$), with higher levels for men. Women had a significantly higher level of psychological distress than men ($P < .001$) and they perceived significantly less personal discrimination than men ($P < .05$).

Men and women perceived a higher level of ethnic discrimination directed at their group as a whole than at themselves as individual members ($t (81) = 11.28$, $P < .001$). This result replicated a robust phenomenon: the personal/group discrimination discrepancy (Taylor, Ruggiero, & Louis, 1996). This refers to the tendency of minority group members to report higher levels of discrimination against their group in general than against themselves personally as members of that group.

Table 2 presents the estimates (and SE) of the effects of PPD, PGD, and gender separately for each health dependent variable (blood pressure, psychological distress).

Multiple regression analyses indicated that higher levels of PGD predicted higher systolic and diastolic blood pressure ($P < 0.05$). PPD was not related to blood pressure, and gender did not emerge as a significant moderator of the level of perceived discrimination.

Psychological distress was marginally related to the interaction between PPD and gender ($P = .07$). While PPD was
TABLE 1  Anthropometric, health measures and perceived discrimination

<table>
<thead>
<tr>
<th>Measures</th>
<th>General Mean (n = 82)</th>
<th>Females (n = 38)</th>
<th>Males (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>31.36 (11.1)</td>
<td>31.57</td>
<td>31.19</td>
</tr>
<tr>
<td>Income evaluation</td>
<td>4.51 (1.7)</td>
<td>4.41</td>
<td>4.53</td>
</tr>
<tr>
<td>Education level</td>
<td>3.38 (1.3)</td>
<td>3.08</td>
<td>3.67*</td>
</tr>
<tr>
<td>Country of birth: France</td>
<td>43%</td>
<td>54%</td>
<td>34% +</td>
</tr>
<tr>
<td>SBP (mm Hg)</td>
<td>116.23 (13.5)</td>
<td>111.51</td>
<td>120.48**</td>
</tr>
<tr>
<td>DBP (mm Hg)</td>
<td>74.60 (8.1)</td>
<td>72.42</td>
<td>76.52*</td>
</tr>
<tr>
<td>Psychological distress scale</td>
<td>2.83 (1.3)</td>
<td>3.36</td>
<td>2.38***</td>
</tr>
<tr>
<td>Perceived personal discrimination scale (PPD)</td>
<td>3.07 (1.4)</td>
<td>2.68</td>
<td>3.41*</td>
</tr>
<tr>
<td>Perceived group discrimination scale (PGD)</td>
<td>4.65 (1.4)</td>
<td>4.43</td>
<td>4.81</td>
</tr>
</tbody>
</table>

Note: DBP, diastolic blood pressure; SBP, systolic blood pressure.
* Differences between females and males are statistically different at: * P < .05; ** P < .01; *** P < .001.

positively and significantly related to psychological distress among women (b = .43, SE = .16, P < .05), this was not the case among men (b = .09, SE = .13, P > .49). The PPD x PGD x Gender interaction on the scores of psychological distress was also marginally significant (P < .08). However, decomposition of this interaction did not reveal any significant effect.

4 | DISCUSSION

This pilot study revealed that, among North Africans in France, perceived personal discrimination and perceived group discrimination represent two different ways in which discrimination affects biological and mental health disorders. PGD is positively related to blood pressure but unrelated to psychological distress. In contrast, PPD is not associated with blood pressure, but is positively linked to the mental health measure (only among women). As such, assessing these two subjective forms of unfair treatment is required so as to understand the relationships between perceived discrimination and health.

Perceptions of unfair treatment toward one’s ethnic group, but not those toward oneself, may instigate a stress response that could be reflected in blood pressure. Future research should determine the underlying mechanisms that could explain such a difference in this biological indicator of health. As a suggestion, we can mention the personal/group discrimination discrepancy found here: participants reported higher PGD than PPD. An explanation of this phenomenon is that being a target of discrimination decreases feelings of control over one’s environment. Consequently, even if ethnic minorities acknowledge and report discrimination toward their group, they often minimize the personal prejudice that they experience in order to preserve some feelings of control (Ruggiero & Taylor, 1997). It is known that stressors that are uncontrollable are particularly pathogenic (Carter, 2007). This could partly explain why PGD, as a more uncontrollable stressor than PPD, is linked to increased blood pressure. In addition, perceived unfair collective treatment (PGD) can elicit group-based emotions like anger (e.g. Smith, 1993). This emotion is positively associated with both blood pressure (Gerin, Davidson, Christenfeld, Goyal, & Schwartz, 1994)

TABLE 2  Estimate and standard error (SE) of the effects of perceived personal discrimination, perceived group discrimination and gender on health measures

<table>
<thead>
<tr>
<th></th>
<th>PPD</th>
<th>PGD</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate (SE)</td>
<td>Estimate (SE)</td>
<td>Estimate (SE)</td>
</tr>
<tr>
<td>SBP (mm Hg)</td>
<td>–5.28 (4.6)</td>
<td>2.52* (1.0)</td>
<td>.79 (0.4)</td>
</tr>
<tr>
<td>DBP (mm Hg)</td>
<td>–3.34 (2.8)</td>
<td>–.92 (0.1)</td>
<td>.06 (0.1)</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>–.12 (1.5)</td>
<td>–.59 (0.9)</td>
<td>.08 (0.1)</td>
</tr>
<tr>
<td>Distress Scale</td>
<td>.52 (0.8)</td>
<td>.36 (0.5)</td>
<td>.15+ (0.1)</td>
</tr>
<tr>
<td>Controlling for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.29 (0.2)</td>
<td>.14 (0.1)</td>
<td>–.00 (0.0)</td>
</tr>
<tr>
<td>Income Evaluation</td>
<td>–.46 (0.9)</td>
<td>.18 (0.6)</td>
<td>–.01 (0.1)</td>
</tr>
<tr>
<td>Education level</td>
<td>–.19 (1.3)</td>
<td>–.55 (0.8)</td>
<td>–.14 (0.1)</td>
</tr>
<tr>
<td>Country of birth</td>
<td>.99 (1.8)</td>
<td>1.17 (1.1)</td>
<td>–.07 (0.2)</td>
</tr>
<tr>
<td>R²</td>
<td>0.28</td>
<td>0.24</td>
<td>0.31</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.16</td>
<td>0.11</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Note: DBP, diastolic blood pressure; PPD, perceived personal discrimination; PGD, perceived group discrimination; SBP, systolic blood pressure. All independent variables were centered at the grand mean.
* P < .10; ** P < .05; *** P < .01; **** P < .001.
PGD was not associated with psychological distress among North African participants. PPD was positively related to it, but only among women (despite their perceiving less personal discrimination than men). Few studies have examined gender differences in the harmful effects of ethnic discrimination on mental health, but these effects have usually been found to be stronger among women than men (Kim & Noh, 2014). Previous evidence also suggests that women have a lower threshold and show higher stress when experiencing ethnic discrimination against themselves (Hahm et al., 2010). This could partly explain this gender difference in the relationship between PPD and mental health. Thus, the association between perceived discrimination and psychological distress is very complex. Recent research showed that acculturation orientation and acculturative stress can mediate this relation (Tonsing, Tse, & Tonsing, 2016). These kinds of mediating sociocultural factors should, thus, be the subject of more in-depth investigation.

Several limitations must be considered from these preliminary findings. Since our design is correlational, it is difficult to provide strong claims about causality. Future studies using experimental designs would increase our confidence in the causal direction between both types of perceived discrimination and mental/physical health. Our modest sample size represents a second limitation. Further research should include a larger sample that prevents type II error.

Despite these limitations, these pilot data respond to the need to collect more detailed information on health in various ethnic groups (Toselli, Gualdi-Russo, Marzouk, Sundquist, & Sundquist, 2014; Toselli, Rinaldo, Caccialupi, & Gualdi-Russo, in press). Moreover, it supports the need for further investigation, so as to provide a deeper understanding of the biological and mental health risks among minorities.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

AUTHORS CONTRIBUTIONS

MD and MT designed the study and conducted the statistical analyses. MT collected the data.

FL wrote the first draft of the manuscript. All authors (FL, MD, MT, CM, ATS) edited for intellectual content and provided critical comments on the manuscript.

REFERENCES


