3-2018

Consequences of Attributions for Unfair Healthcare Treatment among Culturally Diverse Patients

Nathalie Serna

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Consequences of Attributions for Unfair Healthcare Treatment among Culturally Diverse Patients

by

Nathalie Serna

A Thesis submitted in partial satisfaction of the requirements for the degree
Doctor of Philosophy in Clinical Psychology

March 2018
Each person whose signature appears below certifies that this thesis in his/her opinion is adequate, in scope and quality, as a thesis for the degree Doctor of Philosophy.

________________________, Chairperson
Hector M. Betancourt, Professor of Psychology

________________________
Patricia M. Flynn, Assistant Clinical Research Professor

________________________
Sylvia M. Herbozo, Associate Professor of Psychology
ACKNOWLEDGEMENTS

First and foremost, I would like to thank my thesis committee. My deepest gratitude to Dr. Betancourt who shared his expertise and knowledge about culture and psychology. I am grateful for his ongoing mentorship, support, and understanding. I would also like to express my appreciation for Dr. Flynn, for her attention to detail, advice, and direction. Furthermore, I would like to thank Dr. Herbozo for her support, feedback, and expansive knowledge. I would also like to thank my fellow lab mates for their support, specifically Sonika Ung and Esmeralda Nuñez for their guidance and assistance with statistical analyses.

To my family and friends, your love and support through this long endeavor have been my motivation to overcome challenges and find the strength to continue to the path of reaching my goals. Specifically, I would like to thank my husband, parents, and siblings for having unending faith in my capacity to reach my goals.
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ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
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<tr>
<td>SES</td>
<td>Socioeconomic Status</td>
</tr>
<tr>
<td>T2D</td>
<td>Type 2 Diabetes</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>ML</td>
<td>Maximum Likelihood</td>
</tr>
<tr>
<td>CFI</td>
<td>Comparative Fit Index</td>
</tr>
<tr>
<td>SRMR</td>
<td>Standardized Root Mean Square Residual</td>
</tr>
<tr>
<td>RMSEA</td>
<td>Root Mean Square Error of Approximation</td>
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ABSTRACT OF THE THESIS

Consequences of Attributions for Unfair Healthcare Treatment among Culturally Diverse Patients

by

Nathalie Serna

Doctor of Philosophy, Graduate Program in Clinical Psychology
Loma Linda University, March 2018
Dr. Hector Betancourt, Chairperson

Ethnic minority and lower SES populations report less positive healthcare encounters and worse health outcomes as compared to higher SES and mainstream populations. In Chile, the prevalence of type 2 diabetes (T2D) is one of the highest in South America and among the indigenous Mapuche population it has quadrupled over the last decade (Perez-Bravo et al., 2001). Research suggests that Mapuches have been historically discriminated in everyday life as well as in healthcare (Alarcon, et al., 2004). Based on Weiner’s attribution theory of motivation and emotion (1986, 1995, 2006) and guided by Betancourt’s integrative model of culture, psychological factors, and health behavior (Betancourt & Flynn, 2009) the aim of this study was to examine the causal attributions for healthcare mistreatment and their diabetes-related psychological and behavioral consequences. Participants included 394 Mapuche and mainstream Chilean patients with diabetes recruited from health clinics in Southern Chile. Multi-group structural equation modeling confirmed the expected relationships between perceived unfair health care treatment, attributions about the unfair treatment, and diabetes-related psychological and behavioral consequences. Findings are discussed in terms of
interventions that can be designed to address unfair treatment and its impact on healthcare inequality among socially disadvantaged groups.
CHAPTER ONE

INTRODUCTION

The Epidemic of Type 2 Diabetes

Diabetes was previously considered to only affect affluent populations that engaged in overindulgent lifestyles; however, it is now most prevalent among minority or disadvantaged communities (King & Rewers, 1991). Recognizing the disproportionate impact of chronic illnesses among underserved populations, further research is needed regarding the obstacles that impede health care services among culturally diverse groups. Type 2 diabetes (T2D) is a global epidemic that currently affects 415 million people worldwide, with a prevalence rate of 8.8% (International Diabetes Federation, 2015). By 2040 this number is expected to increase by 227 million, with a prevalence rate of 10.4%.

In prior years, prevalence rates of T2D in South America were minimal in comparison to the United States. Specifically, studies show that the prevalence rates of T2D in the Mapuche population, the largest indigenous population in Chile, have rapidly increased from less than a 1% overall prevalence rate in 1985 (King & Rewers, 1991) to 4.1% in 2001 (Barcelo, Rajpathak, 2001; Perez-Bravo et al., 2001). Most recently, Carrasco et al. (2004) estimated a significant increased prevalence rate of 8.2% among the Mapuche population, with higher prevalence rates for Mapuche females than for Mapuche males (Barcelo & Rajpathak, 2001; Perez-Bravo et al., 2001). Diabetes rates are expected to continue to increase in the next 10 years in Latin America by 38%, although the entire population is only expected to increase by 14% (Aschner, 2002).

Despite reductions in overall poverty levels in Chile between 1987-2003 (Contreras, Larrañaga, Litchfield, & Valdés, 2001), Mapuches living in rural and urban
areas in Chile are disproportionately affected by high poverty levels and scarce opportunities for employment (Agostini, Brown, & Roman, 2008; Barandiarán, 2012; Valenzuela, 2003; World Bank, 2002). Indigenous households in Chile reportedly earn less than half of the income of non-indigenous households, and 65% of indigenous people rank in the lowest two quartiles of the income distribution (World Bank, 2002). Mapuche indigenous people are disproportionately affected by poverty levels across the indigenous groups found in Chile (Agostini, Brown, & Roman, 2008). These trends highlight the need to better understand the connection between socioeconomic status (SES) rates and a growing population of T2D.

In addition to experiencing socioeconomic disparities, Mapuche patients also report that they have experienced unfair treatment in the health care system, due to a lack of knowledge of their culture and language by health care providers (Alarcón, Astudillo, Barrios, & Rivas, 2004). Specifically, Mapuches report disagreements with health care providers who ignore their cultural beliefs (Alarcón, Astudillo, Barrios, & Rivas, 2004). These negative experiences may deter Mapuche patients from seeking preventive services, health care in general, and may decrease their motivation to adhere to the prescribed medical regimen. Thus, resulting in later diagnoses, more complicated risk-factor profiles, and health outcomes such as neuropathy, kidney disease, heart disease, stroke, limb amputations, and death (Centers for Disease Control, 2014; Hutchinson & Shin, 2014; McKinlay, Piccolo, & Marceau, 2013).

Given that T2D is a controllable disease that can be treated in a variety of ways, including the use of medication, dietary regimens, and exercise, it is necessary to examine the impact of the patient–provider interaction on the diabetes-related
consequences on patients with T2D in order to potentially prevent dire health consequences (Barcelo, Rajpathak, 2001; WHO, 2015). Poor health outcomes related to T2D can be treated with lifestyle changes, oral medications, and insulin (American Diabetes Association, 2009; WHO, 2015). Furthermore, patient recommendations also include working with their health care team to make a plan that may help them obtain and maintain optimal health, thus highlighting the necessity for effective patient-provider interactions.

Patient-provider interactions may affect a patient’s motivation to adhere to the prescribed medical treatment and it may be a potential source of disparities (Blanchard & Lurie, 2004). Negative patient-provider interactions have implications for preventive healthcare and overall health outcomes (Blendon et al., 2008). Nonetheless, patients from minority groups report disproportionately higher levels of negative patient-provider interactions, including unfair treatment, long waiting times, poor communication, and a lack of respect by health care providers (Amador, Flynn, & Betancourt, 2015; Blanchard & Lurie, 2004). Patients who report negative interactions with their providers are less likely to receive optimal screenings and are less likely to follow medical advice or delay care (Blanchard & Lurie, 2004; Blendon et al., 2008; Federman et al., 2001; Ryan, Gee, & Griffith, 2008). Thus, negative experiences with healthcare providers may ultimately jeopardize the healthcare of patients (Blanchard & Lurie, 2004).

The Present Study

Based on Weiner's theory of motivation and emotion and guided by Betancourt’s integrative model of culture and behavior adapted for the study of health behavior
(Betancourt & Flynn, 2009), the aim of the current study was to examine the consequences of perceived unfair treatment that are relevant to continuity of care, and how these consequences may be influenced by the attributions patients make for the unfair treatment among Mapuche and mainstream Chileans with T2D. Specifically, the influence of attributions of stability, controllability, and intentionality for unfair treatment on psychological and behavioral factors relevant to diabetes care was investigated. Understanding the attributions that patients make about negative encounters and how those attributions influence health outcomes may inform training interventions and may help health care professionals improve the outcome of clinical encounters that impact diabetes care. Using attribution theory as a foundation, findings may assist healthcare providers address previous instances of perceived unfair treatment where patients may have drawn the conclusion that the perceived unfair treatment was committed intentionally, within the providers control, and/or is likely to occur again and remain stable over time. In addition, health care providers may be better equipped to alter patient-professional relations to create a new experience for patients, particularly those from disadvantaged groups.

Perceived Unfair Treatment

Research shows that treatment noncompliance is much higher among patients with chronic conditions who must comply with regimens involving lifestyle changes in diet and exercise (Becker, 1980; Stone, 1979). In addition to behaviorally-based barriers to treatment adherence, patient’s decision to discontinue care is often associated with physicians who do not spend sufficient time with patients and do not provide
understandable explanations about their treatment (Federman et al., 2000). Consequently, since diabetes is a chronic illness that requires routine medical visits and preventive services to ensure optimal outcomes, negative experiences with health care providers may affect diabetes care and outcomes of patients in need of medical services (Blendon et al., 2008; Kaplan & Simon, 1990).

Perceived unfair treatment, is defined here as a lack of respect, poor communication, and unprofessional conduct on the part of the health care professional toward the patient. As such, perceived unfair treatment, has been found to negatively impact continuity of care (Betancourt, Flynn, & Ormseth, 2011). Individuals who report being treated unfairly in medical encounters are less likely to receive optimal care in the form of preventive care, routine physical care, and secondary care for diabetes (Blanchard &Lurie, 2004; Trivedi & Ayanian, 2006). These individuals are also less likely to follow medical advice and more likely to delay medical care when needed.

Research has also shown that ethnic minority patients or patients with less than a high school education ask fewer questions during their medical visits (Kaplan, Gandek, Greenfield, Rogers & Ware, 1995; Cooper-Patrick et al., 1999), leading them to be inaccurately informed about their condition and treatment options (Schillinger, Bindman, Wang, Stewart & Piette, 2004). Ethnic minority patients are also more likely to report that their doctors do not listen to them and fail to explain things in a way that could be easily understood, thus patients feel uncomfortable asking questions during their medical visit (Barr & Wanat, 2005; Blendon et al., 2008; Jagosh, Boudreau, Steniert, Macdonald, & Ingram, 2011).
The attributions patients make about the actions of providers may reveal what disrupts the patient-provider relationship and therefore highlight necessary changes to improve the relationship. Blanchard and Lurie (2004) found that minority patients reported being treated disrespectfully by their physician, which they attributed to their race and language. The participants reported that they believe that they would have been treated differently had they belonged to a different race. Trivedi and Ayanian (2006) found that participants who reported discrimination attributed to their type of insurance, race/ethnicity, or income were less likely to follow through with medical tests and were less likely to return to future medical appointments. Ryan, Gee and Griffith (2008) also found that participants, who reported that physicians treated them unfairly, were less likely to return for future medical appointments. However, research shows that improving the patient–provider interaction may increase patient adherence with medical care (Kaplan & Simon, 1990).

**Properties of the Causal Attributions for Unfair Treatment**

The causal attributions individuals make about their interactions with others affect their emotions and subsequent behavior. Research investigating the negative effect of healthcare mistreatment on continuity of care has demonstrated that when causal attributions for mistreatment are considered, the variance on continuity of care accounted for is over 100% more than what is accounted for by mistreatment alone for Anglo women, and over 200% more for Latino women (Flynn et al., 2015). These findings are consistent with Weiner’s attribution theory of motivation and emotion applied to interpersonal relations (Weiner, 1995, 2006). According to Weiner’s Theory of
Motivation and Emotion (Weiner, 1986, 1995, 2006) individuals gather information about each other to determine the attributions of their actions. Weiner’s theory suggests that the properties of causal attributions such as controllability and intentionality generate feelings of anger and sympathy that in turn affect social conduct toward others (Weiner, 1993, 1995). Attributions of controllability refer to an individual’s ability to inhibit the actions that caused a given event, and are used to determine responsibility (Weiner, 1993, 1995). Lazarus found that judgments of responsibility for such actions are likely to result in negative emotions or avoidance (as cited in Flynn et al., 2015).

Attributions of intentionality refer to the cognitive appraisal that an individual engaged in a behavior with foresight and knowledge of the consequences (Weiner, 1995). Intentionality has been found to be a predictor of negative emotions, and behavioral outcomes (Betancourt, 2004; Betancourt & Blair, 1992). Attributions of stability refer to whether the behavior will change and tends to influence outcomes and behaviors consistently over time and across situations (Weiner, 1995). That is, stability of attributions affects an individual’s expectations of future behavior (Weiner, Nierenberg, & Goldstein, 1976). When an individual attributes a negative behavior or outcome to unstable causes, the expectancy that the event will happen again is lower than if the same event is attributed to stable causes, which is associated with the likelihood that the individual will persist or try again. For example, if a patient perceives that he/she was treated unfairly and attributes the unfair treatment to stable causes, the patient will most likely expect to be treated unfairly in future encounters, which may negatively impact his/her motivation to return for future appointments.
In fact, causal attributions of intentionality and controllability for healthcare mistreatment were related to lower continuity of care (Northington, 2012). Specifically, women who made more controllable and intentional attributions for mistreatment had lower levels of continuity of cancer-related continuity of care. The current study investigated consequences of unfair healthcare treatment that impact continuity of care and the extent to which those consequences may be influenced by the stability, controllability, and intentionality of the attributions patients make for mistreatment.

Betancourt’s Integrative Model of Culture, Psychological Processes, and Health Behavior

This study was guided by Betancourt’s Integrative Model of Culture, Psychological Processes, and Health Behavior (Figure 1). Betancourt’s integrative model provides a theoretical framework to investigate health behavior among multicultural groups. According to this model socially shared cultural factors, such as fatalism or beliefs about healthcare professionals may influence the attributions people make for life events, that may in turn influence their emotions and related future behavior (Betancourt et al., 2011). Therefore, the aim of this study was to examine the impact of perceived unfair treatment and attributions for the unfair treatment on the continuity of care-related behavioral and psychological consequences.
From distal... to more proximal determinants of behavior

Figure 1. Betancourt’s integrative model of culture, psychological factors and health behavior (Betancourt & Flynn, 2009).
Hypotheses

It was expected that Mapuches and low SES patients would report more perceived unfair treatment than mainstream and higher SES Chileans. It was also expected that the psychological and behavioral consequences of the negative health care encounter would be a function of both perceptions of unfair treatment and the attributions made for the unfair treatment. The following are the specific hypotheses:

Hypothesis 1: Mapuche patients will report more perceived unfair treatment than mainstream Chileans and higher SES patients.

Hypothesis 2: Perceived unfair treatment is expected to increase negative diabetes-related behavioral and psychological consequences. Specifically, patients who perceive that the health care provider treated them unfairly will report more negative diabetes-related behavioral and psychological consequences.

Hypothesis 3: Perceived attributions of controllability, intentionality and stability for the unfair treatment will be related to more negative diabetes-related behavioral and psychological consequences. Specifically, patients who make more intentional, controllable, and stable attributions will be more likely to postpone or delay their next appointment, will not see or would prefer not to be seen again by that doctor, will feel less inclined to complete lab tests, report less confidence in their treatment, and they will experience more stress or anxiety about having to go to their next appointment.

Finally, it was hypothesized that a test of a structural equation model including the hypothesized and theory based relations among study variables would result in a good fit of the data.
Figure 2. Proposed structural equation model.
CHAPTER TWO

METHODS

Participants and Procedures

The data for this study was part of a larger research project on cultural and psychological factors influencing adherence to treatment in patients with T2D. Multistage stratified sampling was used to recruit participants from socio-demographically diverse groups (e.g. SES).

A total of 394 Chilean individuals with T2D (Mapuche; n = 146, mainstream; n = 254) were recruited between September 2011 and February 2012. Participants were recruited through healthcare personnel and flyers posted and distributed at public and private healthcare centers in Temuco, Chile. Participants were instructed to contact the study research office if they were interested in participating in the study. Potential participants were provided with information about the study and were screened to ensure they met the inclusion criteria. Inclusion criteria included being a minimum of 18 years of age, diagnosed with T2D for at least one year, and non-insulin dependence.

If interested, individuals were informed that they would be required to complete a questionnaire that would take about 30-45 minutes. They were also informed that they would receive a free HbA\textsubscript{1c} test and be compensated for their time with 5,000 Chilean pesos (approximately $10 USD). Those interested in participating in the study that met the inclusion criteria were scheduled for data collection. Individuals residing in urban areas reported to a research facility at the Universidad de la Frontera, School of Medicine. Those residing in rural areas, reported to the office space provided by the local health clinics.
Participants completed the questionnaires in groups of 4-6 individuals. Two research assistants were present during data collection to review the informed consent, reiterate the purpose of the study and answer questions if necessary. If a participant was unable to read, one the questionnaire was administered in a private setting. Upon completion of the questionnaire, height, weight, and HbA$_{1c}$ levels were taken. Participants were then given their HbA$_{1c}$ levels and 5,000 Chilean pesos.

Measures

Socioeconomic Status (SES)

SES was measured using self-report measures of income and education. Participants reported their income based on six income categories. Education was reported in the total number of years of education completed.

Perceived Unfair Healthcare Treatment (Cumulative)

The 24-item Perceptions of Interpersonal Health Care Mistreatment Scale (Flynn, et al., 2015), which reflects specific instances of negative interpersonal health care encounters (e.g. lack of respect, privacy concerns, communication issues) was adapted for the present study. Prior research with Latino and Anglo women indicates the scale has good internal reliability (Latina alpha = .84, Anglo alpha = .89). Participants were presented with seven items and asked to check a box if they had ever experienced the mistreatment incident with a doctor (see Appendix A; i.e. the doctor did not let me ask questions or did not reply to the ones I asked). A cumulative exposure to perceived unfair treatment score was derived by summing the total instances of unfair treatment endorsed.
by the participants. The reliability alpha for this scale was .73 and .81 for the Mapuche and mainstream sample respectively. Measurement equivalence for the two ethnic groups was demonstrated.

**Attributions for Unfair Treatment**

Participants were presented with 3 items and asked to think about the unfair treatment incident that bothered them the most and indicate the reasons why they thought the health professional treated them unfairly. Based on this causal attribution, participants were asked to indicate the extent to which the cause or reason was stable, controllable by the doctor and the extent to which the behavior of the doctor was intentional. These items were adapted from Betancourt’s Social Attribution and Emotion Scale (Northington, 2012). The items read “the cause or reason the doctor did this is stable, permanent and will remain that way; it was up to the doctor whether he/she treated you that way or not; the way the doctor treated you was intentional.” Item responses were on a Likert scale that ranged from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicated higher levels of attributions of stability, controllability, and intentionality. The reliability for Mapuche was .62 and .48 for mainstream participants. Measurement equivalence for the two ethnic groups was not demonstrated for the relationship between attributions of stability and unfair treatment. That is, the effect of mistreatment on attributions of stability was not equal across ethnic groups.

**Continuity of Care-Related Consequences**

This measure was developed from the bottom-up approach. It includes 5 items
that emerged from an exploratory factor analysis of items based on responses to a semi-structured qualitative interview conducted in a preliminary study concerning a person’s psychological distress and behavioral response to unfair treatment (see Appendix B; e.g. as a result of what happened to you, you postponed or delayed going to your next appointment.) A sample item of psychological consequences includes, “as a result of what happened to you, you were stressed or more nervous about having to go to your next appointment.” Item responses were on a Likert scale that ranged from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate less treatment adherence (behavioral consequences) and higher levels of psychological distress (psychological consequences). Exploratory factor analysis revealed a two-factor solution, and one item was dropped from the behavioral consequences scale. The reliability alphas for both the behavioral and psychological consequences of perceived unfair treatment factors were good .75 (behavioral), .72 (psychological) for the Mapuche sample and .75 (behavioral), .75 (psychological) for the mainstream sample. Measurement equivalence for the two ethnic groups was demonstrated.
CHAPTER THREE

RESULTS

Preliminary Analyses

Of the total 394 participants, 227 (Mapuche, n = 84; mainstream Chilean, n = 143) reported at least one instance of unfair treatment in a health care setting. An examination of the demographic variables of the sample revealed equivalent distributions across ethnicity for age, education, and income (Table 1). Nonetheless, Mapuches reported fewer years of education compared to mainstream Chileans, t(225) = -8.363, p = .00. Additionally, as expected, Mapuches were represented at lower levels of monthly income (78.3% at $0-$150,00) as compared to mainstream Chileans (37.8%). The expectation-maximization algorithm was used to impute values for 21 cases (4 Mapuches, 17 mainstream Chileans). Table 2 includes the frequencies, means, standard deviations, and correlations for the study variables.

Table 1. Sample Demographics Based on Ethnicity

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Perceived unfair treatment</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mapuche (Age M (SD))</td>
<td>Mainstream Chilean (Age M (SD))</td>
<td>Mapuche (Education M (SD))</td>
</tr>
<tr>
<td></td>
<td>58.35 (12.42)</td>
<td>55.64 (14.41)</td>
<td>5.44 (4.23)</td>
</tr>
<tr>
<td>Income (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$0-$150,00</td>
<td>78.3</td>
<td>37.8</td>
<td>80.6</td>
</tr>
<tr>
<td>$151,000-$250,000</td>
<td>13.3</td>
<td>30.1</td>
<td>9.7</td>
</tr>
<tr>
<td>$251,000-$500,000</td>
<td>7.2</td>
<td>23.8</td>
<td>9.7</td>
</tr>
<tr>
<td>$501,000-$1,000,000</td>
<td>1.2</td>
<td>7.7</td>
<td>-</td>
</tr>
<tr>
<td>$1,000,001-$1,500,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>More than $1,500,000</td>
<td>0</td>
<td>0.7</td>
<td>-</td>
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</table>
Table 2. Correlations, Means, and Standard Deviations as a Function of Ethnicity

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
<td>1. SES</td>
<td>-</td>
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<tr>
<td>2. Perceived unfair treatment (cumulative)</td>
<td>-.053  (.025)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Attributions of Controllability</td>
<td>.009  (.047)</td>
<td>.251* (.123)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Attributions of Intentionality</td>
<td>-.198  (-.126)</td>
<td>.188 (.199*)</td>
<td>.385** (.291**)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Attributions of stability</td>
<td>-.184  (.065)</td>
<td>.228* (.052)</td>
<td>.253* (.108)</td>
<td>.414** (.313**)</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Diabetes-related behavioral consequences</td>
<td>-.287** (-.160)</td>
<td>.160 (.263**)</td>
<td>.310** (.092)</td>
<td>.485** (.334**)</td>
<td>.231* (.229**)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>7. Diabetes-related psychological consequences</td>
<td>-.345** (-.306***)</td>
<td>.261* (.285**)</td>
<td>.381** (.145)</td>
<td>.496** (.336**)</td>
<td>.219* (.081)</td>
<td>.783** (.688**)</td>
<td>-</td>
</tr>
<tr>
<td>M</td>
<td>1.33 (2.04)</td>
<td>3.60 (3.61)</td>
<td>5.15 (4.50)</td>
<td>4.28 (3.06)</td>
<td>4.42 (3.96)</td>
<td>14.41 (10.77)</td>
<td>10.16 (7.31)</td>
</tr>
<tr>
<td>SD</td>
<td>.668 (1.02)</td>
<td>2.09 (2.34)</td>
<td>2.30 (2.27)</td>
<td>2.59 (2.08)</td>
<td>2.39 (2.28)</td>
<td>6.17 (6.17)</td>
<td>4.29 (4.47)</td>
</tr>
</tbody>
</table>

*Note. Intercorrelation, M, and SD, for Mapuches (n = 84) are outside the parentheses and values in parentheses are mainstream Chilean participants (n = 143).
*p < .05. **p < .01. ***p < .001.*
**Hypothesis 1**

The first hypothesis, indicating that Mapuche patients will report more perceived unfair treatment in health encounters than mainstream Chileans and higher SES patients, was not confirmed. A test of this hypothesis, using a two-way ANOVA indicated that there were no significant differences in perceptions of unfair treatment in health encounters among ethnicities $p > .05$. Furthermore, there were no significant differences in perceptions of unfair treatment in health encounters across SES regardless of ethnicity $p > .05$.

**Structural Equation Modeling**

Bentler’s structural equation modeling program (EQS 6.1; Bentler, 2005) with the maximum likelihood (ML) method of estimation was employed to test the study hypothesis concerning the direct and/or indirect influence of perceptions of unfair treatment on consequences of diabetes care through causal attributions about unfair treatment. Models involving the hypothesized relations as well as the relations based on theory were run separately for Mapuche and mainstream Chilean participants. The data were screened revealing no outliers and no violation of multivariate normality for either ethnic group. Adequacy of fit for each ethnic group was examined using the non-significant $\chi^2$ goodness-of-fit statistic, a ratio less than 2.0 for the $\chi^2/df$ (Tabachnick & Fidell, 2012), a Comparative Fit Index (CFI) of .95 or greater (Bentler, 2005), a Standardized Root Mean Square Residual (SRMR) of less than .08 (Hu & Bentler, 1998), and a Root Mean Square Error of Approximation (RMSEA) of less than .08 (Browne & Cudeck, 1993) with a 90% confidence interval (Kline, 2005).
The data for behavioral and psychological consequences of unfair treatment were analyzed independently, since they were impacted differently by the study variables. The first set of models examined the direct and indirect influence of perceptions of unfair treatment on behavioral consequences through the properties of causal attributions of unfair treatment. The models demonstrated excellent fit and accounted for 42.9% of the variance for Mapuches \([\text{CFI} = 1.00, \chi^2(17, n = 84) = 8.89, p = .94, \chi^2/df = .52, \text{SRMR} = .029, \text{RMSEA} = .000, 90\% \text{ CI (.000, .017)}]\) and 27.7% for mainstream Chileans \([\text{CFI} = 1.00, \chi^2(17, n = 143) = 13.93, p = .67, \chi^2/df = .82, \text{SRMR} = .030 \text{ RMSEA} = .000, 90\% \text{ CI (.000, .061)}]\).

**Figure 3.** Final behavioral model with standardized path coefficients for Mapuche and (Mainstream) patients.

The hypothesis predicting that the behavioral consequences of the negative health care encounter would be a function of perceptions of unfair treatment and the attributions made for the unfair treatment was confirmed for both ethnic groups. Mainstream
Chileans who perceived higher levels of unfair treatment had more negative behavioral consequences ($\beta = .277, p < .01$). Mapuches who perceived greater controllability ($\beta = .251, p < .05$) and stability ($\beta = .230, p < .05$) of the unfair treatment, reported higher levels of perceived unfair treatment. Whereas, mainstream Chileans who reported higher levels of perceived unfair treatment, perceived greater intentionality ($\beta = .202, p < .05$) of the unfair treatment. Attributions of intentionality by Mapuches were influenced to a smaller extent by higher levels of perceived unfair treatment ($\beta = .190, p < .1$).

Concerning the effects of the attributional properties on the behavioral consequences, both Mapuches and mainstream Chileans who made attributions of intentionality for the unfair treatment had more negative behavioral consequences (Mapuche, $\beta = .370, p < .01$; mainstream Chilean, $\beta = .244, p < .05$). Additionally, mainstream Chileans who made attributions of stability for the unfair treatment reported more negative behavioral consequences ($\beta = .225, p < .05$). Whereas, increased negative behavioral consequences were influenced to a smaller extent by attributions of controllability ($\beta = .197, p < .01$) for Mapuches. There was also a minor indirect influence of perceptions of unfair treatment through the causal attributions of intentionality about the unfair treatment on behavioral consequences ($\beta_{\text{indirect}} = .180, p < .1$) for Mapuches.
Figure 4. Final psychological model with standardized path coefficients for Mapuche and (Mainstream) patients.

The second set of models which examined the direct and indirect influence of perceptions of unfair treatment on the psychological consequences through the properties of causal attributions about the unfair treatment demonstrated excellent fit and accounted for 56.4% of the variance for Mapuches [CFI = 1.00, χ²(10, n = 84) = 6.07, p = .81, χ²/df = .61, SRMR = .028, RMSEA = .000, 90% CI (.000, .075)] and 39.8% of the variance for mainstream Chileans [CFI = 1.00, χ²(10, n = 143) = 8.58, p = .57, χ²/df = .86, SRMR = .023, RMSEA = .000, 90% CI (.000, .081)]. Concerning the effect of perceived unfair treatment on psychological consequences, both mainstream Chileans and Mapuches to a lesser extent, who perceived higher levels of unfair treatment had more negative psychological consequences (mainstream Chilean, β = .288, p < .01; Mapuche, β = .197, p < .1). Mapuches who perceived greater controllability (β = .251, p < .05) and stability (β = .227, p < .05) about the unfair treatment, reported higher levels of perceived unfair treatment. Whereas, mainstream Chileans who reported higher levels of perceived unfair treatment, perceived greater intentionality (β = .203, p < .05) of the unfair treatment.
Attributions of intentionality by Mapuches were influenced to a smaller extent by higher levels of perceived unfair treatment ($\beta = .187, p < .1$). Additionally, Mapuches who made attributions of controllability for the unfair treatment reported more negative psychological consequences ($\beta = .289, p < .05$). There was also a small indirect influence of perceptions of unfair treatment through the causal attributions of intentionality about the unfair treatment on psychological consequences ($\beta_{\text{indirect}} = .110, p < .1$) for Mapuches.
CHAPTER FOUR
DISCUSSION

Consistent with the conceptual model guiding this study, this research revealed that population diversity factors (ethnicity and SES), psychological processes (attributions about the unfair treatment and psychological consequences), and health behavior (behavioral consequences) are relevant to the study of health behavior, such as a patient's decision to adhere to medical treatment following an experience of unfair treatment. As predicted, perceived unfair treatment, and causal attributions about the unfair treatment influenced behavioral and psychological consequences of diabetes care for both Mapuche and mainstream Chileans. These findings confirm the importance and utility of Betancourt’s integrative model (2009) particularly the proposed structure of relations among social structural, psychological, and health behavior variables influencing behavior for conducting research with culturally diverse populations. Furthermore, these findings also confirm the significance of Weiner’s theory of attribution and emotion (Weiner, 1995, 2006) in patient-provider interactions. The properties of attributions were shown to significantly influence the degree of psychological distress and behavioral response to perceived unfair treatment in health settings. These findings have important implications for patient-professional interactions and health outcomes.

Contrary to the hypothesized relationship among variables, this study reflected that Mapuche and mainstream Chilean patients perceived similar levels of unfair healthcare treatment, regardless of income. This finding is inconsistent with the literature, where it is often cited that ethnic minority patients and patients of lower socioeconomic
status report more instances of unfair treatment (Blendon et al., 2008; Jagosh, Boudreau, Steniert, Macdonald, & Ingram, 2011). This inconsistency may be due to having excluded the data of participants that did not report having previously experienced unfair treatment in health care encounters.

Consistent with Weiner’s theory of motivation and emotion (Weiner, 1986, 2006), findings revealed that causal attributions for unfair treatment predicted negative behavioral and psychological consequences of diabetes care for both Mapuche and mainstream Chileans. Higher attributions of intentionality of the unfair treatment predicted more negative behavioral and psychological consequences for both ethnic groups. This finding is consistent with the literature, which suggests that attributions of intentionality are a greater predictor of negative emotions and behavioral outcomes (Betancourt, 2004; Betancourt & Blair, 1992). However, attributions of intentionality were stronger for mainstream Chilean than Mapuche patients. More specifically, attributions of intentionality were the only attribution that predicted consequences of diabetes care for mainstream Chileans. This difference may be explained by the fact that Mapuche patients also used situationally based explanations for the unfair treatment, such as attributions of controllability and stability, rather than simply individually based explanations directed to the unfair treatment by the health care professional (attributions of intentionality).

For Mapuche patient’s higher attributions of controllability also predicted more negative behavioral consequences, and to a smaller degree predicted more psychological consequences of diabetes care. The influence of causal attributions for the unfair treatment may be explained conceptually by Betancourt’s integrative model (2009) and
previous research (Flynn, et al., 2015), which has found that causal attributions of controllability may predict negative emotions and behavioral outcomes. That is, patients who believe that the health care provider had the ability to treat them fairly and did not, may have also experienced a negative emotion such as anger may have impacted the influence of causal attributions of controllability for both ethnic groups.

The differential impact of causal attributions of stability on the negative consequences of the unfair treatment may also be explained by Weiner’s theory (Weiner, 1995). Although, Mapuche participants perceived more stability of the unfair treatment, the effect of causal attributions of stability on behavioral consequences was significant for behavioral consequences of diabetes care only for mainstream Chileans. That is, mainstream Chileans who attributed the unfair treatment to stable causes, were most likely to expect to be treated unfairly in future encounters, which negatively impacted their motivation to return for future appointments, did not see, or preferred not to be seen again by the same doctor, and they were less inclined to complete blood tests. Being that Mapuche individuals are historically treated unfairly, and may therefore, expect to be treated unfairly in health encounters, may explain why attributions of stability did not predict consequences of diabetes care. On the contrary, mainstream Chileans who are not accustomed to being treated unfairly may experience a disproportionate effect of unfair treatment. The differential influence of causal attributions of stability may also be explained by the invariant effect of unfair treatment on attributions of stability.

In terms of negative behavioral and psychological consequences of unfair treatment, there was a direct effect of perceptions of unfair treatment on negative behavioral and psychological consequences of diabetes care for mainstream Chileans.
Mapuches demonstrated a smaller effect of perceptions of unfair treatment on negative psychological consequences of diabetes care. This finding may be explained by Betancourt’s integrative model, which suggests that there may be a moderating effect of motivation and emotions relevant to health care practices. Specifically, the attributions made for the unfair treatment.

Although not hypothesized, the data revealed a direct influence of SES on negative behavioral and psychological consequences for both Mapuche and mainstream Chileans. Specifically, less SES predicted more negative consequences of diabetes care. That is individuals with a lower income reported less treatment adherence and more psychological distress related to their diabetes care. This finding is consistent with the literature, in that individuals with lower SES have worst health outcomes (International Diabetes Federation, 2015). There was also a direct effect of SES on causal attributions of intentionality and stability for Mapuches. Specifically, less SES was associated with more attributions of intentionality and stability of perceived unfair treatment. These findings have important implications for patient-provider interactions and the attributions that patients may make for unfair treatment. Since patients who make more attributions of intentionality and stability for the unfair treatment are more likely to experience negative emotions and are less likely to be motivated to adhere to treatment, medical providers would benefit from examining the attributions patients make during medical encounters.

Future research should examine the factors that contribute to the perceptions of unfair treatment such as receiving services at a public versus a private medical center and the effect that the unfair treatment has on treatment adherence. Since, patients may experience unfair treatment at any point during their medical visit that may affect their
care, it is important to examine who the patient perceived to have treated them unfairly. Specifically, was it the receptionist, laboratory technician, nurse, pharmacist, or another member of the medical team and how did the unfair treatment affect their diabetes care. Additionally, it would be beneficial to gather this information immediately after the appointment and on a later date to identify the effect of the perceived unfair treatment.

Due to the emphasis on how socio-demographic, psychological, and behavioral factors result in negative behavioral consequences, findings from this research may have important implications for the development of interventions designed to enhance diabetes care. Effective interventions are becoming more necessary as rates of the disease in Latin America continue to increase rapidly, particularly among Indigenous and low SES individuals (Barcelo & Rajpathak, 2001; Perez-Bravo et al., 2001; Carrasco et al., 2004). Interventions that have specific recommendations for improved interactions and communication between patients and professionals could enhance diabetes care and reduce disparities in diabetes prevalence rates and health outcomes (Abdulhadi, Al-Shafae, Ostenson, Vernby, & Wahlstrom, 2006).

Healthcare providers may also benefit from culturally sensitive interpersonal interactions with patients who have diabetes to decrease instances of perceived unfair healthcare treatment. From a cultural perspective, it may be helpful to consider individualistic and collectivistic values that may impact interpersonal behaviors and the attributions patients make. Future studies should examine the effect of cultural values such as respeto (respect) and simpatía, in which individuals are expected to be able to share their feelings, behave with respect towards others, and attempt to achieve harmony in interpersonal relations (Ramirez-Esparza, Gosling, & Pennebaker, 2008; Triandis,
Marin, Lisansky, & Betancourt, 1984) may influence patient-professional relations (Abraido-Lanza, Cespedes, Daya, Florez, & White, 2011). These cultural values that impose a need to act in a friendly, respectful manner to avoid conflict and to be viewed as a nice person, often leads individuals to be less affected by the attributions made for the behavior of others (Pilati, Ferreira, Porto, de Oliveira Borges, de Lima, & Lellis, 2015).

Conclusions and Future Directions

Despite the significance of the study findings, some limitations should be considered. The sample size for this study was small; a larger sample size may provide additional information. Additionally, there may be a possible bias in the findings since the data analyzed was only for those who perceived at least one instance of unfair healthcare treatment. Nonetheless, it is important to realize that although unfair treatment was measured in terms of perceptions of the treatment, this still had implications on consequences for both ethnic groups. Cultural factors that may affect perceptions of unfair treatment should also be included in future studies in order to measure their impact on perceived unfair treatment, attributions about the unfair treatment, and the consequences on diabetes care (Betancourt et al., 2010, 2011; Flynn et al., 2011), as this may mediate the relationship between the unfair treatment and consequences of diabetes care. Future research may also benefit from examining additional instances of unfair treatment in health encounters with different members of the treatment team and their impact on diabetes care.
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APPENDIX A

PERCEIVED UNFAIR TREATMENT AND ATTRIBUTIONS FOR UNFAIR TREATMENT

Perceived Unfair Treatment

The following are examples of experiences that some patients have had with a doctor.

Check the box if you experienced the following:

1. Did not give me enough information.
2. Did not let me ask questions or did not reply to the ones I did ask.
3. Did not explain my exam results.
4. Was in a rush when seeing me.
5. Left me waiting for a long time.
6. Did not treat me with respect.
7. Showed not interest in me or my health.

Attributions for Unfair Treatment

Now, thinking of the experience that affected you the most, you believe:

1. The way the doctor treated me was intentional.
2. It was up to the doctor whether he/she treated you that way or not.
3. The cause or reason the doctor did this is stable, permanent and will remain that way.
APPENDIX B

DIABETES-RELATED CONSEQUENCES

As a result of what happened to you:

1. Postponed or delayed going to your next appointment.
2. Did not see, or prefer not to be seen again by this doctor.
3. Felt less inclined to finish the tests (laboratory/blood).
4. Were stressed or more nervous about having to go to your next appointment.
5. Felt less confident of your treatment.