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# Psychological distress and perceived discrimination: a study of women from India

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## Abstract

The association between health and immigration has been widely discussed, but there continue to be inconsistencies in the findings. Coping strategies, perceptions of discrimination among them, may be a source of the inconsistencies. The present study explores the relationship between psychological distress and perceived discrimination among immigrant women from India living in Canada. Findings show that female Indian immigrants who were hesitant to deal forthrightly with personally directed discrimination exhibited higher blood pressure and psychological symptom scores, especially anger. An implied benefit of a more open coping style is considered. © 2002 Elsevier Science Ltd. All rights reserved.

*Keywords:* Discrimination; Distress; Immigration; Women; Blood pressure

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## 1. Introduction

The process of immigrating to a foreign country can be a distressing experience (Williams & Hunt, 1997; Noh & Avison, 1996). Immigrants have to learn to adjust to the new physical surroundings, as well as a new cultural environment (Lambert & Taylor, 1990). Individuals who move to an adopted country are faced with numerous practical challenges, such as finding housing and employment, and learning a new language. As part of their experiences in the adopted land, they also often face discrimination. The process of coping with discrimination has various physical and psychological health implications.

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The association between health and immigration has been widely discussed (Eppink, Mouthaan, & Janssen, 1992; Mehta, 1998). However, there are some inconsistencies in the findings. A number of studies suggest that some groups of immigrants are actually healthier than the host population, while other studies suggest that immigrant groups generally suffer poorer health (Park, Upshaw, & Koh, 1988; Williams & Hunt, 1997). Another apparent inconsistency is that some findings support the hypothesis that low assimilation is associated with psychopathology, while others support the inverse hypothesis that high assimilation is linked with psychopathology (Mehta, 1998). This disparity suggests a need for more research attention to clarify the relation between immigration and health.

One possible explanation for the contradictory findings relates to the experience of immigrants with discrimination, which may be particularly stressful because it involves encountering people with hostile attitudes towards oneself. Most immigrants experience at least some discrimination as a result of their minority status. In the United States and Canada, female immigrants from outside Western Europe are more likely to have these types of experiences because of their visible minority status. Visible immigrants are phenotypically different from the majority and more easily identified as foreign.

One of the moderating factors between psychological distress and the new environmental conditions of immigrants may be the extent to which immigrants actually perceive discrimination against themselves (Ruggiero & Taylor, 1995). The extent to which individual immigrants perceive discrimination may be part of a broader coping strategy associated with physical health variations. There is already a literature on the greater prevalence of hypertension in the African American community compared to whites, which seems to illustrate a link between perceived discrimination and health (Barnes, Schneider, Alexander, & Stagers 1997; DeForge, Stewart, DeVoe-Weston, Graham, & Charleston 1998).

When confronted with discrimination or any unpleasant situation, individuals may turn to a variety of strategies to try to cope better (Wright & Sweeney, 1989). One such strategy is that of denial, whereby individuals refuse to see themselves as a target of discrimination. While a denial strategy may bring some benefits, it may also be associated with negative consequences. Recent evidence suggests that individuals who deny actual problems may experience hypertension (Nyklicek, Vingerhoets, Van-Heck, & Van-Limpt, 1998).

In this study, we examined the associations among perceived discrimination in immigrants, psychological distress, and blood pressure. Our focus was on female Indian immigrants to Canada. The reason for selecting this group was primarily because they potentially suffer “triple discrimination”, by virtue of being women, immigrants, and members of a low status visible minority group (Ralston, 1997). This triage allows for the greater possibility of distress among these individuals. Using blood pressure as a measure of distress, we hypothesized a positive association between distress and a denial strategy for Indian immigrant women, who are at least on three bases likely targets of discrimination.

## 2. Methods

### 2.1. Participants

The participants in this study were 104 Indian immigrant women in Canada. They were recruited in the Montreal area with the aid of volunteers working for several South Asian cultural, service, and religious organizations. Media advertisement was also used as a method of recruitment.<sup>1</sup> The mean age of these women was 33.0 years ( $SD=7.7$ ) and their average length of residence in Canada was 8.9 years ( $SD=4.0$ ). The sample was not homogenous in terms of their education. Twenty-nine percent of the women had received the equivalent of a university education, 38% had the equivalent of junior college, and 33% had the equivalent of a high school or less education. Almost all the education of these women was completed in India. About one-half of the subjects (52%) worked outside of the home. All the participants were married. Most (91%) had at least one child with the mean number of children being 1.8 ( $SD=1.0$ ).

### 2.2. Procedure

Each woman was individually interviewed in her home by one of four female co-ethnic interviewers. It was possible to train two of the interviewers, who conducted 67 of the interviews, to measure blood pressure in accordance to the American Heart Association-recommended techniques (diastolic blood pressure = phase five Korotkoff sound).<sup>2</sup> The interview could be conducted in English, French, Hindi, or a mixture of these languages depending on the choice of the participant.<sup>3</sup> The questionnaire was developed and adapted through careful pilot testing and the final version of the questionnaire was reported as culturally appropriate by co-ethnic interviewers and participants. The questionnaire was verbally administered. To obtain unambiguous responses, the interviewer was encouraged to ask additional questions and probe if necessary. Nevertheless, the interviewers were unaware of the specific experimental hypotheses. The interview lasted about 45 min. At the end of

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<sup>1</sup> A brief announcement was placed in a local minority newspaper, asking for volunteers to participate in research. Only a small minority of participants were recruited through this route.

<sup>2</sup> Blood pressure is created by the contractions of the heart and is the pressure exerted by the blood against the walls of the arteries. Blood pressure is typically measured using an instrument consisting of an inflated rubber cuff connected to a pressure gauge. The cuff is placed around the upper part of the arm and inflated sufficiently to stop blood from entering the arm. Next, air is gradually released, and a stethoscope is placed on the arm to listen to the sound of blood rushing into the arm. The pressure indicated on the gauge when blood first rushes into the arm is called *systolic pressure*; it is at this point that the heart has contracted. When the heart relaxes, pressure on the blood decreases to a point when one can no longer hear blood rushing into the arteries or the sound suddenly drops, and this is referred to as *diastolic pressure*.

<sup>3</sup> The presentation of the participants with the choice of conducting the interview in Hindi helped to further communicate the fact that the research sample consisted of immigrants from South Asia and not Native Indians.

Table 1

Correlations between age, weight, blood pressure, and psychological symptoms

	Weight		DBP	ANG	ANX	DEP
Age	0.25*	0.17	0.24*	-0.19	-0.09	-0.06
Weight		0.42*	0.14	0.15	0.07	-0.13
SBP			0.41*	0.16	0.29*	-0.01
DBP				0.29*	0.12	0.09
ANG					0.32*	0.51*
ANX						0.55*

\* $p < 0.05$ .

most of the interviews, three measurements of systolic and diastolic blood pressure (SBP, DBP) were obtained in 1-min intervals.

The questionnaire was comprised of a broad range of questions regarding immigration. The present investigation focused on responses to questions concerning interpersonal interactions and their treatment in Canada. Typically, the subject was asked to respond in terms of a rating on the scale of 1–9, having legends such as “never” to “always” or “strongly disagree” to “strongly agree”. To assist the subject with answering the questions, a scale was placed in front of them. Abbreviated versions of the Symptom Distress Checklist (Derogatis, Lipman, Covi, & Rickels, 1970) and Billing and Moos’ (1981) Coping Scale were included in the questionnaire and their item content was consistent with the other items in the questionnaire. Psychological indices obtained from these items were anger (ANG), anxiety (ANX), and depression (DEP) from the Symptom Distress Checklist. The indices from the Coping Scale were the frequency of use of avoidant (AVOID), active-cognitive (ACOG), and active-behavioral (ABEH) coping strategies.

### 3. Results

The intercorrelations of age, weight, ANG, ANX, DEP, SBP, and DBP revealed several significant correlations ( $p < 0.05$ ). Particularly interesting in this study are the positive correlations between anger and diastolic blood pressure, as well as between anxiety and SBP (Table 1). Even when the correlations between ANG and DBP, and ANX and SBP were recalculated as partial correlations, controlling for age and weight, the original correlations remained unchanged.

The personal experience of discrimination was examined through the correlation in indices of negative interactions and symptoms. The response to the question, “Have you personally ever felt badly treated because of your race?”,<sup>4</sup> generated three significant correlations out of five possibilities. As seen in Table 2, the significant

<sup>4</sup>The term “race” rather than “ethnicity” was used in the questions because of the commonly used term “racism,” even though immigrants from India clearly are not a racial group.

Table 2

Correlations between indices of racial discrimination and symptoms

	SBP	DBP	ANG	ANX	DEP
Have you personally ever felt badly treated because of your race?	-0.27*	-0.26*	-0.32*	-0.16	-0.13
Do you think that Canadian society treats Indians badly because of their race?	-0.2	-0.14	-0.38*	-0.09	-0.14
In Canada, just being a member of the Indian group necessarily means being in unfavorable position?	0.03	-0.04	0.14	0.36*	0.2

\* $p < 0.05$ .

Table 3

Report of the personal experience of racial discrimination and symptoms, controlling for age and weight

	SBP	DBP	ANG	ANX	DEP
Have you personally ever felt badly treated because of your race?	-0.22*	-0.24*	-0.30*	-0.16	-0.13

\* $p < 0.05$ .

correlations were negative, suggesting that the denial or minimization of discrimination is associated with higher blood pressure and anger. These results are consistent with those obtained by Harburg and colleagues (Gentry, Chesney, Gary, Hall, & Harburg, 1982; Harburg, Blakelock, & Roeper, 1979; Harburg et al., 1973). As with the previously discussed relationships between ANG and DBP, and ANX and SBP, the significant correlations were not mediated by age or body weight. The recalculated partial correlations, controlling for weight and age, are displayed in Table 3.

The perceived extent and severity of discrimination against Indians in Canada, in general, was explored through the investigation of two questions. Table 2 displays the correlations between the questions and symptoms. The first question was, "Do you think Canadian society treats Indians badly because of their race?" which is a more personal question than the second question of, "In Canada, just being a member of the Indian group necessarily means being in an unfavorable position..." The results in Table 2 suggest that the strength of belief in discrimination against Indians, in general, is positively associated with psychological symptoms. However, Indian women who respond negatively to the more personal question concerning this apparently disturbing issue tend to exhibit higher anger and blood-pressure levels.

Correlations between the three indices of coping from Billing and Moos' (1981) scale and symptoms are presented in Table 4. The indices were frequency of use of AVOID, ACOG and ABEH coping strategies.

Significant positive correlations were found between AVOID score and anger, depression, anxiety, and diastolic blood pressure. Also a significant negative correlation between ACOG score and anger.

To examine the joint effects of response to the question "Have you personally ever felt badly treated because of your race?" and the use of AVOID coping strategies,

Table 4  
Correlations between Coping Scale variables and symptoms

	SBP	DBP	ANG	ANX	DEP
ACOG	-0.03	0.10	-0.3	0.03	-0.11
ABEH	-0.14	0.13	0.02	-0.02	-0.06
AVOID	-0.06	0.27*	0.25*	0.25*	0.25*

\* $p < 0.05$ .

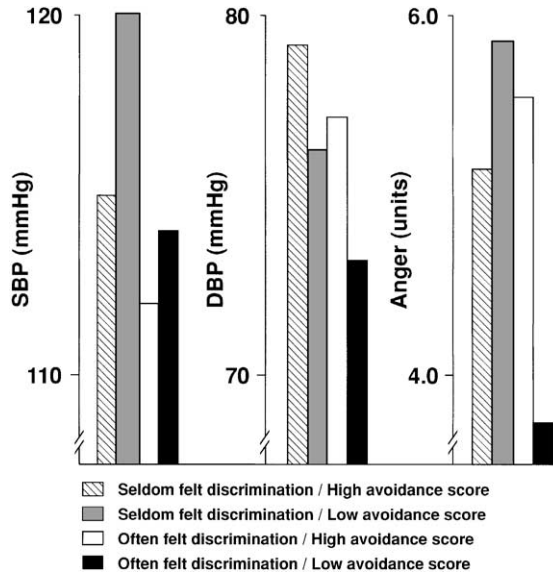


Fig. 1. Mean blood pressure and anger scores by report of discrimination and avoidance coping score.

subjects were divided into four groups. The groups were based on these two variables using “median split” procedures: (1) high AVOID score, low rating of having felt badly treated because of race; (2) low AVOID score, low rating of having felt badly treated because of race; (3) high AVOID score, high rating of having felt badly treated because of race; and (4) low AVOID score, high rating of having felt badly treated because of race. Five 2 (high vs. low AVOID score) times 2 (high vs. low report of discrimination) analyses of variance (ANOVAs), one for each of the five symptoms, were conducted. Three of the ANOVAs yielded significant effects. A significant main effect of report of the personal experience of racism on SBP was obtained ( $F(1, 63) = 4.70$ ). The DBP ANOVA yielded a significant main effect of AVOID score ( $F(1, 63) = 4.50$ ). Finally, the ANG ANOVA yielded a significant main effect of report of the personal experience of racism ( $F(1, 63) = 6.50$ ), as well as a significant interaction effect ( $F(1, 63) = 6.44$ ). As seen in Fig. 1, these results were consistent with the previously discussed correlational analyses.

The significant SBP and ANG main effects were related to generally higher values among women reporting that they had seldom felt badly treated because of their race. The significant DBP main effect was related to generally higher values among women with high AVOID scores. More interestingly, as suggested by the means displayed in Fig. 1 and the significant interaction effect, ANG scores were the lowest among the most “forthright” women in the sample, that is, those with both low AVOID scores who also stated that they felt badly treated because of their race. The mean ANG score of this group was significantly lower than those scores of the other three groups (group 1 vs. group 4,  $t(36) = 2.19$ ; group 2 vs. group 4,  $t(40) = 3.44$ ; group 3 vs. group 4,  $t(40) = 2.90$ ), which did not differ significantly from one another. Although the DBP ANOVA interaction effect was not significant, it is interesting to note that the largest difference in DBP was between the most “forthright” group (i.e., group 4) and the most “avoidant” group (i.e., group 1,  $t(36) = 2.52$ ).

#### **4. Discussion**

The objective of this study was to explore the relationship between distress and perceived discrimination. The correlation between health and stress has proven to be very complex. In our study, not only does one have to consider the extent of discrimination, but also one has to contemplate its effect on subjective attributional mechanisms. In light of the inconsistencies in the literature, this study tried to uncover new insights into the immigrant’s experience.

Our major finding was the discovered relationship between the immigrant’s coping style and blood pressure. More specifically, active expressiveness tended to less likely be associated with high blood pressure. Female Indian immigrants, who were hesitant to acknowledge and deal forthrightly with personally directed racial discrimination, exhibited higher blood pressure and psychological symptom scores. Our interpretation is that individuals who were uncomfortable dealing with hostile attitudes and behavior may be doubly stressed by the original interaction, as well as their concerns about expressing their negative reactions. This trend will be influenced and sometimes made stronger by the particular characteristics of the groups involved: immigrants from India are perceived as being part of the English-speaking community in Quebec Province, while the majority group in Quebec is French speaking. “Speaking out” could be doubly difficult for English-speaking ethnic minorities in Quebec, because they are perceived by at least some French speakers as belonging to the “wrong” language group.

It should be noted that in the present study, the lowest anger scores were exhibited by the most-avoidant, “anger-out” women. On the other hand, Indian women who respond negatively to the direct and personal questions concerning discrimination tended to exhibit higher anger levels and in turn higher blood pressure levels. These high anger scores are not inconsistent with the picture of an avoidant, somewhat resentful immigrant. As well, anger seems to be the most appropriate response of many Indian women when reporting their experiences.

Besides psychological symptoms, the mechanism in which individuals cope has a profound impact on the health of the individual (Wright & Sweeny, 1989). When comparing the frequency of the use of AVOID, ACOG and ABEH coping strategies, the only one with a significant correlation was the AVOID coping strategy. One possibility is that the extent of the immigrant's perceived discrimination influenced the effectiveness of this coping strategy (Ruggiero & Taylor, 1995). The immigrants, who expressed that they rarely experienced discrimination, were internally repressing these negative encounters. In concert with previous findings (Ralston, 1997) concerning the prevalence of discrimination against South Asians in Canada, our results suggest that women who stated that they had seldom felt badly treated because of their race were, to some degree, attempting to deny or minimize the impact of discrimination on their lives. It is possible that by avoiding the situation, greater physical health problems, namely higher blood pressure, arose as a result.

Each individual experiences discrimination differently. Since immigrants are more likely to experience stress as a result of discrimination, it is useful in examining their situation to see if a correlation between stress and health exists. However, not all immigrants suffer from discrimination or admit to a negative experience. In addition, using coping mechanisms to deal with stressful events is not limited solely to immigrants. In everyday life, people employ mechanisms to deal with anxiety and tension. For example, family or occupational stressors could demand the utilization of certain techniques in order to confront the situation at hand (James, LaCroix, Kleinbaum, & Strogatz, 1984). These stressors, like discrimination, may have an effect on the individual's health (Peter et al., 1998).

Not every Indian immigrant experiences problems. However, it is interesting to speculate how many of these women have actually had some uncomfortable experiences and consider the possibility that the effects of such life stressors are moderated at least in part by coping style. These results are reminiscent of some in the epidemiological literature concerning blood pressure levels in United States blacks (Barnes et al., 1997; DeForge et al., 1998). In a number of studies, Harburg and colleagues (1973, 1979) have found an open, non-avoidant, reflective style of coping with racial discrimination to be associated with lower blood pressure levels. One explanation is that anger and other emotions are bottled up and as a result continue to influence peripheral physiological activity. It is possible that the avoidant individual simply has a comparatively poor manner of solving interpersonal problems, which results in higher blood pressure.

The results of our analyses suggest that reports of stressful life experiences, especially those related to the very personal and disturbing topic of racial discrimination, seem to be related to both blood pressure and psychological symptoms, especially anger. However, the results also indicate that the nature of one's coping style can play a significant moderating role in determining the effects of life stress. Although we did not explore all possibilities, our results suggest that a reflective, non-avoidant coping style is perhaps one of the more effective ways of dealing with some of the pressures of immigration. The use of immigrants as research subjects provides one means of addressing a number of interesting questions concerning the effects of life stress.



At the same time further research is needed to explore the coping styles of particular immigrant groups. Our sample consisted of first-generation immigrant women from India, and the possibility exists that as a group they are not socialized to be outspoken and expressive of their feelings compared to some other groups of women in North America. It would be particularly interesting to examine the relationship between coping styles and psychological distress among the members of a minority group that is generally outspoken and expressive.

Finally, immigrants to Canada undergo very strict screening for health problems, and those whose blood pressures are indicative of poor health are typically screened out. This restricted blood pressure range might attenuate the correlation with psychological distress. These are conservative biases and suggest that the correlations reported in this study are particularly interesting.

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