

## ABSTRACT

Title of Dissertation: A MODEL OF WORK-LIFE CONFLICT AND QUALITY OF EMPLOYEE-ORGANIZATION RELATIONSHIPS: TRANSFORMATIONAL LEADERSHIP, PROCEDURAL JUSTICE, AND FAMILY-SUPPORTIVE WORKPLACE INITIATIVES

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Good relationship management between organizations and their strategic employee publics contributes to organizational effectiveness. This dissertation built and tested a new model of employee-organization relationships by introducing time-based and strain-based work-life conflict as variables leading to employee-organization relationship outcomes, and by investigating the possible effects of transformational leadership, organizational procedural justice, and family-supportive workplace initiatives upon employees' perceived work-life conflict and relationships with their employers.

This dissertation is an example of multilevel research in which all the theoretical constructs were conceptualized at the individual level, but data were gathered by conducting a survey of 396 employees in 44 U.S. organizations. The multilevel structure

of collected data was addressed by using hierarchical linear modeling (HLM) as the major analytical method.

The findings suggested that the amount of time-based work-life conflict employees perceived significantly predicted their perceived quality of relationships with their employers. The lower the level of time-based work-life conflict that employees perceived, the better the quality of employee-organization relationships they had. When immediate supervisors respected their subordinates as individuals with unique characters and needs and treated them differently but fairly, employees perceived high levels of trust, commitment, satisfaction, and control mutuality. In addition, employees who perceived that they were treated fairly by their organizations developed quality relationships with their employers. This dissertation also identified fair formal procedures used to make work-life policies and decisions as a significant antecedent leading to high trust, commitment, satisfaction, and control mutuality that employees perceived. Moreover, the extent to which organizations administered fair procedures for work-life conflict-related policies and decisions greatly affected employees' perceptions of the time-based and strain-based interferences between work and nonwork. Lastly, it was revealed that time-based work-life conflict partially mediated the association between quality of employee-organization relationships and procedural justice referencing work-life policies, decisions, and procedures. Interpretations and implications of the findings, the limitations of the dissertation, and directions for future research were discussed.

A MODEL OF WORK-LIFE CONFLICT AND QUALITY OF EMPLOYEE-  
ORGANIZATION RELATIONSHIPS: TRANSFORMATIONAL LEADERSHIP,  
PROCEDURAL JUSTICE, AND FAMILY-SUPPORTIVE WORKPLACE  
INITIATIVES

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## Dedication

I dedicate this dissertation to my parents, Haiping Jiang and Xingsheng Yang, my parents-in-law, Xuedong Zhang and Suohua Zhang, and my beloved uncle and lifelong friend Dr. Yangjing Lin. This work could not have been completed without their love and support.

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# Table of Contents

Dedication.....	ii
Acknowledgements.....	iii
Table of Contents .....	iv
List of Tables .....	xi
List of Figures .....	xvi
Chapter 1: Introduction.....	1
Overview .....	1
The Major Theoretical Constructs .....	2
Quality of Employee-Organization Relationships.....	2
Work/Life Conflict.....	3
Transformational Leadership.....	4
Procedural Justice.....	5
Family-Supportive Workplace Initiatives.....	6
Summary of Rationale for the Model of Employee-Organization Relationships.....	7
Work-Life Conflict and Quality of Employee-Organization Relationships .....	8
Transformational Leadership, Work-Life Conflict, and Quality of Employee-Organization Relationships.....	10
Procedural Justice, Work-Life Conflict, and Quality of Employee-Organization Relationships .....	11
Family-Supportive Workplace Initiatives and Work-Life Conflict .....	12
Model Construction.....	12
Summary of Method.....	13
Significance of the Research.....	15
Chapter 2: Conceptualization .....	17
Organization-Public Relationships.....	17
Satisfaction.....	21
Trust.....	22
Commitment.....	23
Control Mutuality.....	24
Models of Organization-Public Relationships.....	25
Broom et al.'s (2000) Three-Stage Model of Organization-Public Relationship .....	26

J. E. Grunig and Huang's (2000) Model of Organization-Public Relationship	26
Elaborating and Testing New Models Pertinent to Employee Organization Relationships	27
Work/Life Conflict	28
Time-Based Work-Life Conflict	31
Strain-Based Work-Life Conflict	32
Behavioral Norms-Based Work/Life Conflict	32
Time-Based Life-Work Conflict	33
Strain-Based Life-Work Conflict	33
Behavior-Based Life-Work Conflict	34
Rationale for Focusing on Time-Based and Strain-Based Work-Life Conflict	34
Work-Life Conflict and Quality of Employee-Organization Relationships (EORs)	36
From the Perspective of Social Exchange: Work-Life Conflict and Quality Indicators of EORs	37
From the Perspective of Conservation of Resources (COR): Work-Life Conflict and Quality Indicators of EORs	38
Empirical Evidence	39
Leadership	40
Leadership Styles	40
Transformational Leadership	41
Transactional Leadership	43
Rationale for Focusing on Transformational Leadership	44
Transformational Leadership Leading to Reduction in Work-Life Conflict	45
From the Perspective of Social Support: Transformational Leadership and Work-Life Conflict	46
From the Perspective of Conservation of Resources (COR): Transformational Leadership and Work-Life Conflict	47
Empirical Evidence	48
Linking Transformational Leadership to Quality of Employee-Organization Relationships	50
Work-Life Conflict Partially Mediating the Relationship between Transformational Leadership and Quality of Employee-Organization Relationships	52
Organizational Justice	53



Distributive Justice.....	54
Procedural Justice.....	55
Interactional Justice.....	56
Focusing on Procedural Justice.....	57
The Direct Effect of Procedural Justice on Work-Life Conflict.....	58
From the Job Demand-Control (JDC) Perspective: Procedural Justice and Work-Life Conflict.....	59
The Model of Justice Judgment: Procedural Justice and Work-Life Conflict.....	60
Linking Procedural Justice to Quality of Employee-Organization Relationships.....	61
Work-Life Conflict Partially Mediating the Relationship between Procedural Justice and Quality of Employee-Organization Relationships .....	63
Family-Supportive Workplace Initiatives.....	63
Linking Helpfulness of Family-Supportive Workplace Initiatives to Work- Life Conflict.....	65
Summary of Hypotheses and Research Questions.....	67
The Hypothesized Theoretical Model.....	70
Chapter 3: Method.....	71
Rationale for Web Survey Method.....	71
Research Design.....	73
Sampling.....	73
Participants.....	74
Pilot Study 1.....	76
Pilot Study 2.....	91
Data Collection Procedures .....	92
Instrumentation.....	93
Employee-Organization Relationships.....	93
Time-Based and Strain-Based Work-life Conflict.....	94
Transformational Leadership.....	95
Organizational Procedural Justice.....	96
Family-Supportive Workplace Initiatives.....	97
Demographic Information.....	98
Data Analysis Methods.....	99
Issues in Multilevel Research.....	99
The Level of Theory.....	99
The Level of Measurement.....	100
The Level of Statistical Analysis.....	100
Descriptive Statistics.....	101
ANOVA and Its Alternative Tests.....	101
Transformation of Data.....	102
Multilevel Confirmatory Factor Analyses (CFAs).....	104
Assessment of Data-Model Fit.....	104

Coefficient H and Cronbach's $\alpha$ .....	106
Construct Validity.....	106
Principal Component Analyses (PCAs) to Extract Component Scores....	107
Multicollinearity Test.....	107
The Rationale and Procedures of HLM Analyses: Tests of Hypotheses and Examinations of Research Questions.....	108
A Brief Introduction of Hierarchical Linear Modeling (HLM)...	109
Null Model.....	113
Random-Coefficient Regression Model.....	115
Group Mean Centering Level-1 Predictors with No Contextual Predictors at Level-2.....	117
Mediation Tests.....	120
Ethics of the Research.....	121
Chapter 4: Results.....	123
Data Entry Checks.....	123
Data Recoding.....	123
Missing Data.....	125
Descriptive Statistics.....	126
Quality of Employee-Organization Relationships.....	126
Time-Based and Strain-Based Work-Life Conflict.....	127
Transformational Leadership.....	128
Procedural Justice.....	129
Family-Supportive Workplace Initiatives.....	130
Means, Standard Deviations, and Correlations of All Endogenous and Exogenous Variables.....	132
One-Way Random-Effect ANOVA and Its Alternative Tests: Justifications for Performing Multilevel Confirmatory Factor Analyses (CFAs) and Hierarchical Linear Modeling (HLM) Tests.....	140
Data Transformations.....	142
Reliability and Validity of Measurement: Results of Multilevel Confirmatory Factor Analyses (CFAs).....	144
Quality of Employee-Organization Relationships.....	144
Time-Based and Strain-Based Work-Life Conflict.....	145
Transformational Leadership.....	146
Procedural Justice.....	147
Summary.....	148
Principal Component Analysis (PCA), Component Scores, And Intercorrelations among Unidimensional Exogenous and Endogenous Latent Variables.....	167
Multicollinearity Tests.....	173
Testing Hypotheses and Answering Research Questions.....	177
Testing Hypotheses 1, 2, 3, 4, 5, 6, 9 and 10 and Research Questions 1 and 2.....	177

Null Model Tests to Calculate Intraclass Correlation Coefficients (ICCs)	178
Results of null model testing	179
Testing assumptions of normally distributed residuals and homogeneity of variance	179
Testing Hypotheses 1, 2, 3, and 6	184
Testing $H_1$	185
Testing $H_2$	187
Testing $H_3$	187
Testing $H_6$	188
$R^2$ test and variance ( $U_{0j}$ )	189
Summary	189
Testing assumptions of normal distribution of residuals and homogeneity of variance	190
Examining Research Question 1 and Testing Hypotheses 4 and 9	192
Examining $R_1$	194
Testing $H_4$	195
Testing $H_9$	196
$R^2$ test and variance ( $U_{0j}$ )	196
Summary	197
Testing assumptions of normal distribution of residuals and homogeneity of variance	198
Examining Research Question 2 and Testing Hypotheses 5 and 10	200
Examining $R_2$	202
Testing $H_5$	203
Testing $H_{10}$	203
$R^2$ test and variance ( $U_{0j}$ )	203
Summary	204
Testing assumptions of normal distribution of residuals and homogeneity of variance	205
Mediation Tests: Examining Research Questions 3 & 4 and Testing Hypotheses 7 & 8	207
Random-coefficient regression models relevant to mediation tests	209
Testing assumptions of normal distribution of residuals and homogeneity of variance for step 1	210
Results of mediation tests for $R_3$	212
Results of mediation tests for $R_4$	216
Results of mediation tests for $H_7$	218
Results of mediation tests for $H_8$	219

Results of mediation tests: The mediating roles of time and strain for family-supportive workplace initiatives and quality of EORs	220
Summary	222
Test Hypotheses and Examine Research Questions Using Transformed Data	223
Transforming Time, Strain, and Quality of EORs	223
Time-Based and Strain-Based Work-Life Conflict	223
Quality of Employee-Organization Relationships	225
Testing Factor Structures of Quality of Employee-Organization Relationships and Work-Life Conflict Using Transformed Data	225
Testing Three Null Models in HLM Analyses Using Transformed Data	225
Testing Hypotheses 1, 2, 3, and 6 Using Transformed Data	235
Examining Research Question 1 and Testing Hypotheses 4 and 9 Using Transformed Data	237
Investigating Research Question 2 and Testing Hypotheses 5 and 10 Using Transformed Data	239
Mediation Tests: Examining Research Questions 3 & 4 and Testing Hypotheses 7 & 8 Using Transformed Data	241
Summary of the Results	246
Chapter 5: Discussion	255
Summary of the Findings	255
H1 & H2: The Links between Time- and Strain-Based Work-Life Conflict and Quality of EORs	255
R1 and R2: Transformational Leadership and Time- and Strain-Based Work-Life Conflict	256
H3: Transformational Leadership and Quality of EORs	256
H4 & H5: The Links between Procedural Justice and Time- and Strain-Based Work-Life Conflict	257
H6: Procedural Justice and Quality of EORs	257
H9 & H10: Helpful Family-Supportive Workplace Initiatives and Time- and Strain-Based Work-Life Conflict	258
R3 & R4: Mediation Tests	258
H7 & H8: Mediation Tests	258
Mediation Tests Concerning Work-Life Conflict and Helpful Workplace Initiatives	258
Theoretical Concepts in this Study	259
Quality of Employee-Organization Relationships (Quality of EORs)	259
Work-Life Conflict	259
Transformational Leadership	261
Procedural Justice	265
Perceived Helpfulness of Family-Supportive Workplace Initiatives	266
Theories Applied in this Study	267
Conservation of Resources Theory (COR)	267

Social Exchange Theory.....	269
Stakeholder Theory.....	271
Implications of Findings for Public Relations.....	272
Theoretical Contributions.....	272
Practical Implications for Public Relations.....	274
Implications for Public Relations Research Methodology.....	275
Limitations.....	275
Conclusion.....	278
Appendix A: Questionnaire.....	280
Appendix B: IRB Initial Application.....	292
Appendix C: IRB Addendum.....	296
References.....	299

## List of Tables

Table 1. <i>Different Forms of Work/Life Conflict as an Interrole Conflict</i> .....	32
Table 2. <i>Descriptions of Participating Organizations</i> .....	77
Table 3. <i>Characteristics of Participants for the Formal Study (N=396)</i> .....	89
Table 4. <i>Comparison of Alternative Estimators of Fixed Level-1 Regression Coefficient</i> .....	118
Table 5. <i>Individual-level Means, Standard Deviations, and Correlations of Employee- Organization Relationship Outcomes (N=352)</i> .....	127
Table 6. <i>Individual-level Means, Standard Deviations, and Correlation between Work- Life Conflict Variables (N=352)</i> .....	128
Table 7. <i>Individual-level Means, Standard Deviations, and Correlations among Transformational Leadership Variables (N=352)</i> .....	129
Table 8. <i>Individual-level Means, Standard Deviations, and Correlations between Procedural Justice Variables (N=352)</i> .....	130
Table 9. <i>Individual-level Means, Standard Deviations, and Correlations among Family- Supportive Workplace Initiatives Variables (N=352)</i> .....	131
Table 10. <i>Individual-level Means, Standard Deviations, and Correlations of Variables in the Formal Study (N=352)</i> .....	134
Table 11. <i>Test of Homogeneity of Variances</i> .....	140
Table 12. <i>One-Way Random-Effect ANOVA with Organizational Membership as Predictor (N =396)</i> .....	141

Table 13. <i>Robust Tests of Equality of Means</i> .....	141
Table 14. <i>Descriptives of the Indicators before Transformation</i> .....	143
Table 15. <i>Results of Multilevel CFAs: Quality of Employee-Organization Relationships (One Factor vs. Four Factors), Indicator Loadings, and Measurement Model Indices</i> .....	149
Table 16. <i>Results of Multilevel CFAs: Work-Life Conflict (One Factor vs. Two Factors), Indicator Loadings, and Measurement Model Indices</i> .....	154
Table 17. <i>Results of Multilevel CFAs: Transformational Leadership (One Factor vs. Four Factors), Indicator Loadings, and Measurement Model Indices</i> .....	156
Table 18. <i>Results of Multilevel CFAs: Procedural Justice (One Factor vs. Two Factors), Indicator Loadings, and Measurement Model Indices</i> .....	161
Table 19. <i>Coefficient H, Cronbach's Alpha for the Sum of Measurement Items, and Average Squared Standardized Loadings for Unidimensional Factors Measured by Multiple Items in the Formal Study</i> .....	164
Table 20. <i>Eigenvalues of the Dominant Principal Components of Exogenous and Endogenous Variables with the Proportions of the Variance Explained</i> .....	168
Table 21. <i>Intercorrelations among the Unidimensional Exogenous and Endogenous Variables in the Formal Study with Two Measurement Items Dropped and Organizational Membership Controlled for (N=352)</i> .....	169
Table 22. <i>VIF and Tolerance Test to Check Multicollinearity</i> .....	175
Table 23. <i>Determinants of Correlation Matrices with Explanatory Variables Dropped (N=396)</i> .....	177
Table 24. <i>Results of Null Model Tests</i> .....	179

Table 25. <i>Test of Homogeneity of Level-1 Variance for Null Model Tests</i> .....	184
Table 26. <i>Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6</i> .....	190
Table 27. <i>Test of Homogeneity of Level-1 Variance for Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6</i> .....	192
Table 28. <i>Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9</i> .....	197
Table 29. <i>Test of Homogeneity of Level-1 Variance for Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9</i> .....	200
Table 30. <i>Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10</i> .....	204
Table 31. <i>Test of Homogeneity of Level-1 Variance for Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10</i> .....	207
Table 32. <i>Test of Homogeneity of Level-1 Variance for Step 1 of Testing Mediation</i> .....	212
Table 33. <i>Step 1 of Testing Mediation: The Relationships between Antecedent Variables (Xs) and Outcome Variable(Y)</i> .....	213
Table 34. <i>Step 2 of Testing Mediation: The Relationships Between Antecedent Variables (Xs) and Mediators (Ms)</i> .....	214
Table 35. <i>Step 3 of Testing Mediation: The Relationships between Mediators (Ms) and Outcome Variable (Y)</i> .....	215
Table 36. <i>Step 4 of Testing Mediation: The Relationships between Antecedent Variables (Xs) and Outcome Variable (Y) with Mediators (Ms) Controlled for</i> .....	216
Table 37. <i>Descriptives of the Indicators after Transformation</i> .....	224



Table 38. <i>Results of Multilevel CFAs Using Transformed Data: Quality of Employee-Organization Relationships (One Factor vs. Four Factors), Indicator Loadings, and Measurement Model Indices</i> .....	227
Table 39. <i>Results of Multilevel CFAs Using Transformed Data: Work-Life Conflict (One Factor vs. Four Factors), Indicator Loadings, and Measurement Model Indices</i> .....	232
Table 40. <i>Coefficient H, Cronbach's Alpha for the Sum of Measurement Items, and Average Squared Standardized Loadings for Transformed Quality of EORs, Time, and Strain</i> .....	234
Table 41. <i>Results of Null Model Tests Using Original and Transformed Data</i> .....	235
Table 42. <i>Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6 Using Transformed Data</i> .....	236
Table 43. <i>Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9 Using Transformed Data</i> .....	238
Table 44. <i>Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10 Using Transformed Data</i> .....	240
Table 45. <i>Step 1 of Testing Mediation Based on Transformed Data: The Relationships between Antecedent Variables (Xs) and Outcome Variable(Y)</i> .....	242
Table 46. <i>Step 2 of Testing Mediation Based on Transformed Data: The Relationships between Antecedent Variables (Xs) and Mediators (Ms)</i> .....	243
Table 47. <i>Step 3 of Testing Mediation Based on Transformed Data: The Relationships between Mediators (Ms) and Outcome Variable (Y)</i> .....	244
Table 48. <i>Step 4 of Testing Mediation Based on Transformed Data: The Relationships between Antecedent Variables (Xs) and Outcome Variable (Y) with Mediators (Ms)</i>	

<i>Controlled for</i> .....	245
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## List of Figures

<i>Figure 1.</i> The initial conceptual model.....	13
<i>Figure 2.</i> The proposed theoretical model.....	70
<i>Figure 3.</i> The finalized theoretical model for the formal study.....	166
<i>Figure 4.</i> Histograms of Residuals from Level-1 Models (Null Models).....	181
<i>Figure 5.</i> Normal Probability Plots of Residuals from Level-1 Models (Null Models).....	182
<i>Figure 6.</i> Scatterplots of Residuals by Dependent Values from Level-1 Models (Null Models).....	184
<i>Figure 7.</i> Model to Test Hypotheses 1, 2, 3, and 6: When the Endogenous Construct is Quality of Employee-Organization Relationships.....	186
<i>Figure 8.</i> Histogram of Residuals from Level-1 Model (Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6).....	191
<i>Figure 9.</i> Normal Probability Plot of Residuals from Level-1 Model (Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6).....	192
<i>Figure 10.</i> Scatterplot of Residuals by Dependent Values from Level-1 Model (Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6).....	192
<i>Figure 11.</i> Model to Examine Research Question 1 and Test Hypotheses 4 and 9: When the Endogenous Construct is Time-Based Work-Life Conflict.....	194
<i>Figure 12.</i> Histogram of Residuals from Level-1 Model (Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9).....	198
<i>Figure 13.</i> Normal Probability Plot of Residuals from Level-1 Model (Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9).....	199

<i>Figure 14.</i> Scatterplot of Residuals by Dependent Values from Level-1 Model (Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9).....	199
<i>Figure 15.</i> Model to Examine Research Question 2 and Test Hypotheses 5 and 10: When the Endogenous Construct is Strain-Based Work-Life Conflict.....	200
<i>Figure 16.</i> Histogram of Residuals from Level-1 Model (Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10).....	205
<i>Figure 17.</i> Normal Probability Plot of Residuals from Level-1 Model (Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10).....	206
<i>Figure 18.</i> Scatterplot of Residuals by Dependent Values from Level-1 Model (Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10).....	206
<i>Figure 19.</i> Steps/Models to Test Mediation.....	209
<i>Figure 20.</i> Histogram of Residuals from Level-1 Model (Random-Coefficient Regression Model to Test Step 1 for Mediation Analysis).....	211
<i>Figure 21.</i> Normal Probability Plot of Residuals from Level-1 Model (Random-Coefficient Regression Model to Test Step 1 for Mediation Analysis).....	212
<i>Figure 22.</i> Scatterplot of Residuals by Dependent Values from Level-1 Model (Random-Coefficient Regression Model to Test Step 1 for Mediation Analysis).....	212
<i>Figure 23.</i> The final model illustrating the tested model with each path as supported or not supported in this study .....	254
<i>Figure 24.</i> Alternative model 1.....	277
<i>Figure 25.</i> Alternative model 2.....	278
<i>Figure 26.</i> Alternative model 3.....	278

# Chapter 1: Introduction

## Overview

Public relations contributes to an organization's effectiveness by helping it identify its strategic publics and using communication to build, develop, and maintain quality long-term relationships with them (L. Grunig, J. Grunig, & Dozier, 2002, p. 548). *Publics* can be defined as groups of people whose behaviors have consequences for organizations with which they have a relationship (J. Grunig & Repper, 1992). An example of external publics of organizations includes customers, and internal publics are typically employees.

Organization-public relationship management has become a useful framework for public relations research, teaching and practice (e.g., Hon & J. Grunig, 1999; Huang, 2001; Ledingham, 2000, 2003; Sallot, Lyon, Acosta-Alzuru, & Jones, 2003; Toth, 2000). Two extensively cited models of organization-public relationships are (1) Broom, Casey, and Ritchey's (2000) model emphasizing perceptions, motives, needs, and behaviors as predictors of relationships and their consequences (p. 16), and (2) J. Grunig and Huang's (2000) model elaborating situational antecedents, relationship maintenance strategies, and relationship outcomes (p. 34). Nevertheless, these models have not extensively been applied to employee publics (Botan & Soto, 1998; Cameron & McCollum, 1993; Freitag & Picherit-Duthler, 2004; McCown, 2007; Sriramesh, J. Grunig, & Dozier, 1996). One research direction that is important but has not been fully developed is organization-public relationship models integrating variables that can affect the development of employee relationships (Kim, 2007; Ledingham, Bruning, & Wilson, 1999).

The purpose of this dissertation was to elaborate a model of employee-

organization relationships based upon the premise that good relationship management between organizations and their strategic employee publics contributes to organizational effectiveness. This dissertation does this by introducing two dimensions of work-life conflict as variables leading to employee-organization relationship outcomes, and by investigating the possible effects of transformational leadership, organizational procedural justice, and family-supportive workplace initiatives upon employees' perceived work-life conflict and relationships with their employers.

### The Major Theoretical Constructs

Before I discuss the theoretical rationale underneath the new model of employee-organization relationships and this dissertation's method, I briefly describe the major theoretical constructs in the model.

#### *Quality of Employee-Organization Relationships*

Employee-organization relationships is one type of organization-public relationships. In an employee-organization relationship, the behaviors of one party result in consequences to the other (e.g., Broom et al., 2000; L. Grunig et al., 2002; Hon & J. Grunig, 1999; Huang, 1997, 2001; Hung, 2002; Ledingham & Bruning, 2000; Toth, 2000). Distinct from its antecedents and consequences, an employee-organization relationship is dynamic and can be measured using perceptions of either or both parties regarding four "indicators representing the quality of [employee-organization] relationships" or "relationship outcomes" (J. Grunig & Huang, 2000, p. 42), that is, satisfaction, trust, commitment, and control mutuality at specific points of time. According to Hon and J. Grunig, satisfaction is how favorably one party feels toward the other when its expectations have been lived up to in the relationship. Trust refers to the

degree of confidence that one party in an employee-organization relationship has in the other party and one's willingness to be open to the other. Commitment reflects the degree to which each party realizes that the employee-organization relationship is worth spending energies to cultivate. Finally, control mutuality denotes the extent to which the parties in an employee-organization relationship agree on who is authorized to exercise control over others.

In this dissertation, I focused on the perspective of employees, although many public relations scholars have suggested that ideally relationships should be measured by perceptions of both relational parties (e.g., J. Grunig & Hunt, 1984; L. Grunig et al., 2002; Hon & J. Grunig, 1999).

#### *Work/Life Conflict*

Scholars have identified the importance of examining the interface between work and life long ago. Many employees find that the requirements from their work and the obligations from their personal life are often incompatible and thus cause some degree of work/life conflict (Barnett, 1998; Bond, Galinsky, & Swansberg, 1998; Friedman, Christensen, & DeGroot, 1998; Reynolds, 2005). This dissertation focused on two dimensions of work/life conflict: time-based and strain-based work-life conflict. *Time-based work-life conflict* refers to the situation that time committed to duties in work makes it physically difficult for an individual to perform activities required by her or his nonwork roles (Bartolome & Evans, 1979; Pleck, Staines, & Lang, 1980). *Strain-based work-life conflict* is when employees are psychologically preoccupied with work and are unable to fully comply with those commitments in their non work roles (Netenmeyer, Boles, & McMurrian, 1996).

## *Transformational Leadership*

Leadership can influence employees' perceptions of their workplace (Bass, Avolio, Jung, & Berson, 2003). Scholars have defined leadership in numerous ways: personality traits, knowledge, abilities, skills, or patterns of behaviors that emerge in interaction between leaders and their followers (Brown, 1995; Judge, Bono, Ilies, & Gerhardt, 2002; Locke & Associates, 1999; McWhinney, 1997; Pincus & DeBonis, 1994; Sims & Lorenzi, 1992; Zaccaro, 2007). This dissertation focused on transformational leadership as one type of leadership style. Leadership styles are defined by the behaviors of leaders/supervisors in interaction with their followers/subordinates to achieve certain goals (Aldoory & Toth, 2004; Avolio, Bass, & Jung, 1999; Avolio & Yammarino, 2002; Bass, 1985; Bass & Avolio, 2004; Kanste, Miettunen, & Kyngas, 2007; McWhinney, 1997).

Compatible with the essence of two-way symmetrical communication, transformational leaders (e.g., Bass, 1985, 1990; Bass & Avolio, 1993, 1994) promote participative management, individual empowerment, negotiation, and the sharing of information and power in the workplace (Aldoory, 1998), and therefore may help organizations cultivate relationships with their employees<sup>1</sup>. Transformational leadership is made up of the following four components: (1) idealized influence (charisma), (2) inspirational motivation, (3) intellectual stimulation, and (4) individualized consideration (Avolio et al., 1999; Bass & Avolio, 1995, 1997, 2004; Chemers, 1997).

Because leadership styles were integral to theoretical development in the

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<sup>1</sup> The two-way symmetrical model of public relations or communication states: "Practitioners use research and dialogue to bring about symbiotic changes in the idea, attitudes, and behaviors of both the organization and its publics" (L. Grunig et al., 2002, p. 308).



leadership literature, introducing leadership scholarship into public relations theory should start with investigating perceptions of leadership styles (Aldoory & Toth, 2004; McWhinney, 1997). Transformational leadership research in public relations has remained embryotic and more research is needed to further develop it (Aldoory, 1998; Aldoory & Toth, 2004; Farmer, Slater, & Wright, 1998; L. Grunig, 1993). Among various leadership styles, transformational leadership has been found to be most closely associated with positive outcomes of organizational relevance, including job satisfaction, trust, and organizational commitment (Jin, 2008; Wang & Walumbwa, 2007). Lastly, the parallel between transformational leadership and organizational support explained why it was integrated in studying work-life conflict and quality of employee-organization relationships (see Julien, 2008).

#### *Procedural Justice*

Public relations scholars have suggested that procedural justice is based on the principle of two-way symmetry and is closely relevant to employees' perceptions or evaluations of an organization as a whole (J. Grunig & White, 1992; Konovsky, 2000; Martin & Bennett, 1996). Employees perceive high levels of satisfaction, trust, commitment, and control mutuality in relationships with their organizations when they perceived high procedural justice—decisions were made in a just way (Kim, 2005, 2007). Industrial psychology research has also demonstrated that procedural justice was associated with affective and behavioral reactions toward organizations, such as organizational commitment and organizational citizenship behaviors (e.g., Cohen-Charash & Spector, 2001; Schminke, Ambrose, & Cropanzano, 2000). Procedural justice has been found to be associated with employees' perceived levels of work-life conflict as

well (Judge & Colquitt, 2004; Parker & Allen, 2001; Tepper, 2000).

### *Family-Supportive Workplace Initiatives*

Scholars have classified three main categories of family-supportive workplace initiatives, including (1) policies (e.g., flextime, telecommuting, job-sharing, and personal level), (2) services (e.g., organization-sponsored full-time childcare centers and referral information about childcare), and (3) benefits (e.g., childcare subsidies) (Aycan & Eskin, 2005; Glass & Estes, 1997; Lapierre & Allen, 2006; Luk & Shaffer, 2005; Neal, Chapman, Ingersoll-Dayton, & Emlen, 1993; Wadsworth & Owens, 2007).

In this dissertation, I focused on three family-supportive workplace initiatives: childcare, job flexibilities, and personal day. Support including childcare facilities, referral information, and subsidies constitute an important component of family-supportive workplace initiatives that organizations provide. With such policies as flextime, telecommuting, and job sharing, employees have the freedom and flexibility to schedule the time when, the location where, and the means by which they can best get their work done. Personal leave is a period of time a company grants to its employees to leave their jobs temporarily for reasons including but not limited to family issues, personal needs, illness, and injuries. As one specific type of personal leave policies, the existence of personal day means organizations allow their employees to take days off with or without pay for other than federally legislated reasons (e.g., maternity/paternity leave, sick leave, or vacations).

Making use of family-supportive workplace initiatives may ameliorate the interference that job obligations have created for employees' role demands in their personal life (Dessler, 1999; Eaton, 2003; Gornick & Meyers, 2003; Grover & Crocker,

1995; Milliken, Martins, & Morgan, 1998; Siegel, Post, Brockner, Fishman, & Garden, 2005; Wang & Walumbwa, 2007).

#### Summary of Rationale for the Model of Employee-Organization Relationships

Since Ferguson (1984) called for public relations to be studied as relationships between organizations and their strategic publics, scholars have adopted organization-public relationships as one of the focal constructs in their research. Because relationship management is so critical for organizational effectiveness, it is pivotal to examine variables that may greatly impact publics' relationships with their organizations (Broom et al., 2000; J. Grunig & Huang, 2000).

Little research has been conducted to explore the functions of relationship antecedents and other predictors that cause specific relationships between an organization and its publics to develop (Kim, 2005, p. 2). Another theoretical void in the relationship literature is the development of models specifically for employee-organization relationships (Kim, 2005, 2007). It is critical for organizations to cultivate long-term, trusting relationships with their employees, which is an integral part of an organization's strategic management (Cutlip, Center, & Broom, 1995; Holtzhausen, 2002). CEOs and other management representatives spend too much time and energy on external affairs, such as managing relations with customers, communities, and media (J. Grunig, 1992a, 1992c). However, there is no reason to assume an organization can always count on the loyalty, trust, and commitment of employees for its prosperity and development (Wilson, 2000; Wright, 1995). Employees' intentions, perceptions, and expectations in relationship development cannot be overlooked (Ledingham et al., 1999). Quality employee-organization relationships are actually important for an organization's strategic

communication with external publics. Employees often represent the organization in public settings, and their positive attitudes could influence perceptions of external publics (Kim, 2005, 2007).

This dissertation attempted to fill the gaps in relationship theory by developing a model specific to employee relationships and by investigating the viability of certain significant antecedents to relationships. I reviewed interdisciplinary scholarship that dealt with the potential links between employees' perceptions of work-life conflict and relationship outcomes and organizational contexts. Given the importance of investigating new antecedents and predictors for employee-organization relationship outcomes, the current study elaborated and tested a new model integrating new variables in an organizational context: transformational leadership, procedural justice, and family-supportive workplace initiatives.

#### *Work-Life Conflict and Quality of Employee-Organization Relationships*

Managing work/life conflict has become a critical and highly salient challenge for employees and employers in the 21<sup>st</sup> century (Ellin, 2003). Public relations researchers have recognized the significance of work/life conflict for organizations and revealed the conflict as a gap in scholarship (Aldoory, Jiang, Toth, & Sha, 2008). Aldoory et al. called for additional studies to quantify work/life conflict and further explore its potential contribution to theory building in public relations. This dissertation takes up this call in its examination of this concept in a model of employee-organization relationships.

Two dimensions of work-life conflict were included in the model that was developed here: time-based and strain-based work-life conflict. Time-based work-life conflict reflects how the amount of time spent on job duties influences what an individual

could use for her or his nonwork activities. Strain-based work-life conflict is used to measure the way work stress would affect an employee's ability to concentrate on her or his nonwork commitments. Both of these variables have been found to be predictive of negative outcomes, such as lowered job satisfaction (Bacharach, Bamberger, & Conley, 1991; Bedeian, Burke, & Moffett, 1988; Frone, Russell, & Cooper, 1997; Haynes, Eaker, & Feinleib, 1984; Kossek & Ozeki, 1998) and reduced organizational commitment (Boles, Johnson, & Hair, 1997; Bond et al., 1998; Kossek, 1990; Thompson, Beauvais, & Lyness, 1999).

Social exchange theory and conservation of resources (COR) theory provided a theoretical rationale for connecting work-life conflict to quality of employee-organization relationships (Karatepe & Kilica, 2007; Lambert, 2000; Siegel et al., 2005). According to social exchange theory (based on weighing costs and benefits and comparing alternatives and the principle of reciprocity) (Blau, 1964; Gouldner, 1960; Lambert, 2000; Wang & Walumbwa, 2007), undesirable personal consequences caused by high work-life conflict may elicit attribution of responsibilities toward organizations and ultimately lead to reduced quality of employee-organization relationships. According to Hobfoll's (1989) conservation of resources (COR) theory (e.g., Karatepe & Kilica, 2007), a great amount of work-nonwork interface results in loss of resources, i.e., time and energy needed for success and survival in work and/or nonwork arenas; and subsequently, the distress could lead to inadequate job performance, job dissatisfaction, and many other negative organizational outcomes (Grandey & Cropanzano, 1999), including negative employee-organization relationship outcomes.

To further develop and refine the model of employee-organization relationships,

the next logical step to consider was to delve into new antecedents in organizational contexts that could significantly predict employees' perceived work-life conflict and quality of employee-organization relationships.

*Transformational Leadership, Work-Life Conflict, and Quality of Employee-Organization Relationships*

Previous research on social support and work-life conflict has provided a theoretical explanation for the possible linkage between transformational leadership behaviors of employees' direct supervisors and work-life conflict (Lapierre & Allen, 2006; Nielson, Carlson, & Lankau, 2001; Noor, 2003). One important type of social support in the workplace includes the interpersonal transaction with transformational direct supervisors (Allen, 2001). Scholars have also drawn upon conservation of resources (COR) theory in positing a negative relationship between supportive transformational supervisors and work-life conflict; employees who have more resources, such as social support from their immediate supervisors, tend to perceive reduced levels of work-life conflict (e.g., Allen, 2001; Brough & O'Driscoll, 2005; Clark, 2001; Grandey & Cropanzano, 1999; Kim & Ling, 2001). Moreover, among various leadership styles, transformational leadership has been found to be closely related to job performance, job satisfaction, trust, and organizational commitment (Jin, 2008; Wang & Walumbwa, 2007), and therefore may predict employee-organization relationship outcomes. Therefore, this dissertation incorporated transformational leadership as an antecedent leading to work-life conflict and a predictor connected to quality of employee-organization relationships.

*Procedural Justice, Work-Life Conflict, and Quality of Employee-Organization Relationships*

According to Karasek's (1979) job demand-control (JDC) model, when high job demands coincide with low job control, employees tend to perceive high levels of work-life conflict (Heponiemi, Elovainio, Pekkarinen, Sinervo, & Kouvonen, 2008, p. 388). Organizations with fair decision-making procedures are more likely to assign reasonable job demands to employees and delegate to them adequate job control (Grandey, 2001). Consequently, fair decision-making procedures lead to low levels of work-life conflict (Moorman, 1991; Tepper, 2000). Leventhal's (1980) model of justice judgment also provides a theoretical basis for the relationship between procedural justice and work-life conflict. Fair decision making consisted of selecting decision-making agents properly, setting generalizable procedural rules, gathering necessary information, setting routines for appeals, and creating change mechanisms (Judge & Colquitt, 2004, p. 397). As a result, organizations that care about the opinions and concerns of their employees were more likely to be responsive to work-life issues.

Moreover, previous studies have generated evidence supporting a direct link between procedural justice and employee-organization relationship outcomes. Cohen-Charash and Spector (2001) identified fair decision-making procedures as an essential element for maintaining employees' satisfaction toward their employers. A strong relationship between trust and procedural justice existed as well (e.g., Aryee, Budhwar, & Chen, 2002; Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Scholarship supported the relationship between procedural fairness and organizational commitment (e.g., Colquitt & Greenberg, 2003; Masterson, Lewis, Goldman, & Taylor, 2000; Viswesvaren & Ones,

2002). Perceptions of justice could influence control mutuality such that employees would perceive more control over a particular employee-organization relationship when decision-making procedures are fair (Kim, 2005, 2007).

#### *Family-Supportive Workplace Initiatives and Work-Life Conflict*

Finally, helpful organizational family-supportive initiatives, such as childcare, flextime, telecommuting, and job sharing, increase the autonomy that employees possess to exert control over their work life, which results in reduced work-life conflict (Allard, Haas, & Hwang, 2007; Thomas & Ganster, 1995).

#### Model Construction

This dissertation created and tested a model of employee-organization relationships (see Figure 1) that elaborated on organization-public relationship theory by examining new antecedent and predictor variables (i.e., work/life conflict, transformational leadership, procedural justice, and family-supportive workplace initiatives) leading to quality of employee-organization relationships.



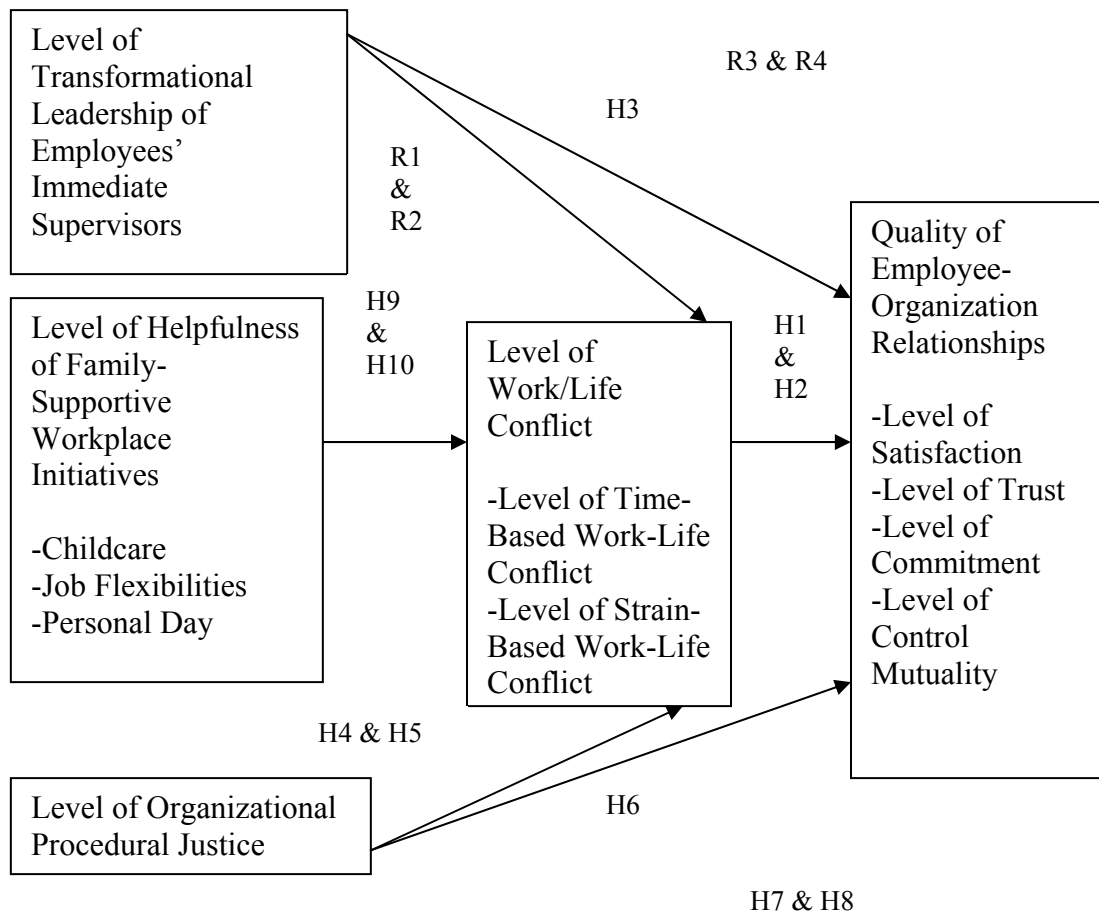


Figure 1. The initial conceptual model.

### Summary of Method

In this dissertation, I conducted an online survey to collect data to test hypotheses and explore research questions<sup>2</sup>. Employees' perceptions of quality of employee-organization relationships, time-based and strain-based work-life conflict, transformational leadership behaviors of their direct supervisors, organizational procedural justice, and helpfulness of family-supportive workplace initiatives were measured.

<sup>2</sup> The survey was available to participants through [www.surveymonkey.com](http://www.surveymonkey.com).

Convenience sampling was used, and 396 surveys collected from 44 U.S. organizations were analyzed for the study. The purpose of the dissertation was to test the consistency between the patterns within data and the proposed model.

I utilized Hon and J. Grunig's (1999) scale of relationship outcomes to measure the indicators of quality employee-organization relationships. To measure participants' perceived levels of time-based and strain-based work-life conflict, I adopted the items that Carlson, Kacmar, and Williams (2000) developed. In terms of employees' perceptions of their direct supervisors' transformational leadership behaviors, this dissertation used the rater form of the Multifactor Leadership Questionnaire (MLQ) Form 5x short (Bass & Avolio, 2004). To measure procedural justice, I employed the items that Leventhal (1980), Colquitt (2001), and Judge and Colquitt (2004) used. Moreover, participants were asked to indicate whether their organizations had each of the three types of family-supportive workplace initiatives: childcare, job flexibilities, and personal day. If such initiatives were available in their organizations, participants were invited to report how much they thought those policies helped them. If they thought such initiatives were not available or they were not sure, they were asked to rate how much they imagined those initiatives would have helped them, assuming their organizations had such childcare, job flexibilities, or personal day policies. In all the above scales, measurement items were based on an 11-point Likert-type scale ranging from 0 = strongly disagree (or not helpful at all) to 10 = strongly agree (or extremely helpful).

The major analytical methods this dissertation used included (1) preliminary analyses: descriptive statistics (i.e., means, *SDs*, and correlations among the variables of research interest), ANOVA and its alternative tests (used to justify conducting multilevel

confirmatory factor analyses to test the reliability of measures and the factor structures of latent constructs and hierarchical linear modeling tests), data transformation (in which the skewness and kurtosis of endogenous variables were examined to check the normality of data), multilevel CFAs, principal component analyses (PCAs were performed to extract component scores), and multicollinearity tests and (2) primary analyses (i.e., HLM tests were performed given that this dissertation was a multilevel analysis).

### Significance of the Research

The findings from this dissertation make several theoretical contributions to the field of public relations. First, it extended previous relationship research in public relations by developing and testing a new model of employee-organization relationships with antecedent variables. Public relations scholars and professionals have long recognized the importance of relationship management for demonstrating the value of public relations to organizational effectiveness. This dissertation sheds light on the issue of how to build and maintain quality relationships with employees as an integral part of strategic public relations management.

Second, the existing work-life research in public relations drew upon organizational communication theories to critically analyze the way public relations professionals reconciled work-life conflicts and integrated their professional and life goals (Aldoory et al., 2008; L. Grunig, 2006). This dissertation extended the body of knowledge by introducing work-life conflict issues into relationship theory and by quantitatively examining how time-based and strain-based work-life conflict can be related to employee-organization relationships. It also contributed to public relations studies from a practical perspective. Through revealing work-life conflict as a critical

issue for the well-being of employees in organizational settings, this dissertation suggested employees' work-life experiences deserve more attention from senior management and that constructive supportive initiatives be incorporated as a constitutional ingredient of organizational strategic planning.

Third, few studies have addressed leadership-related topics in public relations scholarship, but transformational leadership has been found worth further studying as it is an important concept closely associated with communication and relationship building with both internal and external publics (Aldoory, 1998; Aldoory & Toth, 2004; Farmer et al., 1998; J. Grunig, 1992c; L. Grunig, 1993). This dissertation explored how transformational leadership behaviors of employees' direct supervisors were linked to work-life conflict that employees experienced as well as to organizations' relationship-building endeavors with their employees.

Finally, justice research in public relations scholarship has been scarce, but prior studies have uncovered the compatibility between two-way symmetry and procedural justice and called for more research in this direction (J. Grunig & White, 1992; Kim, 2007). The findings here advanced knowledge about the link between procedural justice and employee-organization relationships as well as about the link between procedural justice and work-life conflict.

## Chapter 2: Conceptualization

In this chapter, I describe the concepts of employee-organization relationships (as one type of organization-public relationships), time-based and strain-based work-life conflict (as two types of work/life conflict), transformational leadership, organizational procedural justice, and family-supportive workplace initiatives, and current studies related to these concepts. I also present the theoretical model and pose the hypotheses and research questions.

### Organization-Public Relationships

Since Ferguson (1984) suggested a shift in research focus from organizations to relationships between organizations and their publics, public relations has been developing a focus on relationship management (Broom et al., 2000; Bruning & Ledingham, 1999; Cutlip, Center, & Broom, 2000). As Bruning and Ledingham (2000) noted, this relational management approach had upgraded public relations from manipulating public opinions to a profession “[utilizing] symbolic communication messages and organizational behaviors to initiate, nurture, and maintain mutually beneficial organization-public relationships” (p. 87). Public relations contributes to organizational effectiveness by helping an organization build, develop, and maintain long-term quality relationships with its strategic publics (Dozier, L. Grunig, & J. Grunig, 1995; J. Grunig & Huang, 2000; L. Grunig et al., 2002).

Scholars and professionals need to focus on organizational levels of analysis in order to assess public relations effectiveness (L. Grunig, J. Grunig, & Ehling, 1992). Long-term management of relationships rather than short-term outcomes at the program or functional level should become the central or principal point of focus (Yang, 2005).

Scholars (e.g., J. Grunig, 2000; J. Grunig & L. Grunig, 1996, 2001; J. Grunig & Hung, 2002; Hon & J. Grunig, 1999; Kruckeberg & Starck, 1988; Ledingham, 2001; Starck & Kruckeberg, 2001) have asserted that an organization has social consequences beyond its economic bottom-line. To be socially responsible, an organization needs to cultivate quality relationships with publics and contribute to the welfare of the communities where it operates its business.

Effective public relations helps an organization select organizational goals consistent with the values of its strategic constituencies in the environment. Consequently, the organization accomplishes its goals effectively owing to its quality relationships with those constituencies (J. Grunig & Repper, 1992). In other words, with good relationships with publics, for instance customers, donors, shareholders, and legislators, organizations may reduce their costs of litigation, regulation, legislation, pressure campaigns, and boycotts and make money because of receiving their support in pursuit of organizational goals (J. Grunig & Huang, 2000, p. 32-33). For an organization's internal publics, that is, employees, quality relationships may increase their satisfaction with jobs and with their organizations. As a result, employees may be more likely to be supportive and less likely to interfere with the achievement of organizational goals (J. Grunig, 1992b).

Despite the prominence of relationships in current public relations scholarship, few scholars have defined the term "organization-public relationships" carefully, and there is no unified concept of it in public relations literature (Broom et al., 2000; J. Grunig & Huang, 2000). However, prior studies have identified several defining characteristics of relationships between organizations and their strategic publics.

First of all, interdependence and mutual consequences give rise to the formation of relationships. Broom, Casey, and Ritchey (1997) posited that relationships resulted from the expectations and perceptions of involved parties, especially the perceived necessity to build connections due to the lack of resources or the presence of threats from external environments. Broom et al. (2000), from an exchange perspective, suggested that relationships were characterized by the interactions and exchanges between organizations and their publics: “Organization-public relationships are represented by the patterns of interaction, transaction, exchange, and linkage between an organization and its publics” (p. 18). Bruning and Ledingham (1998) defined relationship as an existing state in which the behavior of one party brought about certain consequences upon the other—“. . . the actions of either entity impact the economic, social, political, and/or cultural well-being of the other entity” (p. 62). Parallel to Bruning and Ledingham, Hon and J. Grunig (1999) and Hung (2005) also stressed the consequences that organizations and their publics produced on each other in relationships. Rhee (2004), similarly, defined organization-public relationships as connections or associations resulting from necessary “repeated communication” and “behavioral consequences” between organizations and their publics (p. 9).

Second, relationships are dynamic and evolving over time but can be measured at specific points in time. Ferguson (1984) suggested that organization-public relationships can be understood in terms of the degree to which they were dynamic versus static. Broom et al. (1997) argued that relationships were dynamic and constantly evolving but they could be evaluated at a given point in time. Broom et al. (2000) also pointed out the dynamic nature of relationships and indicated that relationships could be described at a

certain point in time.

Third, the concept of relationships is largely based on the perceptions of involved parties, i.e., organizations and their strategic publics. Organization-public relationships are often experienced and perceived subjectively (Huang, 1997, p. 59). Relationships can be assessed via subjective perceptions by relational parties (Yang, 2005). Based on Laing, Phillipson, and Lee (1966) and O'Keefe (1973), Seltzer (2006) indicated that relationships could be conceptualized as the perceptions by organizations and publics, similar to marriage relationships as the perceptions by spouses. O'Keefe and Laing et al. assumed that couples share similar experiences in marriage and consequently develop similar ways of perceiving relationships as would be the case with organizations and their strategic publics.

Finally, the construct of organization-public relationships is represented by measurable dimensions, attributes, or properties, independent of the parties involved in the relationships and distinguished from the antecedents as well as the attitudinal and behavioral consequences of relationships (Broom et al., 1997, 2000; Bruning, 2002; Bruning & Ledingham, 1999, 2000; Ferguson, 1984; J. Grunig & Huang, 2000; L. Grunig et al., 2002; Huang, 1997, 2001; Ledingham & Bruning, 1998). The dimensions, attributes, or properties can also be called the indicators of quality relationships or relationship outcomes (J. Grunig & Huang, 2000; Yang, 2005). The most extensively used and widely accepted relationship indicators are satisfaction, trust, commitment, and control mutuality (e.g., Hon & J. Grunig, 1999; Huang, 1997, 1998).

Based on the above review of defining characteristics, I conceptualize employee-organization relationships as the interdependence between an organization and its



employees and the consequences of such interdependence upon both parties. Through employees' perceptions, employee-organization relationships can be measured at specific time points in terms of the extent to which employees believe both relational parties experience satisfaction with each other (satisfaction), trust of each other (trust), commit to each other (commitment), and level of control mutuality.

Previous research has relied on four indicators that define organization-public relationships: satisfaction, trust, commitment, and control mutuality (Hon & J. Grunig, 1999)

### *Satisfaction*

From a social exchange perspective, a satisfying relationship is defined as one in which the relational rewards exceed the costs of being in the relationship (Hosmer, 1996; Jo, Hon, & Bruning, 2004; Kelley & Thibaut, 1978; Stafford & Canary, 1991). That is to say, satisfaction is weighted based on the discrepancy between the expectations each party has in a relationship and what it is actually rewarded. Public relations researchers have accepted satisfaction as a concept to evaluate organization-public relationships including employee-organization relationships (J. Grunig & Huang, 2000; Hon & J. Grunig, 1999; Huang, 2001; Lewis & Spanier, 1979).

According to Hon and J. Grunig (1999), an organization-public relationship is perceived as satisfying when both parties feel that the other is expending adequate effort in cultivating the relationship. Satisfaction actually reflects how favorably one party feels toward the other when its expectations have been lived up to in the relationship. An organization-public relationship is satisfactory when one relational party recognizes that the other party has performed positive relationship maintenance behaviors. Along with

the conceptualization of satisfaction by Hon and J. Grunig, scholars have identified the affection and emotion associated with relational satisfaction—satisfaction results in favorable affective responses when positive expectations are reinforced (Bell, Daly, & Gonzalez, 1987; J. Grunig & Huang, 2000; Hecht, 1978; Stafford & Canary, 1991).

### *Trust*

Many studies in interpersonal communication, organizational communication, and relationship marketing have emphasized trust as a main construct used to measure relationships<sup>3</sup> (Anderson & Narus, 1990; Burgoon & Hale, 1984; Canary & Cupach, 1988; Carnevale, 1995; Daley & Vasu, 1995; Larzelere & Huston, 1980; Millar & Rogers, 1987; Moorman, Deshpande, & Zaltman, 1993; Morgan & Hunt, 1994; Rotter, 1967). For instance, Canary and Cupach defined trust as “a willingness to risk oneself” because the other relational party is regarded as “benevolent and honest” (p. 308). Morgan and Hunt conceptualized trust as the confidence that one party has in the other party’s reliability and integrity (p. 23). Moorman et al. interpreted trust as “willingness to rely on an exchange partner in whom one has confidence” (p. 82). Ledingham and Bruning (1998) suggested dependability, forthrightness, and trustworthiness as key components of trust. Burgoon and Hale identified the complexity in defining trust. The

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<sup>3</sup> Morgan and Hunt (1994) asserted that relationship marketing denotes actions that entrepreneurs or business partners perform toward cultivating successful relationships. Morgan and Hunt also listed several types of relational exchanges classified as relationship marketing, i.e., relational exchanges between manufactures and their suppliers, relational exchanges pertaining to service providers, for example, between marketing research agencies and their clients, between companies and their competitors, between business and non-profit organizations, partnerships pertinent to joint research or development, long-term exchanges between companies and their customers, relational exchanges between partners in channels of distribution, relational exchanges between organizations and their employees, and within-organization exchanges involving diverse business units such as divisions and subdivisions (p. 21).

researchers explained that trust actually encompasses two distinct facets: trusting versus trustworthy. Trusting indicates relational parties' vulnerability and dependence, whereas trustworthy represents the extent to which one party will not exploit the other party's vulnerability and will not destroy the mutual trust between them (p. 205).

Trust is one primary indicator of organization-public relationship quality (Becerra, 1998; Bruning & Ledingham, 1999; Hon & J. Grunig, 1999; Huang, 1997, 2001; Jo, 2003, 2006; Jo & Kim, 2003; Ledingham & Bruning, 1998). It is trust of publics (e.g., employees, customers, media, governments, stockholders, and communities) that allows organizations to exist and prosper (Verčič & J. Grunig, 1995).

Trust refers to the degree of confidence that one party in an organization-public relationship has in the other party and one's willingness to be open to the other (Hon & J. Grunig, 1999). Trust is actually made up of multiple dimensions. Integrity refers to one party's judgment about the fairness and justness of the other. Dependability is defined as each party's reliability in accomplishing its promised obligations. Competence denotes the perception by one party that the other one is capable of following through with its words (Hon & J. E. Grunig).

### *Commitment*

Commitment has been widely examined from the perspective of social exchange (Cook & Emerson, 1978; McDonald, 1981; Morgan & Hunt, 1994; Stafford & Canary, 1991). Commitment is one party's belief that an ongoing relationship with the other party is worth working on to maintain (Becker, 1960; Blau, 1964; Reichers, 1985).

Commitment has been found to be a factor leading to significant organizational outcomes, such as decreased turnover, higher motivation, and improved organizational

citizenship behaviors (Farrell & Rusbult, 1981; Lance, 1991; Porter, Steers, Mowday, & Boulian, 1974; Williams & Anderson, 1991; Williams & Hazer, 1986).

In the context of an organization-public relationship, Ledingham and Bruning (1998) conceptualized commitment as relational partners' decision to continue a valued relationship and share responsibility to work together on difficulties facing them. The commitment employees have toward their organizations can be understood as "the extent to which employees feel committed to their organizations by virtue of the costs that they feel are associated with leaving" (Meyer & Allen, 1984, p. 375). Mowday, Steers, and Porter (1979) conceptualized commitment as employees' "strong belief in and acceptance of the organization's goals and values," "[employees'] willingness to exert considerable effort on behalf of the organization," and "[employees'] strong desire to maintain membership in the organization" (p. 226).

Hon and J. Grunig (1999) defined commitment as the extent to which each party realizes that the organization-public relationship is worth spending energies to cultivate. It can be conceptualized in two ways. Continuance commitment has to do with the perception by each party that a relationship is worthy of earnest and conscientious activities to maintain. Affective commitment denotes the emotional work expended in maintaining the relationship, i.e., the establishment of a psychological attachment between organizations and their publics (Hon & J. Grunig).

### *Control Mutuality*

Control mutuality refers to whether and how parties involved in relationships can participate in decision making (Aldrich, 1975; Bruning & Ledingham, 1999; Canary & Stafford, 1992; Ferguson, 1984; Moore, 1986). According to Stafford and Canary (1991),

control mutuality, as a norm of reciprocity, refers to the extent to which both parties agree on the way relationship goals are determined and behavioral routines are decided.

Hon and J. Grunig (1999) defined control mutuality as the degree to which the parties in an organization-public relationship agree on who is authorized to exercise control. According to Seltzer (2006), organizations often possess resources that grant them an advantageous position in use of power. Unequally distributed power can be acceptable as long as both parties reach consensus after negotiation (Huang, 1997, 2001; J. Grunig & Huang, 2000; L. Grunig et al., 1992). Nevertheless, in a stable and positive relationship, both organizations and their strategic publics need some degree of influence over the other (Seltzer, 2006; Ki & Hon, 2007a; Yang, 2005).

#### *Models of Organization-Public Relationships*

Scholars have developed models to depict the associations between organization-public relationships and other related variables. For instance, there has been an organization-public relationship model made up of six variables: intimacy, trust, control, perceptions, communication behaviors, and relational outcomes (Ballinger, 1991), a two-step longitudinal physician-patient relationship model illustrating the antecedents and consequences of physician-patient interactions (Lucarelli-Dimmick, Bell, Burgiss, & Ragsdale, 2000), and a communication management model with organizations at one end and publics at the other that acknowledges the importance of interpersonal communication for public relations (Toth, 2000). Two of the most frequently tested and supported models for organization-public relationships are Broom et al.'s (2000) model and J. Grunig and Huang's (2000) model. These two are summarized below.

*Broom et al.'s (2000) Three-Stage Model of Organization-Public Relationships*

Broom et al.'s (2000) three-stage model centered on the reasons why organizations built relationships with their publics (antecedents), the properties a relationship had (relational properties), and the consequences the relationship brought to both relational parties (consequences). According to Broom et al. (2000), "Antecedents to relationships include the perceptions, motives, needs, behaviors, and so forth, posited as contingencies or as causes in the formation of relationships" (p. 16). Social and cultural norms, collective perceptions, and expectations, needs for resources, perceptions of uncertain environment, and legal/voluntary necessity explained the formation of relationships with certain publics (p. 16). Relational properties consisted of "properties of exchange, transactions, communications, and other interconnected activities" (p. 16). Broom et al. (2000) defined consequences as the relationship outputs influencing the environment and affecting the achievement of goals inside and outside the organization (p. 16).

*J. Grunig and Huang's (2000) Model of Organization-Public Relationships*

J. Grunig and Huang (2000) extended Broom et al.'s (2000) research by examining relationship maintenance strategies as a variable leading to certain relationship outcomes. J. Grunig and Huang defined the antecedents of relationships as both situational and behavioral. The model they proposed focused on situational antecedents, specifically, diverse situations and different behavioral consequences stemming from the behaviors of organizations and their publics: (1) An organization could influence its publics and vice versa; (2) an organization-public coalition could influence another organization or another public and vice versa; finally, (3) multiple organizations could

influence multiple publics.

J. Grunig and Huang (2000) discussed both 1) symmetrical<sup>4</sup> and 2) asymmetrical<sup>5</sup> maintenance strategies<sup>6</sup>. J. Grunig (2002) suggested two-way symmetrical communication as the key component of relationship cultivation strategies. As Hon and J. Grunig (1999) argued, “The most productive relationships in the long run are those that benefit both parties in the relationship rather than those designed to benefit the organization only” (p. 11). Control mutuality, commitment, satisfaction/liking, trust, and goal attainment were the relationship outcomes that J. Grunig and Huang (2000) emphasized. This model of organization-public relationships posited that situational antecedents determined the use of cultivation strategies, which might cause relationship outcomes.

#### *Elaborating and Testing New Models of Employee-Organization Relationships*

It is obviously imperative to study the initial formation of a relationship. Nevertheless, it is also pivotal to explore the variables that can potentially affect the

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<sup>4</sup> Symmetrical maintenance strategies consist of disclosure (openness), assurances of legitimacy, participation in mutual networks, shared tasks (helping to solve problems of interest to the other party), integrative negotiation, cooperation/collaboration, being unconditionally constructive, win-win or no deal (J. Grunig & Huang, 2000, p. 34).

<sup>5</sup> Asymmetrical maintenance strategies were composed of distributive negotiation, avoiding, contending, compromising, and accommodating (J. Grunig & Huang, 2000, p. 34).

<sup>6</sup> Based on Canary and Stafford (1994), Plowman (1995), Huang (1997), Hon and J. Grunig (1999), J. Grunig and Huang (2000), and Hung (2002), Hung (2007) summarized the relationship cultivation strategies that previous research proposed. Symmetrical strategies included access, positivity, openness or disclosure, assurances of legitimacy, networking, sharing of tasks, dual concern, cooperating, being unconditionally constructive, stipulating win-win or no deal, and keeping promise (pp. 459-461). Asymmetrical strategies consisted of contending, avoiding, accommodating, compromising, and distributive strategies (pp. 460-461).

development of the relationship and publics' perceptions of the relationship at specific points during its development. Broom et al. (2000) failed to address the variables that could arise between antecedents and relationship consequences in time and affect publics' perceptions of relationship qualities. J. Grunig and Huang's (2000) model described the importance of establishing links between diverse antecedent variables and organization-public relationship outcomes or qualities of relationships. However, the situational and behavioral antecedents that this model highlighted may be "too broad or too vague to be used for employee-organization relationships" (Kim, 2005, p. 29).

This dissertation drew upon Broom et al.'s (2000) and J. Grunig and Huang's (2000) research by building a new model with outcomes of employee-organization relationships (with trust, commitment, satisfaction, and control mutuality as four distinct measuring dimensions) as the focal construct. It also attempted to fill the gaps in those models by incorporating time-based and strain-based work-life conflict (as two types of work/life conflict) as the preceding occurrences, causes, or experiences during the development of employee-organization relationships.

### Work/Life Conflict

Work/life conflict has been extensively examined as a variable associated with employees' perceptions of their organizations in organizational behavior and human resource fields (Kossek & Ozeki, 1998). Scholars have also started to incorporate it in public relations research (Aldoory et al., 2008).

Communication scholars have attempted to interpret work/life conflict. For example, Medved (2004) defined work/life conflict in terms of the degree to which people could handle temporary or permanent interruptions to their daily routines in their



work and personal lives. According to Brown (2005), work/life conflict does not mean an equal amount of time has been devoted to work as well as activities out of work.

Work/life conflict is never constant, varies from individual to individual, and changes as life changes. Work/life conflict, as it is traditionally conceived, refers to one type of interrole conflict (e.g., Galinsky, Bond, & Friedman, 1996; Goff, Mount, & Jamison, 1990; Greenhaus & Beutell, 1985; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Mitchell (1968) defined interrole conflict as an “incompatibility between performing certain prescriptions of one [role] and carrying out those of another [role]” (p. 151).

Although many studies have focused on the conflict between work and family life, have found that employees without traditional families experienced the conflict as well and suggested that it was beneficial to broaden the scope of work/family conflict research to consider work/personal life conflict (Grant-Vallonea & Ensherb, 2001; Wadsworth & Owens, 2007). Therefore, this dissertation focused on the experiences of employees in integrating their job responsibilities and activities outside their work, such as family, leisure time, and community services.

This complexity stems from 1) the bidirectional nature of work/life conflict and 2) the various antecedents of work/life conflict (e.g., Aycan & Eskin, 2005; Boles, Howard, & Donofrio, 2001; Dierdorff & Ellington, 2008; Lambert, Pasupuleti, Cluse-Tolar, Jennings, & Baker, 2006; van Daalen, Willemsen, & Sandersc, 2006; Wadsworth & Owens, 2007).

It is important to make a distinction between work interfering with personal issues, i.e., *work-life conflict* and personal issues interfering with work, i.e., *life-work conflict*. Work-life conflict arises when some responsibilities from the work are not

compatible with those from the nonwork and this incompatibility results in negative influence upon an employee's life quality. Life-work conflict occurs when an overabundance of role demands from the nonwork domain negatively impacts an employee's work (e.g., Adams, King, & King, 1996; Bedeian et al., 1988; Carlson & Frone, 2003; Frone, Barnes, & Farrell, 1994; Frone et al., 1992a, 1992b, 1997; Frone, Yardley, & Markel, 1997; Greenhaus & Beutell, 1985; Greenhaus, Collins, Singh, & Parasuraman, 1997; Gutek et al., 1991; Kahn, 1981; Kahn et al., 1964; MacEwen & Barling, 1994; Moen, 1982; Netenmeyer et al., 1996; O'Driscoll, Ilgen, & Hildreth, 1992; Parasuraman, Purohit, Godshalk, & Beutell, 1996; Reynolds, 2005).

Second, antecedents of work/life conflict have been classified into three broad categories: (1) time-based, (2) strain-based, and (3) behavior-based sources. *Time-based conflict* appears when the amount of time an employee devotes to work/family and social lives leaves him or her too little time to be spent on family and social/job responsibilities (e.g., Greenhaus & Parasuraman, 1994; Stephens & Sommer, 1996; Rotondo, Carlson, & Kincaid, 2003). *Strain-based conflict* comes into being when the stress, for instance, such as fatigue, anxiety, depression, apathy, irritability, tension, and psychological preoccupation that an employee experiences in the work/nonwork arena prevents an effective fulfillment of expectations from his or her nonwork/work role (e.g., Brief, Schuler, & Van Sell, 1981; Ivancevich & Matteson, 1980; Jones & Butler, 1980; Kopelman, Greenhaus, & Connolly, 1983; Netenmeyer et al., 1996; Thomas & Ganster, 1995). Behavior-based conflict reflects the fact that special patterns of behaviors that a certain role prescribes may be incompatible with behavioral routines that another role deems appropriate (e.g., Anderson, Lievens, van Dam, & Born, 2006; Bartolome, 1972;

Burke & Bradshaw, 1981; Eagly & Karau, 2002; Greiff & Munter, 1980; Ryan & Haslam, 2007).

Based on (1) the bidirectional nature of work/life conflict and (2) its three major sources, past research has consistently examined the follow six forms of the interrole conflict (see Table 1): (1) time-based work-life conflict, (2) strain-based work-life conflict, (3) behavior-based work-life conflict, (4) time-based life-work conflict, (5) strain-based life-work conflict, and (6) behavior-based life-work conflict (e.g., Anderson et al., 2006; Bartolome, 1972; Bartolome & Evans, 1979; Brief et al., 1981; Burke & Bradshaw, 1981; Cooke & Rousseau, 1984; Dennis & Kunkel, 2004; Eagly & Karau, 2002; Greenhaus, 1988; Greenhaus & Beutell, 1985; Greiff & Munter, 1980; Gutek, Searle, & Klepa, 1991; Ivancevich & Matteson, 1980; Jones & Butler, 1980; Kahn & Byosiore, 1992; Kahn et al., 1964; Kopelman et al., 1983; Netenmeyer et al., 1996; Pleck, Staines, & Lang, 1980; Ryan & Haslam, 2007; Sczesny, 2003; Sczesny & Stahlberg, 2002; Thomas & Ganster, 1995; Voydanoff, 1988).

#### *Time-Based Work-Life Conflict*

Time-based work-life conflict refers to the situation that time committed to duties in work makes it difficult for an individual to perform activities required by nonwork roles (Bartolome & Evans, 1979; Greenhaus & Beutell, 1985; Netenmeyer et al., 1996; Pleck et al., 1980). For example, individuals' work schedules or job deadlines may prevent them from attending an important family reunion (Carlson & Frone, 2003). A scheduled business meeting may interfere with a child's school event (Grant-Vallonea & Ensherb, 2001). Time-based work-life conflict suggests that when employees devote more for their employer organizations, they can contribute less time and energy to their

household and social commitments (Hochschild, 1997).

Table 1

*Different Forms of Work/Life Conflict as an Interrole Conflict*

		Sources of Work/Life Conflict		
		Time-based	Strain-based	Behavior-based
Bidirectionality of Work/Life Conflict	Work-life	Time-based work-life conflict	Strain-based work-life conflict	Behavior-based work-life conflict
	Life-work	Time-based life- work conflict	Strain-based life-work conflict	Behavior-based life-work conflict

*Strain-Based Work-Life Conflict*

As strain-based work-life conflict entails, employees, when being psychologically preoccupied with work, are unable to fully comply with those commitments in their non-work roles (Netermeyer et al., 1996). It results from employees' stressful experiences at work causing problems in their personal lives (van Daalen et al., 2006). For instance, employees cannot stop contemplating work when they are actually involved in their personal lives (Carlson & Frone, 2003). Another example is when a social worker fails to rescue an abused woman from her dangerous marriage, he or she might go back home stressed out and become preoccupied with the frustration (Lambert et al., 2006).

*Behavior-Based Work-Life Conflict*

Previous research has suggested that managerial stereotypes stress independence,

emotional stability, aggressiveness, objectivity, impersonality, logic, power, ambition, and authority. At home, spouses and children may expect a person to be communal, nurturing, intuitive, expressive, emotional, sensitive, dependent, warm, and accommodating during interactions (Dennis & Kunkel, 2004; Sczesny, 2003; Sczesny & Stahlberg, 2002). If employees fail to adjust their behaviors to meet the expectations of the different roles that they enact, they may get caught in vastly different behavioral systems and experience the conflict between the work and nonwork domains (Greenhaus & Beutell, 1985). Behavior-based work-life conflict arises when employees are expected to enact roles at work that are actually inappropriate in family and social life. For example, human services workers may unconsciously treat their spouses, children, and friends as their clients and impose inappropriate interventions upon them (Lambert et al., 2006).

#### *Time-Based Life-Work Conflict*

In comparison with time-based work-life conflict, time-based life-work conflict represents the outward interference on work caused by time pressures resulting from nonwork domains. According to Carlson and Frone (2003), this interference occurs when demands in an employee's personal life inhibit or prevent his or her high-quality performances at work. For instance, taking care of children who are ill at home may preclude parents from getting to work on time. As employees devote more time in accomplishing the obligations of their nonwork roles, they have to allocate less time to fulfill their job responsibilities.

#### *Strain-Based Life-Work Conflict*

Strain-based life-work conflict involves internally generated psychological

preoccupation with nonwork duties that interferes with an employee's ability to become fully engaged in his or her job (Carlson & Frone, 2003). For example, employees who are taking care of ill family members may unwittingly take out stress and tensions on their colleagues and clients (Lambert et al., 2006).

#### *Behavior-Based Life-Work Conflict*

In contrast to behavior-based work-life conflict, behavior-based life-work conflict manifests the nonwork roles an employee is supposed to play are not in agreement with his or her role at work. As Greenhaus and Beutell (1985) explained, "Specific patterns of in-role behavior [in personal life] may be incompatible with expectations regarding behavior [at work]" (p. 81). For example, social workers with young children at home may inadvertently treat their adult clients as children (Lambert et al., 2006).

#### *Rationale for Focusing on Time-Based and Strain-Based Work-Life Conflict*

This dissertation did not intend to examine all the six forms of work/life conflict. Rather, it focused on (1) time-based and (2) strain-based work-life conflict for the following reasons.

First, in past research, employees reported work-life conflict more frequently than life-work conflict (Eagle, Miles, & Icenogle, 1997; Frone, 2003; Frone, Yardley, & Markel, 1997). An intriguing explanation of the phenomenon is that work and nonwork roles have differential "permeability" (Grandey, Cordeiro, & Crouter, 2005, p. 306). In comparison with employees' work roles, their personal roles are less "structured and formalized" and therefore more "permeable" (p. 306). As a consequence, nonwork obligations are more easily interfered with by job demands than the other way around.

Second, directionality appears to make a difference in terms of the magnitude of

the relationship between work/life conflict and its work-related outcome variables. Specifically, work-life conflict is strongly related than life-work conflict to organizational outcomes, including job satisfaction, job distress, and turnover intentions (e.g., Adams et al., 1996; Allen, Herst, Bruck, & Sutton, 2000; Boles et al., 2001; Casper, Martin, Buffardi, & Erdwins, 2002; Gignac, Kelloway, & Gottlieb, 1996; Good, Sisler, & Gentry, 1988; Grandey et al., 2005; Kossek & Ozeki, 1998; Netemeyer et al., 1996; O'Driscoll et al., 1992). When work is a threat to the time and energy that personal life consumes, work-life conflict, rather than life-work conflict, is more likely to be a predictor of employees' negative attitudes and perceptions about their employers (Byron, 2005; Grandey et al., 2005; Weiner, 1985). This dissertation investigated the possible linkage between employees' perceptions of relationships with their organizations (an organization-related outcome variable) and the interference between work and nonwork. It is plausible that work-life conflict, instead of life-work conflict, may be more strongly associated with employee-organization relationships.

Third, behavior-based conflict originates from the differing norms of behavior that work and nonwork domains prescribe. As a consequence, one role intrudes upon another (Greenhaus & Beutell, 1985). Previous research suggested that significant variance in behavior-based conflict linked specifically to an employee's occupational membership, specifically, the unique work structure each occupation creates (Johns, 2006; Kossek, Lautsch, & Eaton, 2005; Olson, Buchanan & Boswell, 2006). As pointed out by Dierdorff and Ellington (2008), "the specific differences in behavioral requirements [are] directly inherent to occupations" (p. 884). Behavior-based work/life conflict was out of the scope of research interest in this dissertation.

Finally, scholars have adopted the idea of “valued resources” in interpreting the interference between work and nonwork roles that employees enact (Lapierre & Allen, 2006, p. 170). Work/life conflict arises when one role takes in the resources, i.e., time and energy, that employees need to expend on the other role. More specifically, time-based conflict represents one role using up the time and taking away the scheduling flexibility necessary for fulfilling the commitments that the other role demands. Strain-based conflict, however, reflects stressors in one role, for instance, role ambiguity and temporarily sick family members, deplete physical and mental energy indispensable for accomplishing the responsibilities that the other role entails (Byron, 2005; Carlson et al., 2000; Edwards & Rothbard, 2000; Grandey & Cropanzano, 1999). In this conception, behavior-based conflict does not indicate “resource loss” (Lapierre & Allen, p. 170). This dissertation examines certain independent variables that would alleviate the level of employees’ perceived conflict or prevent such “resources loss.” For the above reasons, this dissertation only investigated two dimensions of work/life conflict—time-based work-life conflict and strain-based work-life conflict.

#### *Work-Life Conflict and Quality of Employee-Organization Relationships (EORs)*

Previous research on work-life conflict has been precipitated by its negative consequences upon employee- and organization-related outcomes (e.g., Allen, Herst, Bruck, & Sutton, 2000; Aryee, Srinivas, & Tan, 2005; Kossek & Ozeki, 1998). One objective of this dissertation was to hypothesize and test the relationship between employees’ perceived level of work-life conflict and quality of employee-organization relationships (EORs).

A careful analysis of the literature showed that social exchange theory and



conservation of resources (COR) theory have provided a theoretical foundation for the linkage between quality of employee-organization relationships and employees' perceived time- and strain-based work-life conflict (Grandey & Cropanzano, 1999; Karatepe & Kilica, 2007; Netemeyer, Maxham, & Pullig, 2005; Siegel et al., 2005; Wang & Walumbwa, 2007).

*From the Perspective of Social Exchange: Work-Life Conflict and Quality Indicators of EORs*

Social exchange theory focuses on a process of exchanges between parties involved in relationships, a process negotiated through analyzing costs and benefits and comparing alternatives (Blau, 1964). In the context of work-life conflict and employee-organization relationships, when employees perceive that the costs of being in relationships with their organizations outweigh the associated benefits, they may perceive the relationships as negative. Social exchange theory rests upon the principle of reciprocity: Responding to a positive (negative) action with another positive (negative) action (Gouldner, 1960). Therefore, individuals reciprocate or return commensurately what they have received or not received from the other party within a relationship (Blau, 1964; Gouldner, 1960).

If an employee has to work long hours or suffer from great job strain, he or she will be incapable of devoting sufficient time and energy to his or her family and social activities. In this situation, it is very likely for employees to impute their experiences of high work-life conflict and subsequent deleterious outcomes to their organizations because these organizations have failed to facilitate their integration of work and nonwork. According to the principle of reciprocity that social exchange theory stipulates,

employees may choose to reciprocate low satisfaction with the source of the interference, i.e., their employing organizations (Aryee et al., 2005; Brough et al., 2005; Lapierre et al., 2008; Lu, Kao, Chang, Wu, & Cooper; 2008). In a similar vein, employees may attribute their frustration to a demonstration of the organization's lack of care and concern for their well-being and therefore choose not to reciprocate with commitment (Allen et al., 2000; Casper, Martin, Buffardi, & Erdwins, 2002; Herscovitch & Topolnytsky, 2002; Netemeyer et al., 1996; Rhoades & Eisenberger, 2002) or trust (Carlson & Kacmar, 2000; Grandey et al., 2005, Lazarus, 1991). Employees and their organizations are engaged in an exchange of control and power over their relationship (Sinclair, Hannigan, & Tetrick, 1995). When employees are confronted with a high level of job interference with their personal life, they may feel strongly disadvantaged because of being deprived of the adequate amount of control over the relationship that they deserve.

*From the Perspective of Conservation of Resources (COR): Work-Life Conflict and Quality Indicators of EORs*

The cardinal ingredient of COR theory is that employees rely on life-sustaining resources in order to survive and prosper in both work and personal life domains (Karatepe & Kilica, 2007). When confronted with the risk of losing such critical resources due to the job's interference with off-work activities, employees may perform job responsibilities ineffectively, receive negative appraisals from coworkers and supervisors, display feelings of disappointment and guilt concerning lack of fulfillment of their nonwork responsibilities, and manifest deleterious affect toward the source of resource loss and work-nonwork interference, i.e., the organizations (Brough, O'Driscoll,

& Kalliath, 2005; Grandey & Cropanzano, 1999; Hobfoll, 1989, 2002).

Based on the aforementioned explanations, it may be sensible to hypothesize that employees, when potentially or actually losing resources in the workplace may demonstrate (1) decreased level of satisfaction, (2) reduced confidence they have in their organizations and willingness to be open to them, (3) diminished commitment toward the organizations, and (4) lessened satisfaction with the amount of control over the relationships with their employer.

### *Empirical Evidence*

The argument of employees' reciprocation with reduced satisfaction and commitment toward their organizations has received considerable empirical support (e.g., Adam, King, & King, 1996; Ayree, 1992; Aryee, Srinivas, & Tan, 2005; Bacharach, Bamberger, & Conley, 1991; Boyar & Mosley, 2007; Brett, 1997; Gordon, Whelan-Berry, & Hamilton, 2007; Grover & Crooker, 1995; Judge, Boudreau, & Bretz, 1994; Klerman & Leibowitz, 1999; Konek & Kitch, 1994; Kossek, 1990; Kossek & Ozeki, 1998; Lobel, 1999; Lyness & Thompson, 1997; Netemeyer et al., 1996; Noor, 2003; Oppenheim-Mason & Duberstein, 1992; Parasuraman, Greenhaus, & Granrose, 1992; Parasuraman, Greenhaus, Rabinowitz, Bedeian, & Mossholder, 1989; Thompson, Beauvais, & Lyness, 1999).

Researchers reported that work-life conflict decreased employees' job satisfaction in the US tourism and hospitality industry (Boles & Babin, 1996; Good, Sisler, & Gentry, 1988; Namasivayam & Mount, 2004). Boles, Howard, and Donofrio (2001) found that higher work-life conflict was related to lower job satisfaction among retail managers. Burke (1989, 1993, 1994) discovered a consistent negative correlation between work-life

conflict and job satisfaction among police officers. According to Lambert et al. (2006), scholars have well documented a negative association between work-life conflict and organizational commitment among social workers and human services employees. The lack of empirical research on the way work-life conflict relates to the level of trust and the amount of control that employees possess toward their organizations has actually underscored the need for more studies.

Based on the previous research findings, the following hypotheses are presented:

Hypothesis 1 (H<sub>1</sub>): The higher the level of employees' perceived time-based work-life conflict, the lower the quality of employee-organization relationships.

Hypothesis 2 (H<sub>2</sub>): The higher the level of employees' perceived strain-based work-life conflict, the lower the quality of employee-organization relationships.

### *Leadership*

What behaviors do organizations perform to ease work-life conflict? Supervisory support has been related to lower levels of work-life conflict (Allen, 2001; Judge & Colquitt, 2004; Thomas & Ganster, 1995). Employees' perceptions of their immediate supervisors' leadership behaviors may be one type of organizational responsiveness tied to work-life issues (see Milliken, Martins, & Morgan, 1998). Therefore, this dissertation explored leadership as a potential building block linking to work-life conflict and quality of employee-organization relationships (see Figure 2).

### *Leadership Styles*

Leadership styles stem from the worldview that leaders hold and define their own behaviors (Bass, 1985; Kanste et al., 2007; McWhinney, 1997). Leadership styles are not related to an individual's ability to lead but are relevant to how leading is perceived and

understood (Aldoory & Toth, 2004). The two most frequently examined styles of leadership are transformational and transactional (Bass & Avolio, 2004).

Transformational leadership and transactional leadership have been observed at all organizational levels in diverse settings including industrial, government, educational, nonprofit, and military organizations (Avolio et al., 1999; Avolio & Yammarino, 2002).

### *Transformational Leadership*

Transformational leadership involves creating a shared vision and communicating it to organizational members in a charismatic way that results in their positive emotional responses and commitment to the vision (Bass & Avolio, 1993; Ehrhart & Klein, 2001; Houghton & Yoho, 2005; Kark, Shamir, & Chen, 2003). Kouzes and Posner (1995) defined transformational leadership as “the art of mobilizing others to want to struggle for shared aspirations” (p. 30). Transformational leaders encourage their followers or associates to fully develop their potential and strive for high moral and ethical standards (McWhinney, 1997). In this way transformational leaders optimize the development of individuals, groups, and organizations (Bass & Avolio, 1995, 1997, 2004).

Transformational leadership has been found to be the most effective leadership style and is associated with high performances and positive outcomes (Yammarino & Dubinsky, 1994).

Transformational leadership is made up of the following four elements: idealized influence (charisma), inspirational motivation, intellectual stimulation, and individualized consideration (Avolio et al., 1999; Bass & Avolio, 1995, 1997, 2004; Chemers, 1997).

Idealized influence (charisma) indicates that followers perceive their leaders as trustworthy, capable of establishing a vision, and able to motivate them to accomplish the

vision (Chemers, 1997). Idealized influence consists of two distinct dimensions: idealized attributes (IA) and idealized behaviors (IB) (Bass & Avolio, 1995, 1997, 2004). IA is distinguished by the attributes of transformational leaders as being charismatic and transcendental, i.e., their attempts to build in others pride, respect, power, influence, and strive for the achievement of a collective vision. Nevertheless, IB emphasizes the actual behaviors of leaders, such as articulating the importance of moral and ethical values and that of a shared mission (Avolio et al., 1999; Bass & Avolio, 1995, 1997, 2004).

Inspirational motivation refers to the emotional appeal of the vision a leader establishes. With inspirational motivation, leaders can transcend self-interests and goals of individuals and achieve their high commitment toward a highly inspiring common vision (Chemers, 1997). Leaders encourage their associates to envision a bright future, articulate what needs to be done, and express confidence that it can ultimately be accomplished (Bass & Avolio, 1995, 1997, 2004).

Being intellectually stimulating, transformational leaders not only encourage their followers to challenge the customary ways of solving problems but also motivate them to think independently about potential alternatives (Avolio et al., 1999; Chemers, 1997). Leaders engage their followers in the process of problem solving and decision making by soliciting new perspectives and novel solutions. Critical assumptions are collectively questioned and reframed (Bass & Avolio, 1995, 1997, 2004).

Valuing individualized consideration, transformational leaders respect their followers as individuals with unique characteristics and needs. Subordinates are treated differently, but in an equitable and just way (Chemers, 1997). These leaders recognize individuals' needs, abilities, and desires. As mentors, they help each individual develop

her or his full potential by providing a supportive learning environment and individualized opportunities (Avolio et al., 1999).

### *Transactional Leadership*

The transactional nature denotes that leaders reward quality performance and productivity of subordinates with pay and other benefits and punish inadequate performance. Transactional leaders look for deviations from rules and regulations and coordinate or correct followers' behaviors when necessary (Houghton & Yoho, 2005).

Transactional leadership is characterized by certainty, direction, guidance, and personal oversight (Cruz, Henningsen, & Smith, 1999). Transactional leadership is (1) constructive, i.e., contingent reward and (2) corrective, i.e., management-by-exception (Avolio et al., 1999; Bass & Avolio, 1995, 1997, 2004). Contingent reward implies that there is a close agreement between leaders and their followers regarding what is expected between them (Chemers, 1997; Yammarino, Spangler, & Dubinsky, 1998). Management-by-exception means that leaders intervene when troubles arise or things go wrong and they apply contingent punishments to their followers (Chemers, 1997). Many studies have asserted that transactional leadership is not as effective at increasing subordinates' job satisfaction and other positive attitudes as other leadership styles (Gardner & Cleavenger, 1998; Lowe, Kroeck, & Sivasubramaniam, 1996).

With transactional contingent-reward leadership, leaders specify expectations and offer accolades if objectives are achieved (Avolio et al., 1999). The positive outcome of contingent reward is that individuals, groups, and organizations achieve high levels of performance and accomplish established goals (Bass & Avolio, 1995, 1997, 2004).

The second facet of transactional leadership is active management-by-exception (MBEA). MBEA focuses on monitoring task performance and correcting any irregularities, mistakes, exceptions, and deviations that come up so as to maintain desirable levels of performance (Avolio et al., 1999). By MBEA, leaders set standards for both effective and ineffective performances and reward or punish their followers accordingly (Bass & Avolio, 1995, 1997, 2004).

#### *Rationale for Focusing on Transformational Leadership*

This dissertation focused on the transformational leadership style of employees' direct supervisors for several reasons.

First of all, because leadership styles constitute the basis for theoretical development in leadership scholarship (McWhinney, 1997), integrating leadership research in the public relations literature should start with examining leadership styles and employees' perceptions of leadership styles (Aldoory & Toth, 2004, p. 158). In reality, public relations scholars have suggested that leaders in effective organizations perform transforming leadership styles (e.g., Farmer et al., 1998; J. Grunig, 1992c). Farmer et al. studied the relationship between organizational members' shared visions of the organization's goals and communication activities that occurred between the leader and public relations staff. Leaders who seek input from various organizational levels are more likely to share their vision than those who impose their plans and policies through only persuasion and coercion.

Second, among diverse leadership styles, transformational leadership is believed to be most closely associated with effective job performance and positive outcomes of organizational relevance, including job satisfaction, trust, and organizational commitment



(Jin, 2008; Wang & Walumbwa, 2007). It seems theoretically plausible that the level of immediate supervisors' transformational leadership may be positively linked with employees' perceptions of quality relationships with their organizations. Moreover, this dissertation hypothesized an inverse direct effect of work-life conflict on quality of employee-organization relationships. An intriguing idea to explore was that work-life conflict might mediate the relationship between transformational leadership and quality employee-organization relationships (see Brough & Pears, 2004; Thomas & Ganster, 1995).

Most importantly, the classification of transformational supervisors as supportive can account for integrating transformational leadership into the study of work-life conflict and employee-organization relationships (see Julien, 2008). Scholars have called for research examining the variables related to "managers' behaviors" that could potentially mitigate work-life conflict (Friedman et al., 1998, p. 119). "Any organizational attempts to improve work-family [and work-life] issues will be neutralized if employees' supervisors are not supportive of them" (Judge & Colquitt, 2004, p. 397). Thus, it is theoretically important to investigate supportive transformational leadership behaviors of employees' direct supervisors as a possible non-contentbased and intangible<sup>7</sup> structural solution in the workplace.

#### *Transformational Leadership Leading to Reduction in Work-Life Conflict*

Organizations must foster an environment in which direct supervisors applaud employees' efforts in striving for a better balance between work and nonwork life

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<sup>7</sup> Siegel et al. (2005) labeled organizational initiatives (e.g., child day-care services and parental leave policies) as "contentbased initiatives" and "tangible, formal arrangements" (p. 14).

(Breugh & Frye, 2008; Clark, 2001; Kossek, Colquitt, & Noe, 2001; Luk & Shaffer, 2005; Thompson et al., 1999). Because immediate supervisors can influence employees' workload and work-related stressors, they play an important role in reducing the interference of employees' work commitments on their nonwork ones (Beehr, Farmer, Glazer, Gudunowski, & Nair, 2003; Julien, 2008; Lapierre & Allen, 2006; O'Driscoll et al., 2003; van Daalen, Willemsen, & Sandersc, 2006).

In general, transformational supervisors tend to look at problems from many different perspectives, seek alternatives other than routine solutions when facing challenging situations, and recognize employees' personal concerns and needs (Friedman et al., 1998). Thus, when employees report their frustration in integrating work and nonwork commitments, transformational supervisors may welcome opportunities to discuss nonwork related problems, tend to be flexible when emergencies arise, and help their employees accommodate those competing responsibilities from different domains (Allen, 2001; Frye & Breugh, 2004; Judge & Colquitt, 2004).

#### *From the Perspective of Social Support: Transformational Leadership and Work-Life Conflict*

Past research on social support and work-life conflict has provided a theoretical explanation for the possible linkage between transformational leadership behaviors of employees' direct supervisors and work-life conflict (Lapierre & Allen, 2006; Nielson, Carlson, & Lankau, 2001; Noor, 2003). One important type of social support in the workplace is interpersonal transactions with direct supervisors (Allen, 2001). It has been reported to be negatively related to work-life conflict (Frone, Russell, & Cooper, 1995; Grzywacz & Marks, 2000). Direct supervisors support employees by offering advice (i.e.,

informational support), tangible resources (i.e., instrumental support), assistance in interpreting and evaluating problems (i.e., appraisal support), and concern and empathy (i.e., emotional support) (Nielson et al., p. 366).

As for informational and appraisal support, transformational supervisors, are capable of providing suggestions and advice on how to compromise the conflicting demands from work and nonwork lives. Transformational supervisors inform their employees about job priorities and motivate them to judge where work responsibilities and personal concerns lie in the spectrum of their overall life priorities. Transformational supervisors also specify where work and life roles can overlap and where they should be separate, and they help employees reconcile the competing interests of individuals and organizations and achieve win-win situations (Friedman et al., 1998).

As for instrumental and emotional support, characterized by being intellectually stimulating, transformational supervisors can experiment with alternative ways that work can be done, leaving time and energy for employees' personal pursuits (Friedman et al., 1998). Practicing individual consideration, transformational supervisors show genuine concern, understanding, and empathy toward employees' juggling both work and nonwork roles, and thus are capable of addressing job requirements and personal agendas simultaneously (Aycan & Eskin, 2005; Behson, 2002; Rousseau, Ho, & Greenberg, 2006).

*From the Perspective of Conservation of Resources (COR): Transformational Leadership and Work-Life Conflict*

Compatible with the social support perspective, scholars have also adopted Hobfoll's (1989) conservation of resources theory (COR) in positing a negative

relationship between supportive transformational supervisors and work-life conflict.

Employees who have more resources, such as help, understanding, and support from their immediate supervisors, tend to perceive reduced levels of work-life conflict (e.g., Allen, 2001; Brough & O'Driscoll, 2005; Clark, 2001; Grandey & Cropanzano, 1999; Kim & Ling, 2001; Nielson et al., 2001; Poelmans et al., 2003; Thomas & Ganster, 1995; Thompson, Brough, & Schmidt, 2006).

### *Empirical Evidence*

Empirical research has pointed out that organizational support from transformational leaders helped attenuate levels of perceived work-life conflict (Anderson, Coffey, & Byerly, 2002; Deeter-Schmelz & Ramsey, 1997; Dunseath, Beehr, & King, 1995; Greenhaus & Parasuraman, 1999; Karatepe & Kilica, 2007; Leithwood, Menzies, Jantzi, & Leithwood, 1996; Siegel et al., 2005; Wang & Walumbwa, 2007). As a critical ingredient of transformational leadership, individualized consideration resembles the construct of “idiosyncratic deals” (“i-deals”) that Hornung, Rousseau, and Glaser (2008) proposed. I-deals refers to special employment conditions that meet employees’ personal needs and preferences that are not otherwise obtainable through the [organization]’s standard practices, such as flexible scheduling of working hours (Hornung et al., pp. 655-656). Hornung et al. conducted a survey of 887 employees in a German government agency and concluded that the idiosyncratic deals (“i-deals”) that employees negotiated with their immediate supervisors were positively related to levels of work-life conflict (p. 655). Considering the parallel between individualized consideration and i-deals, I would argue that Hornung et al.’s research has provided some

support for the hypothesized negative relationship between transformational leadership of employees' direct supervisors and employees' levels of work-life conflict.

Based on the aforementioned arguments and the empirical evidence, it seems feasible to assume that direct supervisors' transformational leadership behaviors may protect employees from high levels of work-life conflict. Transformational supervisors would conceivably help to undermine their employees' work-related concerns that would potentially sap the time and energy needed for them to fully participate in nonwork activities (see Lapierre & Allen, 2006, p. 171). Considering the negative association between the two variables has not been extensively tested empirically, I would like to propose the following two research questions:

Research Question 1 ( $R_1$ ): Is there a negative relationship between the extent to which employees' immediate supervisors are transformational and the amount of time-based work-life conflict that employees perceive?

Research Question 2 ( $R_2$ ): Is there a negative relationship between the extent to which employees' immediate supervisors are transformational and the amount of strain-based work-life conflict that employees perceive?

As discussed earlier in this chapter, this dissertation was interested to examine the possible mediating effect of work-life conflict upon the link between transformational leadership and quality of EORs, given that it hypothesized an inverse direct effect of work-life conflict on quality of EORs and explored the potential negative association between transformational leadership and work-life conflict. Past studies have established the casual relationship between transformational leadership and job satisfaction, trust, and organizational commitment (e.g., Jin, 2008; Wang & Walumbwa, 2007). As a

consequence, this dissertation proposed a partially mediating effect of work-life conflict in building a model for employee-organization relationships.

*Linking Transformational Leadership to Quality of Employee-Organization Relationships*

The link between transformational leadership and job satisfaction and that between transformational leadership and organizational commitment have been established in the industrial psychology literature (Hamel, 2007; Klinsontorn, 2007; Liu, 2006; McCroskey, 2007). Charismatic leaders gain respect and trust from their followers through communicating a strong vision to them. Inspirational leaders motivate their followers by introducing challenges into their work. Intellectually stimulating leaders encourage their followers to develop new ideas, and thus enhance their critical thinking. Leaders performing individualized consideration pay personal attention to and address their followers' individual abilities and aspirations and therefore promote their confidence in job performance (Walumbwa, Orwa, Wang, & Lawler, 2005). As a result, employees, inspired and motivated by transformational supervisors, work hard to meet expectations and accomplish long-term goals, which may result in their high levels of job satisfaction (Bono & Judge, 2003; Walumbwa & Lawler, 2003; Walumbwa, Wang, Lawler, & Shi, 2004). Employees stay with their organizations because they evaluate their work as challenging, interesting, and meaningful, and thus feel highly committed to the relationships with their employers (Mills, 2008).

Prior empirical studies have provided support for the above proposed linkages. Nguni, Slegers, and Denessen (2006) revealed strong effects of transformational leadership dimensions upon job satisfaction and organizational commitment of Tanzanian primary school teachers. Washington (2007) found employee-reported job satisfaction

and organizational commitment to be positively associated with the perceived transformational leadership behaviors of immediate supervisors.

Researchers have conceptualized and measured job satisfaction as a global construct with two distinct components: intrinsic job satisfaction, displaying the level of satisfaction about jobs, and extrinsic job satisfaction, indicating the level of satisfaction about the general environment where jobs are performed (Nguni et al., 2006). Employees with high job satisfaction are likely to think positively of their employer organization and be satisfied with the relationship with it (i.e., satisfaction as an indicator of quality employee-organization relationships), because their expectations about jobs and working environments have been fulfilled. In addition, organizational commitment, composed of affective commitment and continuance commitment, is conceptually similar to commitment as a quality indicator of employee-organization relationships. Therefore, based on the reviewed literature, it is reasonable to posit that transformational leadership behaviors of employees' immediate supervisors are directly and positively related to perceived satisfaction and commitment of employees.

Previous research has also identified the connection between transformational leadership and employees' trust (Barfoot, 2008; Williamson, 2008). Transformational leaders, being charismatic, inspirational, capable of motivating their followers intellectually, and practicing individualized consideration, can elicit followers' devotion to their visions and organizational missions, build a climate of openness and trust, stimulate followers to envision creative alternatives to challenge routines, and value followers' self-worth and advancement in the workplace (Mills, 2008). Thus, employees working with transformational supervisors are very likely to be open to the organization

they stay with and develop a high degree of confidence in it.

As for control mutuality, Blase and Anderson (1995) suggested that transformational leaders emphasize empowerment and only employ adequate control over followers' behavior and performance. Consequently, transformational leadership may allow employees to perceive some control over the relationship with their supervisor as well as with their employer organization.

Based on the above review of previous literature, the following hypothesis was proposed:

Hypothesis 3 (H<sub>3</sub>): The more transformational employees' immediate supervisors are, the more apt are employees to perceive high quality of employee-organization relationships.

*Work-Life Conflict Partially Mediating the Relationship between  
Transformational Leadership and Quality of Employee-Organization Relationships*

Based on the proposed Research Questions 1 and 2, Hypotheses 1, 2, and 3, this dissertation will investigate the following two research questions concerning the partially mediating role of work-life conflict:

Research Question 3 (R<sub>3</sub>): Does time-based work-life conflict mediate the link between transformational leadership and quality of employee-organization relationships?

Research Question 4 (R<sub>4</sub>): Does strain-based work-life conflict mediate the association between transformational leadership and quality of employee-organization relationships?



## Organizational Justice

Apart from transformational leadership behaviors of employees' immediate supervisors, organizational justice was studied as another category of organizational responsiveness that might ameliorate employees' experiences of high levels of work-life conflict (Grandey, 2001; Judge & Colquitt, 2004; Parker & Allen, 2001). Fairness heuristic theory indicated that procedural justice is particularly valued when employees perceive great uncertainty and lack of control (Lind, 2001; Van den Bos et al., 2001). Procedural justice is regarded as one of the primary drivers of justice effects because it makes long-term outcomes more predictable and controllable (Judge & Colquitt, p. 401). Employees rely on their perceptions of organizational justice to infer the extent to which they should hold their organizations responsible for the outcomes they receive (Brockner & Wiesenfeld, 1996; Folger & Cropanzano, 1998), for instance, their experiences of high levels of work-life conflict. When the outcomes affecting employees are unfavorable, it is likely for employees to hold the organization accountable, particularly if procedures are unfair (Siegel et al., 2005). Scholars have revealed that organizations with unfair procedures and policies probably contributed to the interference of work with nonwork life (Grover, 1991; Kossek & Nichol, 1992; Parker & Allen, 2001; Tepper, 2000).

Considerable research has documented the deleterious effects of unfairness on job satisfaction, organizational commitment, cooperativeness, helpful citizenship behaviors, job performance, turnover, stress, and work-life conflict (Konovsky & Pugh, 1994; Pillai, Schriesheim, & Williams, 1999; Schminke, Ambrose, & Cropanzano, 2000; Wayne, Shore, Bommer, & Tetrick, 2002). Justice perceptions can be developed from the actions of both supervisors and organizations (Rupp & Cropanzano, 2002). Scholars have

revealed that employees view themselves as cultivating relationships with both their supervisors and their employing organizations (Bishop & Scott, 2000; Bishop, Scott, & Burroughs, 2000).

Research on organizational justice dates back to the early 1960s when Adam (1963, 1965) introduced equity theory that emphasizes distributive justice, namely, employees' perceived fairness of what they receive as the result of a decision-making process, such as payment and promotion opportunities (Cohen-Charash & Spector, 2001). Later, scholars started to examine procedural justice, which refers to the perceived fairness of the process through which outcomes are decided (Leventhal, 1980; Lind & Tyler, 1988). The conceptualization of interactional justice is distinguished by its interpersonal focus, which means employees' perceived fairness of how decisions are enacted by management (Colquitt et al., 2001; Greenberg, 1993).

### *Distributive Justice*

Distributive justice refers to the perceived fairness of decision outcomes within organizations (Adams, 1963, 1965; Deutsch, 1985; Tornblom, 1992). According to Luo (2007), outcomes relevant to distributive justice can be classified into individual-related and group-related ones. Examples of individual-related outcomes include payment increase, job security, and promotion opportunity; whereas, outcomes including subsidiary performance, partner commitment, profit sharing, and resource allocation are labeled as group-based. Distributive justice is the perceived fairness of the distribution of rewards and harms that affect the economic, social, psychological, and physiological well-being of individual organizational members (Colquitt, 2001; Weiss, Suckow, & Cropanzano, 1999). Distributive justice functions or operates based on three basic

principles, i.e., equity, equality, and need (Colquitt & Greenberg, 2003; Tyler, 1994). In general, employees' perceptions of distributive justice affect their reactions to specific allocation outcomes rather than the way they perceive particular decision makers and their employing organizations (Schminke et al., 2000, p. 294).

### *Procedural Justice*

The perceived fairness of the procedures through which outcomes are decided, namely, procedural justice, is an important determinant of perceived organizational justice (Leventhal, 1976, 1980; Leventhal, Karuza, & Fry, 1980; Lind & Tyler, 1988). According to Cohen-Charash and Spector (2001), Colquitt et al. (2001), and Luo (2007), procedural justice influences employees' reactions toward their employing organizations overall as well as their perceptions of specific workplace decision makers. As pointed out by Thibaut and Walker (1975), even when employees receive unfavorable outcomes in the workplace, they would feel being fairly treated if they got their voice heard and had input taken into the decision-making process. Employees prefer to have choice and exert control over decision-making related to their own work (Cropanzano & Folger, 1989; Konovsky, 2000; Martin & Bennett, 1996).

According to Leventhal (1980) and Leventhal et al. (1980), procedural justice may be fostered through the operation of several generalizable criteria. The rule of consistency means that decisions are made in a consistent way within an organization. The rule of accuracy indicates that accurate information is used in determining allocations. The rule of bias suppression excludes the involvement of self-interests and self-goals in decision making and problem solving. The rule of correctability suggests that incorrect procedures and unfair outcomes, once detected, should and must be

corrected. The rule of representativeness basically means that all involved parties are invited to sit at the decision-making table so as to get their interests, values, and needs represented. Finally, the rule of ethicality stands for the essential congruence between the decision procedures and the ethical and moral standards of affected individuals. A great amount of empirical research has achieved results that support Leventhal's rules (Dipboye & dePontbriand, 1981; Folger & Konovsky, 1989; Singer, 1990).

### *Interactional Justice*

Interactional justice assesses employees' perceptions of the communication process with organizations during the enactment of organizational decision-making procedures and decisions (Bies & Moag, 1986). Interactional justice consists of two components: 1) interpersonal and 2) informational. The interpersonal component emphasizes respect, honesty, dignity, and politeness that an organization as the source of organizational justice exhibits in treating employees as the recipient of organizational justice. However, the informational component stresses adequate justifications and explanations that an organization offers to its employees in the execution of decision-making procedures and decisions (Bies, 2001; Bies & Moag, 1986; Cohen-Charash & Spector, 2001; Cropanzano, Prehar, & Chen, 2002; Greenberg, 1993; Luo, 2007; Tyler & Bies, 1990).

Scholars have found interactional justice to be related to affective reactions toward employees' direct supervisors who are in communication with employees during the implementation of justice (Bies & Moag, 1986; Cohen-Charash & Spector, 2001; Cropanzano & Prehar, 1999; Luo, 2007). When employees perceive interactional injustice, they tend to react more negatively (e.g., being less satisfied and less committed)

toward their immediate supervisors than to an organization as a whole. However, the aforementioned predictions on negative affective reactions are based on the belief that employees impute interactional injustice to people who enact the procedures rather than the procedures themselves. If employees attribute organizational injustice to the formal procedures and organizations as the initiators of the injustice, they will tend to react more negatively toward an organization.

### *Focusing on Procedural Justice*

This dissertation focused on procedural justice in examining the links connecting organizational justice, time-based and strain-based work-life conflict, and quality of employee-organization relationships for two reasons.

First of all, although not extensively studied in previous literature, distributive and interactional justice were not found associated with employees' perceived levels of work-life conflict statistically significantly (Judge & Colquitt, 2004; Parker & Allen, 2001; Tepper, 2000). Judge and Colquitt provided an explanation for the differential predictions for the diverse organizational justice dimensions, which helped rationalize this dissertation's emphasis on procedural justice. Based on Linda and Van den Bos's (2004) research on fairness heuristic theory and uncertainty management theory, Judge and Colquitt proposed that justice dimensions would have stronger effects when they were most interpretable (p. 401). Distributive justice may be hard to judge when employees are not provided with information regarding the outcomes others obtain. As for interactional justice, employees may sense well any inappropriate, disrespectful, and insincerely treatment they receive (the interpersonal component), but they may not well determine whether decisions have been explained honestly and comprehensively (the informational

component) (p. 401). In the context of work-life conflict, when the conflict, perceived as an unfavorable outcome itself as well as a source of other undesirable outcomes for individual employees, is accompanied by unfair procedures, employees, as recipients of negative outcomes, would react negatively to their organizations (Brockner & Wiesenfeld, 1996; Folger, 1986; Folger & Cropanzano, 1998; Wong & Weiner, 1981). That is to day, employees relied on their perceptions of procedural justice to make such judgments concerning work-life conflict and the responsibility of their organizations toward it.

Second, in contrast to distributive justice and interactional justice, procedural justice was found more closely relevant to employees' perceptions or evaluations of an organization as a whole (Konovsky, 2000; Martin & Bennett, 1996), for instance, general satisfaction that employees had about their employing organization (Cohen-Charash & Spector, 2001; Masterson et al., 2000). Therefore, procedural justice, rather than distributive justice and interactional justice was integrated into the model elaborating quality of employee-organization relationships as the focal construct (see Figure 2).

#### *The Direct Effect of Procedural Justice on Work-Life Conflict*

Scholars have explored the association between fair decision-making procedures in the workplace and employees' perceived levels of work-life conflict (Grandey, 2001). Previous studies showed that procedural justice perceptions were negatively related to time-based and strain-based work-life conflict (Heponiemi et al., 2008; Judge & Colquitt, 2004; Parker & Allen, 2001; Tepper, 2000).

*From the Job Demand-Control (JDC) Perspective: Procedural Justice and Work-Life Conflict*

According to Heponiemi et al. (2008), Karasek's (1979) job demand-control (JDC) model provided a theoretical basis for the hypothesized direct effect of procedural justice on work-life conflict. The JDC model identified two important sources of job strain: 1) job demands on employees and 2) their control over the work situation (p. 388). Time pressure and too many job assignments constitute job demands; whereas, job control refers to the extent to which employees can decide the way they adopt skills and knowledge to accomplish their tasks. Considerable previous research has suggested that when high job demands coincide with low job control, employees tend to perceive high levels of work-life conflict. "Quantitative workload among medical residents" and "long work hours among private-sector employees" have been related to high work-life interference (Heponiemi et al., p. 388). In addition, higher job demands were linked to more work-life conflict; whereas greater job control decreased the conflict between work and nonwork (Butler, Grzywacz, Bass, & Linney, 2005; Grzywacz & Marks, 2000; Thomas & Ganster, 1995).

According to Grandey (2001), organizations with fair decision-making policies are more likely to assign reasonable job demands to employees and delegate to them adequate job control than organizations with unfair decision-making procedure are. When organizations make decisions with regard to the allocation of job demands and job control, fair organizations would collect accurate information, provide employees with opportunities to challenge the decisions, and take into consideration the concerns of all those affected by the decisions. Consequently, fair decision-making procedures lead to

low levels of work-life conflict (Moorman, 1991; Tepper, 2000).

*The Model of Justice Judgment: Procedural Justice and Work-Life Conflict*

Leventhal's (1980) model of justice judgment also provided a theoretical grounding for the relationship between procedural justice and work-life conflict (Heponiemi et al., 2008). Leventhal claimed that fair decision making consisted of selecting decision-making agents properly, setting generalizable procedural rules, gathering necessary information, setting routines for appeals, and creating change mechanisms (Judge & Colquitt, 2004, p. 397). In each step of the fair decision-making process, organizations need to ensure that organizational procedures are consistent across employees and over time, not biased, based on accurate information, include provisions for appeals, and represent the concerns and ethical standards of those affected (Tepper, 2000, p. 180).

Based on the above rules for procedural justice, organizations who consider the views and concerns of their employees are likely to be responsive to work-life issues (Judge & Colquitt, p. 397). Grandey (2001) argued that "the justice literature is particularly relevant to our understanding of how well [family-supportive workplace initiatives] work" (p. 145). For instance, organizational responsiveness to work-life concerns can develop out of the gathering of accurate information via company-wide needs analysis and attitude surveys about the existing and potential family-supportive workplace initiatives. In addition, organizations that value ethicality in decision making are more likely to attend to such information and try to improve ill situations (Heponiemi et al., 2008; Judge & Colquitt; Milliken et al., 1998).

As revealed in the above review of previous literature, organizations with fair



decision-making procedures are more likely to create family-supportive working environment and be sensitive to employees' work-life balance needs. Thus, the following hypotheses were proposed:

Hypothesis 4 (H<sub>4</sub>): The more just employees perceive their organizations' formal decision-making procedures to be, the lower the level of their perceived time-based work-life conflict.

Hypothesis 5 (H<sub>5</sub>): The more just employees perceive their organizations' formal decision-making procedures to be, the lower the level of their perceived strain-based work-life conflict.

#### *Linking Procedural Justice to Quality of Employee-Organization Relationships*

As discussed earlier in this chapter, procedural justice was closely associated with employees' perception of an organization overall. Past studies have generated evidence supporting a direct link between organizational procedural justice and quality of employee-organization relationships.

The level of general employee satisfaction is determined by employees' thoughts about whether an organization has been devoted to cultivating a relationship and how favorably they feel about the organization (Colquitt et al., 2001; Hopkins & Weathington, 2006). Cohen-Charash and Spector (2001) found fair decision-making procedures very essential for maintaining employees' overall satisfaction (p. 306).

Prior research has found a strong relationship between trust and procedural justice (Aryee et al., 2002; Colquitt et al., 2001; Sweeney & McFarlin, 1993). The use of fair decision-making procedures manifests the respect that an organization has toward the rights and dignity of its employees. This respect demonstrates the organization's devotion

to fair procedures affecting the long-run well-being of its employees and thus results in the employees' high level of confidence in the integrity, dependability, and competence of the organization (Konovsky & Pugh, 1994).

Previous studies have supported that judgments of fairness would influence organizational commitment as well (Colquitt & Greenberg, 2003; Masterson et al., 2000; Viswesvaren & Ones, 2002). Fair procedures strengthen employees' faith in the organization, and consequently, enhance their organizational commitment (Hopkins & Weathington, 2006). When employees feel being fairly treated, they perceive a strong sense of belonging and become highly committed to their organization (Hendrix, Robbins, Miller, & Summers, 1998).

There has been little research investigating the relationship between justice perceptions and control mutuality (Kim, 2005, 2007). Stafford and Canary (1991) conceptualized control mutuality as the extent to which both parties agree upon which of them is authorized to decide relational goals and behavioral routines (p. 224). Based on the definition of control mutuality, it is reasonable to infer that perceptions of justice can influence control mutuality such that employees would perceive more control over a particular employee-organization relationship when procedures are fair (Kim, 2005).

Based on the aforementioned literature review, the following hypothesis was suggested:

Hypothesis 6 (H<sub>6</sub>): The more just employees perceive organizational decision-making procedures to be, the higher the quality of employee-organization relationships they perceive.

*Work-Life Conflict Partially Mediating the Relationship between  
Procedural Justice and Quality of Employee-Organization Relationships*

This dissertation was not merely interested to examine the magnitude of the direct effect of procedural justice on quality of employee-organization relationships. It also explored the causal mechanisms that might underlie the linkage. Unfair decision making in the workplace may result in high job demands and low job control, and it relates to high levels of time-based and strain-based work-life conflict. When employees experience high levels of work-life conflict, they may blame their employing organizations for not having devoted sufficient care and concern toward their well-being and thus evaluate their relationships with the organizations negatively.

Therefore, based on the proposed hypotheses 1, 2, 4, 5, and 6, this dissertation also tested the partially mediating role of work-life conflict as follows:

Hypothesis 7 (H<sub>7</sub>): Time-based work-life conflict partially mediates the relationship between procedural justice and quality of EORs.

Hypothesis 8 (H<sub>8</sub>): Strain-based work-life conflict partially mediates the relationship between procedural justice and quality of EORs.

**Family-Supportive Workplace Initiatives**

In order to help employees meet nonwork-related responsibilities and commitments, many organizations offer family-supportive workplace initiatives to their employees. Such initiatives have also been examined as an important type of content-based and tangible organizational responsiveness geared toward mitigating the negative consequences of high work-life conflict (e.g., Aycan & Eskin, 2005; Frone, 2003; O'Driscoll et al., 2003).

Based on Hobfoll's (1989) conservation of resources theory (COR), scholars have classified family-supportive workplace initiatives (e.g., childcare facilities, flextime, job sharing, and personal leave policies) as instrumental work support resources and associated them with reduced levels of work-life conflict (Allen, 2001; Aryee et al., 1999; Aryee & Luk, 1996; Ayman & Eskin, 2005; Boyar, Maertz, Pearson, & Keough, 2003; Elloy & Smith, 2003; Grandey & Cropanzano, 1999; Kim & Ling, 2001; Luk & Shaffer, 2005; Nielson et al., 2001; O'Driscoll et al., 2003; Rosin & Korabik, 1990; Thomas & Ganster, 1995; Wiersma, 1990).

Neal et al. (1993) identified three categories of family-supportive workplace initiatives: 1) policies (e.g., flextime, telecommuting, job-sharing, and personal leave), 2) services (e.g., organization-sponsored full-time childcare centers, referral information about childcare), and 3) benefits (e.g., childcare subsidies). With flextime, employees have the freedom to schedule when they start and finish daily work while respecting the total number of expected working hours (Luk & Shaffer, 2005). As for telecommuting (or teleworking), employees can work from home through communicating with the workplace by phone, fax, modem, and many other new technologies (Ayman & Eskin, 2005). Job sharing refers to an employment arrangement in which two people can share the same position and each of them work a certain part of a week in a company (Glass & Estes, 1997). Personal leave is a period of time a company grants to its employees to leave their jobs temporarily for reasons including but not limited to family issues, personal needs, illness, and injuries (Lapierre & Allen, 2006). Childcare facilities, referral information, and subsidies also constitute an important ingredient of family-supportive workplace initiatives (Wadsworth & Owens, 2007).

One of the most widely esteemed magazines, *Working Mother Magazine* has consistently used childcare (e.g., company sponsored full-time centers on/near site), flexibility (e.g., access to work at home/telecommuting), and personal leave (e.g., job-guaranteed weeks off for childbirth) as the top three criteria in its yearly ranking of 100 best companies since 2005. Moreover, childcare, job flexibilities, and personal leave have included all the three general types of family-supportive initiatives that Neal et al. (1993) distinguished.

Researchers have discussed the importance of these three initiatives. Both women and men can spend a great amount of work time unproductively if they worry about childcare facilities that their organizations can provide (Fernandez, 1986). Levels of work-life conflict were found closely related to the extent to which employees perceive available childcare initiatives as satisfying or helpful (Bedeian et al., 1988).

Organizations with flexible work arrangements provide employees with great control over scheduling their work-related activities, which can theoretically reduce the interference of work demands on personal life-related obligations (Baltes, Briggs, Huff, Wright, & Neuman, 1999; Breugh & Frye, 2008; Brough, O'Driscoll, & Kalliath, 2005; Hammer & Barbera, 1997; Pierce, Newstrom, Dunham, & Barber, 1989).

#### *Linking Helpfulness of Family-Supportive Workplace Initiatives to Work-Life Conflict*

Previous research studying the effects of family-supportive workplace initiatives on work-life conflict has focused on the perceived availability of such initiatives (Hammer, Neal, Newsom, Brockwood, & Colton, 2005). Unfortunately, scholars have found it difficult to establish a causal linkage between the availability of family-supportive practices and low levels of perceived work-life conflict (Aryee et al., 1999;

Goff et al., 1990). Given inconclusive results that previous research achieved, more attention should be paid to the actual utilization and perceived helpfulness of those supports (Kossek & Ozeki, 1999). A few researchers have documented a significant relationship between work-life conflict and the extent to which employees perceived family-supportive practices as satisfying and helpful (Allen, 2001; Frye & Breugh, 2004; Thompson et al., 1999).

This dissertation attempted to investigate the effects of actual utilization and helpfulness of organizational family-supportive initiatives on levels of work-life conflict. Most of previous studies about those initiatives typically focused on flexible work arrangements and/or childcare supports (Kossek & Ozeki, 1999). Moreover, most of such previous research studied only one category of family-supportive workplace initiatives at a time (Thomas & Ganster, 1995; Perry-Smith & Blum, 2000). This dissertation filled this gap by exploring a bundle of supports including childcare, job flexibility, and personal day.

The utilization of helpful organizational family-supportive initiatives increases the autonomy of employees to exert control over their work life, in terms of both time pressures (time-based) and psychological demands (strain-based), which in turn is linked with reduced work-life conflict (Thomas & Ganster, 1995). Researchers have provided empirical evidence for the proposed inverse association between helpful family-friendly workplace supports and work-life conflict (Allard et al., 2007). For instance, employees with access to flextime generally experienced lower amounts of work-life conflict (Kossek et al., 2006). Employees reported low work-life conflict when they were able to control where, when, and how they accomplished their jobs (Anderson et al., 2002). Hill,

Hawkins, Ferris, and Weitzman (2001) examined “perceived job flexibility,” which combined flextime and flexplace and concluded that such perceived job flexibility in terms of timing and location was related to improved work-life balance (p. 49). Similarly, Tausig and Fenwick (2001) suggested that employees enjoying the possibility of scheduling their own working hours integrated work and personal life well. Family-supportive workplace initiatives resulted in reduced work-life conflict because the resources that such supports provided helped trim down the amount of perceived work stress (Huang, Hammer, Neal, & Perrin, 2004). O’Driscoll et al. (2003) explored the utilization of several organizational initiatives, including flexitime, compressed weeks, telework, on-site childcare, off-site childcare subsidization, paid maternity and/or paternity leave, and elder care support and found the perceived helpfulness of those family-responsive initiatives to be associated with lower levels of work-life conflict (pp. 328-329).

Based on the above reviewed literature, the following hypotheses were proposed:

Hypothesis 9 ( $H_9$ ): The more helpful employees perceive their organizations’ family-supportive workplace initiatives to be, the lower the level of their perceived time-based work-life conflict.

Hypothesis 10 ( $H_{10}$ ): The more helpful employees perceive their organizations’ family-supportive workplace initiatives to be, the lower the level of their perceived strain-based work-life conflict.

#### Summary of Hypotheses and Research Questions

The purpose of this dissertation was to elaborate a model of employee-organization relationships based upon the premise that good relationship management

between organizations and their strategic employee publics contributes to organizational effectiveness, by introducing time-based and strain-based work-life conflict as variables leading to employee-organization relationship outcomes, and by investigating the possible effects of transformational leadership, organizational procedural justice, and family-supportive workplace initiatives upon employees' perceived work-life conflict and relationships with their employers. The following hypotheses/research questions were to be examined.

Hypothesis 1 ( $H_1$ ): The higher the level of employees' perceived time-based work-life conflict, the lower the quality of employee-organization relationships.

Hypothesis 2 ( $H_2$ ): The higher the level of employees' perceived strain-based work-life conflict, the lower the quality of employee-organization relationships.

Research Question 1 ( $R_1$ ): Is there a negative relationship between the extent to which employees' immediate supervisors are transformational and the amount of time-based work-life conflict that employees perceive?

Research Question 2 ( $R_2$ ): Is there a negative relationship between the extent to which employees' immediate supervisors are transformational and the amount of strain-based work-life conflict that employees perceive?

Hypothesis 3 ( $H_3$ ): The more transformational employees' immediate supervisors are, the more apt are employees to perceive high quality of employee-organization relationships.

Research Question 3 ( $R_3$ ): Does time-based work-life conflict mediate the link between transformational leadership and quality of employee-organization relationships?



Research Question 4 (R<sub>4</sub>): Does strain-based work-life conflict mediate the association between transformational leadership and quality of employee-organization relationships?

Hypothesis 4 (H<sub>4</sub>): The more just employees perceive their organizations' formal decision-making procedures to be, the lower the level of their perceived time-based work-life conflict.

Hypothesis 5 (H<sub>5</sub>): The more just employees perceive their organizations' formal decision-making procedures to be, the lower the level of their perceived strain-based work-life conflict.

Hypothesis 6 (H<sub>6</sub>): The more just employees perceive organizational decision-making procedures to be, the higher the quality of employee-organization relationships they perceive.

Hypothesis 7 (H<sub>7</sub>): Time-based work-life conflict partially mediates the relationship between procedural justice and quality of EORs.

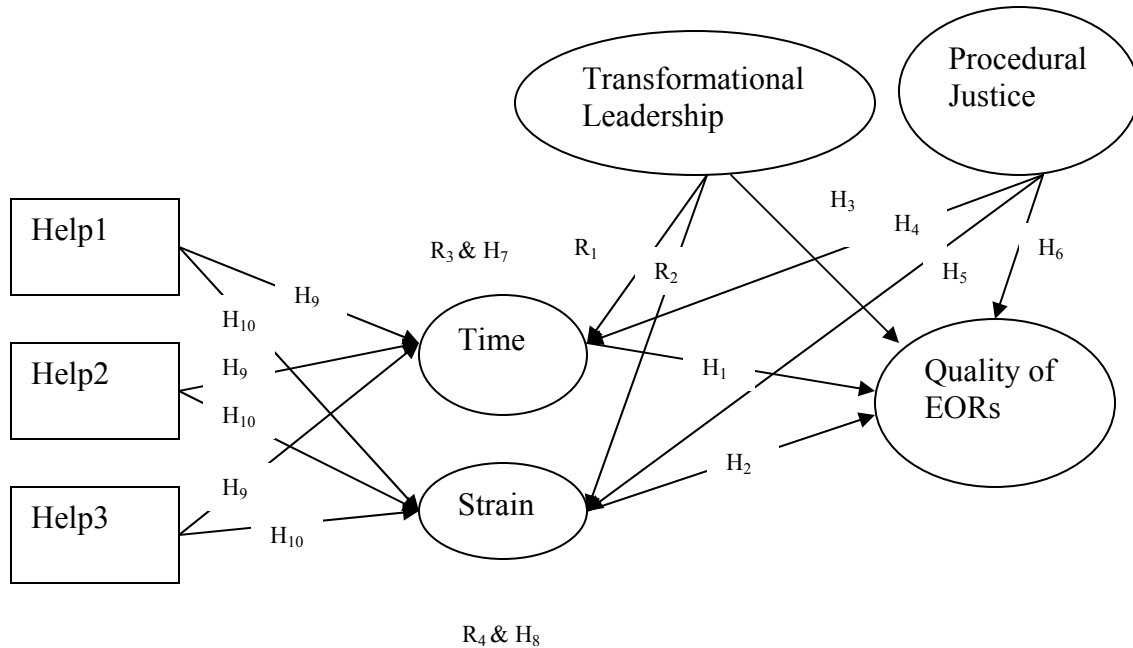
Hypothesis 8 (H<sub>8</sub>): Strain-based work-life conflict partially mediates the relationship between procedural justice and quality of EORs.

Hypothesis 9 (H<sub>9</sub>): The more helpful employees perceive their organizations' family-supportive workplace initiatives to be, the lower the level of their perceived time-based work-life conflict.

Hypothesis 10 (H<sub>10</sub>): The more helpful employees perceive their organizations' family-supportive workplace initiatives to be, the lower the level of their perceived strain-based work-life conflict.

## The Hypothesized Theoretical Model

The theoretical model that this dissertation examined is presented in Figure 2.



*Figure 2.* The proposed theoretical model. Theoretical latent variables are presented in ellipses. For sake of brevity, I omitted indicators of latent variables in the figure. Time = The amount of time-based work-life conflict that employees perceive; Strain = The amount of strain-based work-life conflict that employees perceive; Transformational Leadership = Employees' perceived level of transformational leadership that their immediate supervisors exhibit or perform; Procedural Justice = Employees' perceived level of fairness of decision-making procedures in their employer organizations; Quality of EORs = Employees' perceived levels of satisfaction, trust, commitment, and control mutuality; Help1 = Employees' perceived level of helpfulness of childcare initiatives; Help2 = Employees' perceived level of helpfulness of job flexibilities initiatives; Help3 = Employees' perceived level of helpfulness of personal day initiatives.

## Chapter 3: Method

The hypotheses and research questions posited a priori were tested and examined using a survey. Given this goal, a quantitative method is appropriate. In particular, surveys help researchers study participants' "opinions and perceptions" (Sherblom & Sullivan, 1993, p. 58). Surveys can solicit information from a relatively large sample of participants. There is relatively limited geographical constraint on sampling and survey administration. Consequently, data collection may be reasonably economical in terms of time and budget (Hoyle, Harris, & Judd, 2001; Sherblom & Sullivan, p. 59).

This chapter first discusses why a Web survey method was selected for the study. Second, research design, measurement scales, and the data analysis methods are presented. Finally, ethical considerations in this dissertation are described.

### Rationale for Web Survey Method

In previous research, surveys have been used to measure work-life conflict (Netenmeyer et al., 1996), leadership behaviors (Avolio et al., 1999; Bass & Avolio, 2004), organizational justice (Siegel et al., 2005), quality of employee-organization relationships (Kim, 2007), and family-supportive workplace initiatives (Judge & Colquitt, 2004). These constructs could be measured under nonexperimental, uncontrolled settings where participants are allowed to draw upon "past intersections, experience, and relationship history" to decide their survey responses (Yang, 2005, p. 127). Researchers can use survey data to examine the hypothesized theoretical links among the variables of research interest (Groves et al., 2004; Yang, 2005).

Due to a relatively large sample size and geographic dispersion, a Web-based or computer-assisted survey was most appropriate for this dissertation (Kaplowitz, Hadlock,

& Levine, 2004; Wright, Aquilino, & Supple, 2001). Web-based survey administration has three major advantages over traditional pencil-and-paper administration (Cobanoglu, Warde, & Moreo, 2001). First, in contrast to other survey modes, Web surveys have the following desirable features: (1) fewer non-response items, (2) more rapid reaction time, (3) higher response rates, and (4) minimum costs. Second, a Web survey is particularly useful if potential participants have easy access to e-mail and the Web. Last, participants can benefit from the question filtering function a Web survey may provide. Researchers may benefit from the automatic data coding function if it is offered.

Despite the advantages that Web surveys offer, there are disadvantages associated with them that should be taken into consideration. The coverage of potential participants that Web surveys can achieve is significantly lower than mail surveys because the general public always has “some kind of address” although not every household has a Web or Internet access (Cobanoglu et al., 2001, p. 443). Because this dissertation planned only to target full-time employees who have an e-mail or Web access in the workplace and/or at home, it overcame this shortcoming.

In addition, other researchers discussed problems in Web surveys regarding sampling. If researchers use an e-mail list, it will be convenient for them to e-mail a Web survey invitation and link to every subscriber of the list (Wright, 2006). Ideally, this offers researchers a sampling frame. Nevertheless, those researchers may encounter problems such as multiple e-mail addresses for the same participant, multiple responses from the same participant, and inactive e-mail addresses (Andrews, Nonnecke, & Preece, 2003; Couper, 2000). In this dissertation, I reached employees through their individual valid e-mail accounts rather than relying on e-mail lists. This not only helped prevent the

aforementioned problems but also helped promote individual attention to the research project, which have potentially helped increase the response rate.

Moreover, scholars have suggested that tangible incentives (e.g., cash, redeemable coupons, and credit cards) are hard to be included in Web-based surveys (Cobanoglu et al., 2001; Dickson & MacLachlan, 1996). Other researchers have discussed the potential negative impact of including financial incentives (e.g., a lottery or raffle) upon the results of Web surveys. For example, if participants are given a chance to win a gift certificate and the winner(s) will be randomly selected from the pool, some participants may submit multiple responses to increase their chances of winning (Wright, 2006). In order to encourage participation, I provided a separate SurveyMonkey raffle link at the end of the on-line survey. Participants could fill out the survey in exchange for the possibility of winning a monetary raffle (a \$25 gift card). By clicking the raffle link, participants voluntarily filled out their contact information, which might have helped avoid multiple submissions of survey data from the same participant. First of all, the survey link and the raffle link were independent of each other. Second, repetitive entries of contact information were easily screened out when the winners of the raffle were selected.

## Research Design

### *Sampling*

This dissertation used convenience sampling to collect data because of two practical concerns: convenience and economy (Hoyle et al., 2001). This dissertation intended to examine the consistency between sample data and the hypothesized theoretical model (see Figure 2) and to provide insight regarding whether the model needed to be further examined in other research contexts. Sharing similar research goals,

previous studies have also used the convenience sampling method. For instance, to gain access to her participant organizations, Kim (2007) used her personal relationships with public relations professionals in South Korea. Drawing upon data achieved through convenience sampling, she tested a model integrating organizational structure, internal communication, organizational justice, and quality of employee-organization relationships.

### *Participants*

Acknowledging the difficulty of sampling employees working in the United States, I did not restrict the study to organizations of certain industry types. The main selection criteria consisted of (1) potential participants who were full-time employees; 2) who have worked for their current employers for at least one year, and who have had some experience communicating with their employer organizations and interacting with their direct supervisors.

To recruit participants, I took the following steps. First, I contacted my personal acquaintances working in the US, including relatives, former classmates, and friends. With their help, I recruited participants from their current organizations and those organizations they used to work for. Second, I made use of public contact information (e.g., e-mails) available on the Web sites of various organizations that I could find. I sent a solicitation e-mail to each potential participant and briefly explained the purpose of my study. A SurveyMonkey link was enclosed in the e-mail indicating that participation was completely voluntary. Participants were also instructed to carefully read the first page of the on-line survey that detailed the IRB consent form information to make their informed decisions. Finally, through my personal connections in five large universities in the US, I

gained access to a group of undergraduate students who helped recruit their parents, friends, relatives, and colleagues. These undergraduate students received a compensation based on the rate of \$100 for having successfully recruited 20 qualified participants. In addition to monetary compensation, some of the undergraduates also received extra credit from their instructors of summer classes.

My recruiting effort resulted in (1) 20 participants for Pilot Study 1, (2) 13 participants for Pilot Study 2, and (3) 614 participants for the formal study. The 20 participants for Pilot Study 1 included 10 undergraduate students enrolled in an introductory communication class during Summer Session I at a large eastern university in the US, four staff members in the Department of Communication at the same university, six friends of mine including one professor of sociology, one professor of economics, one accountant, one attorney, one statistician, and one resident doctor. The 13 participants of Pilot Study 2 were full-time employees working in diverse professions, including education, software engineering, hospital, hospitality, accounting, and automobile. The formal study collected 614 completed surveys from 61 organizations. Nevertheless, only 396 surveys collected from 44 organizations were selected for data analyses. The 218 responses were deleted due on the following:

1. They were questionnaires with missing data occurring in a specific fashion, for instance, responses to question items measuring only one variable or attrition before the end of the questionnaire (Hair, Black, Babin, Anderson, & Tatham, 2006, p, 55).
2. They were questionnaires with more than 5% missing data—skipping 4 or more survey items.

3. They were questionnaires with missing data for dependent variables to avoid any artificial influence upon the relationships among the variables of study (Hair et al., p. 56).
4. Some participants indicated that they worked less than 40 hours a week. Part-time employees may not benefit from family-supportive workplace initiatives. Therefore, only those participants working at least 40 hours a week were kept in the pool.
5. Those who worked for their current employers for less than one year were excluded because I wanted to ensure that all participants have had some prior experience in communicating with their organizations and developing relationships with them.

The sample characteristics of the 396 finalists and the descriptions of their employing organizations are summarized in Table 2 and Table 3.

#### *Pilot Study 1*

I conduct two pilot studies before I administered the formal survey. Pilot Study 1 sought feedback about the scales that would be used in the formal study. Fourteen of the 20 participants received hard copies of the questionnaire. The other six participants were provided with a SurveyMonkey link. Participants suggested revisions in terms of wording of some questions. First, I simplified the wording of scale items for measuring procedural justice. Second, participants argued that items that specifically referenced work-life conflict were “a little bit confusing and unclear.” They were wondering whether the procedures for decision making regarding family-friendly policies were “the procedures for making policies or implementing policies.” Based on the feedback, I decided to adopt



Table 2

*Descriptions of Participating Organizations*

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
1	Educational and research institution	1,200	4	Manager, research specialist, marketing specialist
2	Pharmaceutical company	500	7	Chemist, microbiologist, documentation specialist
3	A Catholic- related health system	30,000	5	Project management, Sr. application analyst, software solutions developer, Sr. project manager, project manager
4	Sales company	1,000-2,000	14	Account manager, sales representative, assistant/secretary, sales account executive, regional sales manager, office clerk

*(table continues)*

Table 2 (continued).

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
5	Federal government agency	9,000	21	Program manager, customer service representative, office automation clerk, operations manager, knowledge manager, secretary, performance analyst, information resource specialist, director
6	Professional sports	140	2	Telesales/corporate partnerships, human resources coordinator
7	Real estate company	100	4	Manager, realtor, agent services coordinator, real estate agent
8	Nursing organization	25	4	Coordinator, membership, administrative assistant, program assistant
9	Electronics corp.	20,000	7	Engineer, senior systems architect, design engineer

*(table continues)*

Table 2 (continued).

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
10	University	5,000	4	Post-doctoral fellow
11	Electronics company	60,000	17	Director, quality engineer, research engineer, engineering manager, technical staff, Sr. engineering manager, principal engineer, office and building administrator, principal software engineer, VP, controller, software engineer, sales, senior engineering manager
12	Developer of advanced sensor processing and computing architecture products	10,000	7	Lead fabricator, lead welder, mechanical design engineer, materials manager, receptionist, vice president, senior manager

(table continues)

Table 2 (continued).

Company No.	Industry Type	No. of Employees	No. of Participants	Participants' Job Titles
(Approximately)				
13	Event planning company	45	7	Event planner, assistant to event planner, assistant to art director, event coordinator, delivery and party executor, artist, invitation planner
14	Supplemental insurance company	8,000	21	Sales agent, independent sales agent, district sales manager, human resources specialist, sales coordinator, independent region sales representative, regional head sales coordinator, region sales associate
15	Residential property management company	4,500	16	Leasing administrative, administrative assistant, bookkeeper, property manager, maintenance, senior concierge, APM, director, assistant property manager, service manager, service coordinator

*(table continues)*

Table 2 (continued).

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
16	High school	125	5	Teacher, librarian, guidance counselor
17	Home loan mortgage corporation	5,000	11	Financial analyst, senior system accountant, principal software engineer, Sr. system analyst, accountant, IT accountant, Sr. MEMS development engineer, information specialist, business analyst, senior software engineer
18	Airlines	70,000	10	Airline pilot, flight attendant, sales, customer service representative, captain, staff assistant, senior staff representative
19	Software engineering company	550	4	Web developer lead, programmer analyst, senior software engineer, research associate

(table continues)

Table 2 (continued).

Company No.	Industry Type	No. of Employees	No. of Participants	Participants' Job Titles
20	University	20,000 (approximately)	21	Coordinator, manager, senior scientist, library technician, assistant director, program director, business manager, administrative assistant, payroll manager, community maintenance assistant manager, faculty advisor, associate director, business specialist, international student advisor, university advisor
21	Methodist Christian denomination	50	4	President, board member, supervisor, director

*(table continues)*

Table 2 (continued).

Company No.	Industry Type	No. of Employees	No. of Participants	Participants' Job Titles
		(Approximately)		
22	Electro-Optical System	500	10	Electrical engineer, technologist, administrative assistant, contracts manager, quality engineer, program manager, manager
23	Community college	500	12	Administrator, dean of student services, academic advisor, education support specialist, counselor, enrollment services specialist, administrative office specialist, director
24	Hotel	1,000	16	Development coach, reservation sales agent, supervisor, human resource manager, hotel desk supervisor

(table continues)

Table 2 (continued).

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
25	Accounting and consulting firm	155,000	14	Senior tax consultant, staff accountant, tax consultant, analyst, manager, tax senior
26	Fire protection and life safety consulting firm	300	13	Associate, fire protection engineer, senior consultant, business development associate, consultant, associate, operations manager
27	Oral health foundation	6	6	Director of development and communications, executive assistant, national program director, marketing
28	Automobile company	2,000	14	Senior manager, accountant, engineer
29	Private business and social club	500	7	Food & Beverage Supervisor, chef, member relations director, cook, director of accounting, wait staff

*(table continues)*



Table 2 (continued).

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
30	Database management system company	74,000	17	Senior manager, program manager, network administrator, senior principal product manager, senior applications engineer, software engineer, technical staff, development manager, principal software engineer, principal applications engineer
31	GIS consulting and software development firm	100	15	Cartographer, GIS tech, programmer, technician, staff, VP, project manager

*(table continues)*

Table 2 (continued).

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
32	Engineering company	5,000	5	Engineer, software R&D, R&D engineer
33	University	4,000	5	Professor, graduate coordinator, researcher and seminar planner, immigration coordinator, career advising specialist
34	Liberal arts college	1,100	5	Administration of a program, assistant professor, administrative staff, director
35	Accounting firm	100,000	11	Senior associate, manager, senior auditor, senior manager of internal audit, senior internal auditor, internal audit supervisor

(table continues)

Table 2 (continued).

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
36	Fabrics company	325	5	Shipping clerk, commercial sales representative, traffic manager, production sewer
37	Government agency	5,000	6	Workers compensation consultant, office technician, supervisor, claims adjuster, claims examiner
38	International organization	3,000	6	Senior economist, professional, economist
39	Aviation engineering company	30	4	Director of engineering, controller, engineer, president
40	Real estate company	900	4	Realtor, manager

*(table continues)*

Table 2 (continued).

Company No.	Industry Type	No. of Employees (Approximately)	No. of Participants	Participants' Job Titles
41	Advanced technology company	3,200	5	QA software test engineer, business system analyst, technical consultant
42	Government-sponsored enterprise	5,000	9	Risk manager, senior analyst, research analyst, associate director of research, financial engineer, associate, Sr. programmer analyst
43	Engineering company	3,000	8	Engineer, AP, software engineer, manager, design engineer, researcher, accountant
44	Data, statistics, and information company	80	4	Statistician, statistical analyst
Total			396	

Table 3

*Characteristics of Participants for the Formal Study (N=396)*

Sample Characteristics		Valid % of Sample
Gender		
	Male	48.5
	Female	51.5
Employee age (range = 18-66 ; $M = 38.07$ ; $SD = 10.96$ )		
Marital status		
	Married	65.2
	Divorced	5.3
	Widowed	1.3
	Separated	1.3
	Never been married	22.2
	A member of an unmarried couple	4.3
Supervisory vs. non-supervisory (range = 0-1,000; $M = 10.15$ ; $SD = 66.892$ )		
	Supervisory	49.0
	Non-supervisory	44.9
Employment		
	40 hours	48.5
	More than 40 hours	51.5

*(table continues)*

Table 3 (continued).

Sample Characteristics	Valid % of
	Sample
Spouse employment	
Less than 20 hours	9.8
20 hours	1.3
Between 20 and 40 hours	9.3
40 hours	28.5
More than 40 hours	20.7
Unknown/Not Sure	10.1
Household involvement (range = 0-60; $M = 13.95$ ; $SD = 12.209$ )	
Years on the job (range = 1.25-37.17; $M = 7.382$ ; $SD = 6.4229$ )	
Ethnicity	
Caucasian	52.2
African American	10.1
Latin American	5.0
Native American	1.6
Pacific Islanders	0.8
Asians	28.5
Middle Eastern	1.1
Other	0.3

(table continues)

Table 3 (continued).

Sample Characteristics	Valid % of Sample
Education background	
High school graduate	14.4
Bachelor	41.7
Master's	27.8
Doctorate	9.6
Other	6.3

the measurement items that Judge and Colquitt (2004) developed. These items were clearer and referenced the procedures for implementing family-friendly workplace initiatives. Employees may know more about policy implementation than policy making within their organizations. Finally, participants argued that many personal leave policies were federally legislated, for example, 12 weeks off for childbirth. They proposed that I might want to study those creative initiatives or supports that were “beyond federally legislated ones.” Based on the feedback, I decided to focus on one type of personal leave policies, i.e., personal day policies—“days off with or without pay other than reasons of sick leave/vacation.”

### *Pilot Study 2*

After the first pilot study was completed and the questionnaire was modified, I administered a preliminary survey among a group of 13 full-time employees via the SurveyMonkey Web site. Participants were instructed to read all the questionnaire items

carefully. There were also asked whether they felt comfortable using the 11-point 0-10 Likert-type scale to rate their responses. This time, participants did not suggest any change concerning wording. Thus, the revised questionnaire was used in the formal study (see Appendix A).

#### *Data Collection Procedures*

The formal study was conducted from June 9<sup>th</sup> to July 31<sup>st</sup>, 2009. The survey questionnaire was put on the SurveyMonkey Web site ([www.surveymonkey.com](http://www.surveymonkey.com)), allowing participants to access it at their own convenience. In order to collect and organize data by organizations, I created different collectors that generated different SurveyMonkey links to the survey.

For each of my personal acquaintances working in the US, I provided him or her with a SurveyMonkey collector (i.e., a peculiar Web link). I instructed those acquaintances to distribute their designated collectors among their full-time colleagues who were working for the same organization as they were. I urged them not to circulate their survey collectors outside their own organizations. If they had personal collections in organizations other than their current employers, they were encouraged to contact me and ask for additional survey collectors. I e-mailed my acquaintances once every week after the survey collectors were disseminated. For each follow-up, I reported the number of responses achieved under their designated collectors, asked them to send out an e-mail and/or oral reminder to participants, and recommended that they could contact more potential participants within their organizations if their collectors remained inactivated, meaning no response showed up for a long time.

For those participants that I contacted by using public information available on



the Web sites of their organizations, I explained to them the purpose of the survey, participation conditions, and information contained in the consent form. Participants received their own survey collectors and were asked to fill out the survey at their convenience. They were also asked to help distribute their respective collectors among their full-time coworkers if they were willing to do so. I made it very clear that one collector could only be used within one single organization. They must avoid sending their collectors outside their current employing organizations. Reminding e-mails were sent out once every week to follow up with them on their progress.

For the group of undergraduate students who volunteered to help me with the survey, I contacted each of them via e-mails and/or phone calls. I emphasized that (1) one survey collector could only be disseminated within one single organization; and (2) they were not participants for the study and they helped recruit full-time employees as participants. Undergraduate students were provided with survey collectors, instructed to send those collectors to their contact persons in various organizations and asked to exchange full information about the research with those contact persons. Follow-up e-mails were sent to those undergraduate students once every week until the survey was closed. Each time I contacted them, I reported the progress shown on the SurveyMonkey Web site and urged them to touch base with their contact persons and invite more participation.

### *Instrumentation*

*Employee-organization relationships.* Hon and J. Grunig's (1999) scale of organization-public relationship outcomes are "good measures of perceptions of relationships, strong enough to be used in evaluating relationships" (p. 5). To assess

employees' perceptions of relationships with their organizations, I adopted Hon and J. Grunig's 18-item scale, consisting of six items measuring trust, four items evaluating satisfaction, four items assessing commitment, and four items measuring control mutuality. An example of a satisfaction item was: "I am happy with my organization." To measure trust, an example item of integrity was: "My organization treats people like me fairly and justly." An example item of dependability was: "My organization can be relied on to keep its promises." An example item of competence was: "My organization has the ability to accomplish what it says it will do." For commitment, an example item was: "I feel that my organization is trying to maintain a long-term commitment to people like me." Lastly, for control mutuality, an example item was: "My organization and people like me are attentive to what each other says." The complete 18-item scale was included in the questionnaire (see Appendix A). All the items were rated on a 0-10 Likert-type scale, with responses ranging from 0 (strongly disagree) to 10 (strongly agree). One item that evaluated control mutuality was reversely worded: "In dealing with people like me, my organization has a tendency to throw its weight around." This item was reverse coded for data analysis.

*Time-based and strain-based work-life conflict.* To measure participants' perceived levels of work-life conflict, I adopted the items that Carlson et al. (2000) constructed. Carlson et al.'s multidimensional scales measured six dimensions of work/family conflict that combined three distinct forms of conflict (time-, strain-, and behavior-based conflict) and two directions of interference (work-to-family and family-to-work). Each of the six scales in the multidimensional model demonstrated its discriminant validity, reliability, predictive validity, and factor structure invariance across

five different samples. Carlson et al. suggested that the design of the scales provided researchers with flexibility to measure each or any combination of the six dimensions of work/family conflict in future studies (p. 249).

This dissertation focused on how the job responsibilities of employees interfered with their obligations in activities outside their work, including but not limited to their household commitments. Therefore, I modified Carlson et al.'s (2000) six items that measure time- and strain-based work interference with family (work-to-family conflict) so as to assess participants' perceptions of time- and strain-based work-life conflict. In modifying these items, I drew upon the wording pertinent to work-life conflict that past research has developed (see Bacharach et al., 1991; Boles et al., 1997; Netemeyer et al., 1996). An example item measuring time-based work-life conflict was: "I have to miss my personal non-work activities due to the amount of time I must spend on work responsibilities." An example item assessing strain-based work-life conflict was: "I am often so emotionally drained when I get off work that it prevents me from contributing to my personal non-work responsibilities." The complete scales for time- and strain-based work-life conflict were included in the survey questionnaire (see Appendix A). Participants' responses were made on an 11-point scale with the anchors being strongly disagree (0) and strongly agree (10).

*Transformational leadership.* The Multifactor Leadership Questionnaire (MLQ) has been widely used to measure the transformational, transactional, and passive/avoidant leadership styles (Bass & Avolio, 2004; Kanste et al., 2007). To measure employees' perceptions of their direct supervisors' transformational leadership behaviors, this dissertation adopted 16 items from the rater form of the MLQ Form 5x short (Bass &

Avolio, 2004). The items measuring attributed idealized influence were not included because idealized influence (attribute) represents the impact of leadership rather than measuring actual leadership behaviors (Avolio et al., 1999; Bass & Avolio, 1995, 1997, 2004; Yukl, 2002).

An example item for idealized influence (behavior) was: “[My direct supervisor] talks about his/her most important values and beliefs.” An example item for inspirational motivation was: “[My direct supervisor] talks enthusiastically about what needs to be accomplished.” An example item for intellectual stimulation was: “[My direct supervisor] suggests new ways of looking at how to complete assignments.” An example item for individual consideration was: “[My direct supervisor] considers me as having different needs, abilities, and aspirations from others.” Participants rated their direct supervisors’ transformational leadership by using an 11-point Likert-type scale, with responses ranging from 0 (strongly disagree) to 10 (strongly agree). The whole 16-item scale for transformational leadership was listed in the survey questionnaire (see Appendix A).

*Organizational procedural justice.* To assess employees’ perceptions of procedural justice, this dissertation employed the measurement items of procedural justice that Leventhal (1980) proposed and Colquitt (2001) tested. Based on some seminal works in the organizational justice literature (Bies & Moag, 1986; Deutsch, 1975; Leventhal, 1976, 1980; Leventhal et al., 1980; Shapiro et al., 1994), Colquitt examined the dimensionality of organizational justice and found strong evidence of construct validity and predictive validity for the measures of distributive, procedural, interpersonal, and informational justice. I slightly changed the wording of his procedural justice measure items to fit the purpose of the dissertation. An example item for

procedural justice was: “The procedures used to make decisions have been applied consistently in my organization.” Based on the connection between the fairness of decision-making procedures and organizational responsiveness to work-life concerns that Colquitt proposed, I also included in this dissertation procedural justice items that specifically referenced work-life policies, decisions, and procedures. An example item was “My organization's family friendly policies have been applied consistently.” All procedural justice measures were assessed with an 11-point Likert-type scale with anchors of 0 = strongly disagree and 10 = strongly agree. The full scale measuring organizational procedural justice consisted of ten items (see Appendix A).

*Family-supportive workplace initiatives.* Scholars have identified organizational supportive initiatives as a key factor that may alter employees’ levels of perceived work-life conflict (Dessler, 1999; Eaton, 2003; Siegel et al., 2005; Wang & Walumbwa, 2007). All employees, including women, men, parents, and nonparents would greatly value organizational policies that can help reconcile the conflict or imbalance between their employment and personal lives (Gornick & Meyers, 2003). Making use of family-friendly programs may ameliorate the interference that job obligations have created for people’s role demands in their personal domains (Grover & Crocker, 1995; Milliken et al., 1998).

In this dissertation, I focused on three categories of workplace supportive initiatives: childcare, job flexibilities, and personal days (see Appendix A). Participants were first asked to indicate whether their organizations had each of the three types of initiatives by clicking “Yes,” “No,” or “Not Sure/Unknown.” If their answer was “Yes,” they were invited to report how much they thought those policies (i.e., childcare, job

flexibilities, or personal days) helped them in balancing their work and their personal life, using an 11-point scale ranging from 0 (not helpful at all) to 10 (extremely helpful). If the policies were not present or participants were unsure, they were asked to rate how much they imagined, assuming their organizations had such childcare, job flexibilities, or personal day policies, those policies would help them in balancing their work and their personal life. The same 11-point scale was used with 0 = not helpful at all and 10 = extremely helpful as its two ends. Example items were: “Does your organization have childcare policies for you to use (for example, organization-sponsored full time centers on/near site, childcare referral services, subsidized child care costs, or other policies related to childcare)?”; “How much do those childcare policies help you in balancing between your work and your personal life?”; and “Assuming your organization had such childcare policies, how much do you imagine they would help you in balancing your work and your personal life?”

*Demographic information.* The final set of questions (see Appendix A) asked participants for demographic information that past research has identified as relevant for studying work-life conflict issues. The demographic variables included sex (e.g., Cooper & Davidson, 1982; Etzion, 1984; Forgionne & Peeters, 1982; Herman & Gyllstrom, 1977; Jick & Mitz, 1985; Osherson & Dill, 1983; Rudd & McKenry, 1986), age (e.g., Martins, Eddleston, & Veiga, 2002), marital status (e.g., Glass & Camarigg, 1992; Kossek et al., 1999), job title, organizational position (supervisory or nonsupervisory) (e.g., Bacharach et al., 1991; Bedeian et al., 1988; Boles & Babin, 1996; Good, Page, & Yang, 1996; Good, Sisler, & Gantry, 1988), employment status (full-time or part-time) of participants and their partners (e.g., Baltes et al., 1999), parental/household involvement

(e.g., Strandh & Nordenmark, 2006), years of employment, ethnicity, and educational level.

### Data Analysis Method

In this section, I summarize the statistical analyses used in the study. Issues in multilevel research are also discussed given the relevance to data analyses.

#### *Issues in Multilevel Research*

Public relations research concerning employee-organization relationships cannot avoid being multilevel (Kim, 2005, 2007), because employees, their roles in organizations, and the organizational context all influence their relationships. Three issues of multilevel analyses apply to this dissertation: (1) the level of theory, (2) the level of measurement, and (3) the level of statistical analysis (Kim, 2005; Klein et al., 1994).

#### *The Level of Theory*

In terms of theoretical conceptualizations of constructs, all the variables were conceptualized *at the individual level* (see Figures 1 and 2). According to Kim (2005, 2007), variance of each theoretical construct at the individual level mainly resided in between-individual variability. Based on their individual perceptions, employees may feel differently about quality of their relationships with their employers, the amount of time-based and strain-based work-life conflict they experienced, the extent to which their immediate supervisors were transformational, the degree to which their organizational decision-making procedures were just, and the extent to which the family-supportive workplace initiatives that their organizations provided were helpful. In this study, multilevel analysis might be warranted because data had a nested structure, meaning data

were collected from multiple rather than one single organization. Individual differences and within group agreement might coexist. Therefore, statistical analyses (e.g., one-way random-effects ANOVA and the null model in HLM) were needed to identify whether participants' responses were independent of the influence of organizational membership.

### *The Level of Measurement*

When the level of theory or the level of theoretical conceptualizations was specified, researchers needed to collect data at the level consistent or compatible with it (Klein et al., 1994). In this dissertation, all the latent variables were measured based on employees' individual perceptions: perceived quality of employee-organization relationships, perceived transformational leadership behaviors of employees' direct supervisors, perceived procedural justice, perceived time-based work-life conflict and strain-based work-life conflict, and perceived helpfulness of family-supportive initiatives.

### *The Level of Statistical Analysis*

It is pivotal for scholars to investigate the fit between the data and the theoretical predictions concerning the latent constructs (Klein et al., 1994). Thus, in this dissertation I examined the correlations among all the variables controlling for organizational membership<sup>8</sup>. Because data were collected from individual employees from different organizations, the potential influence of the organizational level was taken into

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<sup>8</sup> In calculating correlations while controlling organizational membership, I first clicked "Split File" and "Organize Output by Groups", and then, clicked "Analyze", "Descriptives", and "Save Standardized Values as Variables" in SPSS. In this study, all the correlations were computed by using standardized scores. Because I controlled organizational membership ( $N_{\text{organization}} = 44$ ), I lost 44 degrees of freedom ( $df$ ) and the new  $df = 396 - 44 - 1 = 351$ . The  $p$ -value calculator for correlation coefficients (two-tailed) indicates if the absolute value of a correlation coefficient is above .104, I can conclude there is a statistically significant relationship between any two variables in this study. The absolute values of all the correlations in this study were above .104.



consideration. Moreover, one-way random-effect ANOVA and its alternative tests (i.e., Welch's and Brown-Forsythe tests<sup>9</sup>) were performed to test whether statistically significant group differences existed among the variables of interest. Based on the results, I conducted multilevel confirmatory factor analyses (CFAs) to test the factor structures of all the latent constructs (see Figure 2) with the effects of both within-level and between-level weighted simultaneously. Lastly, the hypothesized associations among the same-level variables (at the individual level) were appropriately examined using the null and the random-coefficient regression models of hierarchical linear modeling (HLM). Through the tests, the amount of within-group and between-group variance in each endogenous variable was properly partitioned. The amount of within-group variance in each endogenous variable that all the exogenous variables explained was also computed with the between-group component teased out.

### *Descriptive Statistics*

I began the preliminary statistical analyses by calculating the means, standard deviations, and correlations of all endogenous and exogenous variables in this dissertation. The purpose was to present an overall pattern of relationships among the variables, controlling for the effect of organizational membership.

### *ANOVA and Its Alternatives*

Despite the theoretical conceptualizations centered on individual employees' experiences and interpretations, data were collected from 44 distinct organizations. In order to justify multilevel confirmatory factor analysis (CFA) as the proper way to test measurement reliability and the structures of latent factors, it is important to investigate

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<sup>9</sup> The alternative tests were performed in order to test the assumption of equal variance in ANOVAs.

how much of the variance in all exogenous and endogenous variables were attributed to group differences. Such an investigation is also critical for me to use hierarchical linear modeling (HLM) as the appropriate analytical approach for testing hypotheses and answering research questions. To accomplish this, I conducted one-way random-effects ANOVA and its alternative tests (i.e., Welch's tests and Brown-Forsythe tests) in which organizational membership was treated as the exogenous variable and all the exogenous and endogenous variables as the endogenous variables. According to Lomax (2001), when group sample sizes are unequal, researchers need to test homogeneity of variance assumption using Levene's test before conducting a regular ANOVA.

#### *Transformation of Data*

To test hypotheses and answer research questions, the data were to be analyzed in hierarchical linear modeling (HLM), which assumes that (1) level-1 residuals are normally distributed; and (2) level-1 residual variance is constant (Bryk & Raudenbush, 1992; Raudenbush & Bryk, 2002). Although "a transformation [data transformation] may remedy heteroscedasticity due to nonnormality" (Kline, 2005, p. 52), correcting the skewness and kurtosis of endogenous variables does not guarantee the assumptions can be satisfied. In addition, it has long been established that minor or moderate violations of parametric assumptions very often have little effect on substantive conclusions (Cohen, 1969, pp. 266-267).

Rather than directly transforming data before conducting HLM analyses, I proposed an alternative approach. First, I would examine the skewness and kurtosis of endogenous variables and determine whether they were severely skewed based on the common rule of thumb. Second, if the skewness and kurtosis were acceptable, I would

proceed to HLM analyses and examine normally distributed level-1 errors and homoscedasticity through descriptive statistics, histogram, normal P-P plots, scatterplots of saved residuals from level-1, and tests of homogeneity of level-1 variance. However, if the skewness and kurtosis were severe, I would transform data to improve the normality of data distribution before any HLM analysis was performed. Finally, when data were not transformed but the assumptions of normality and homoscedasticity turned out to be violated or not perfectly achieved, I would transform endogenous variables and perform all HLM analyses again using transformed data.

To accomplish the aforementioned first step, the 24 indicators for the endogenous variables in this study were examined. The skewness and kurtosis were to be examined. Some researchers have used the stringent (-1.96, 1.96) cutoff rule to determine the skewness of collected data (Bauer & Fink, 1983; Frey, Botan, & Kreps, 2000). More specifically, for an indicator, if the ratio of its skewness statistic over the standard error was larger than 1.96, it was significantly positively skewed. If the ratio was smaller than -1.96, it was significantly negatively skewed. This rule of thumb (-1.96, 1.96) could also be used to decide the peakedness of an indicator's distribution (i.e., kurtosis). A few scholars, however, used other more lenient criteria, such as the ratio range between -3 and +3 for kurtosis to judge whether the data were normally distributed (Cohen, 1988). As a convention, the skewness and kurtosis values between -1 and 1 indicated that data were not seriously skewed and thus generally acceptable because the standard errors could largely be sample specific.

In this study, I decided to use the more lenient value range (-1, 1) to judge the seriousness of skewness and kurtosis. More importantly, it is ultimately the residuals in

the HLM models that could reveal whether the critical assumptions were violated or not.

### *Multilevel Confirmatory Factor Analyses (CFAs)*

Researchers often conduct confirmatory factor analyses (CFAs) to validate some *a priori* hypothesized structures among a set of items and investigate whether those items tap one or multiple factors or latent constructs (Dyer et al., 2005, p. 150). I checked data-model fit indexes to determine whether the factor structures proposed in the theoretical model (see Figure 2) could be retained as valid. In terms of testing the reliability of measurement, I calculated Coefficient *H* (see Yang, 2005, 2007). In addition, the Cronbach's alpha for the sum of measurement items for each of the unidimensional exogenous and endogenous latent factors was computed. To assess construct validity, I calculated the amount of extracted variance, i.e., the average squared standardized loading for one given factor (see Hancock & Mueller, 2006; Yang, 2005, 2007).

### *Assessment of Data-Model Fit*

When results of one-way random-effect ANOVA and its alternative tests identified organizational membership as a variable predicting significant group differences in the variables of research interest, multilevel confirmatory factor analyses (CFAs) were to be conducted to examine the factor structures of the latent variables<sup>10</sup> so that the potential hierarchical structure in the collected data would not result in incorrect conclusions regarding factor structures or misleading ones about the interrelationships among the variables.

Mplus (Version 5.2) was to be adopted to analyze multilevel data. To assess

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<sup>10</sup> Helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives were not analyzed as they were constructs with only one single indicators.

model fit, multiple indices were referenced, including  $\chi^2/df$  (chi-square goodness-of-fit statistic relative to its degrees of freedom), CFI (comparative fit index), RMSEA (root mean square error of approximation), and SRMR (standardized root mean square residual). Hu and Bentler (1999) suggested the following joint-cut off criteria for evaluating statistical results:

The data-model fit is tenable when

1.  $CFI \geq 0.96$  and  $SRMR \leq 0.09$

or

2.  $SRMR \leq 0.09$  and  $RMSEA \leq 0.06$ .

Byrne (1994, 2001) and Kline (1998) proposed that a well-fitting model would have

1. A small and non-significant value of  $\chi^2/df$ , preferable smaller than 3;
2. The value of CFI equal to or greater than 0.95;
3. The value of RMSEA smaller than 0.08.

Dyer et al. (2005) indicated that statistically significant chi-square statistics may be acceptable, provided that sample sizes are large and models are indeed correct.

Furthermore, they argued that models are substantially well fit when

1.  $CFI \geq 0.95$ ;
2.  $RMSEA \leq 0.05$ ;
3.  $SRMR \leq 0.05$ .

Based on the above target values to retain a model, I used the following criteria to judge the results of multilevel CFAs conducted in this dissertation:

1. Small value of  $\chi^2/df$ , preferable  $< 3$ ;
2.  $CFI \geq 0.95$ ;

3.  $RMSEA \leq 0.05$ ;
4.  $SRMR \leq 0.05$ .

#### *Coefficient H and Cronbach's $\alpha$*

The construct reliability coefficient  $H$  (Hancock & Mueller, 2001) can be computed by the following formula, with  $k$  representing the number of indicators for a construct and  $a_i$  indicating the standardized factor loading of each indicator:

$$H = \frac{\sum_{i=1}^k \frac{a_i^2}{1 - a_i^2}}{1 + \sum_{i=1}^k \frac{a_i^2}{1 - a_i^2}}.$$

Coefficient  $H$  can evaluate the “stability” of a latent construct as represented in the data on its indicators (Yang, 2005, p. 212). Coefficient  $H$  has the following three main characteristics making it a good measure of construct reliability: (1) Factor loadings’ signs do not affect the coefficient; (2) Coefficient  $H$  is never decreased when additional indicators are used to measure the construct; and (3) Coefficient  $H$  is never smaller than the reliability of the best indicator (Yang, 2005, p. 213). The ideal value of Coefficient  $H$  is  $> 0.90$  (Yang, 2007). Cronbach’s alpha was calculated as another index of construct reliability for each of the latent factors with unidimensional structures.

#### *Construct Validity*

I assessed construct validity of each unidimensional factor. It was computed as the amount of extracted variance, the average squared standardized factor loading by the indicators of a latent factor:  $\sum_{i=1}^{n_v} l_i^2 / n_v$  where  $l_i$  was the loading of the  $i$ th indicator with  $n_v$  as the number of indicators for the given factor (Hancock & Mueller, 2006; Yang, 2007). Ideally, the value of construct validity should exceed 0.50.

### *Principal Component Analyses (PCAs) to Extract Component Scores*

To represent all the exogenous and endogenous variables in data analyses, I conducted PCAs to extract and save component scores. Based on Kaiser's rule (see Tabachnick & Fidell, 2001), any principal component with an eigenvalue greater than or equal to one should be retained. The reason why component scores rather than means scores were adopted was that extracted principal components, as linear combinations of the original observed variables, represented variance in the observed variables better than means scores merely as unweighted summations of those variables (Yang, 2005, 2007).

### *Multicollinearity Test*

Before analyzing data in HLM tests, I addressed the issue of multicollinearity. Multicollinearity refers to the high linear relationships between two or more predictors in regression models (Lomax, 2001, p. 62). To test multicollinearity, I examined the intercorrelations among the unidimensional factors using their component scores, controlling for organizational membership. In addition, I used the tolerance and variance inflation factor (VIF) method (Lomax, 2001; Wetherill, 1986). As a rule of thumb, a variable needs to be dropped from the analysis if the tolerance value is smaller than .20. The VIF has been defined as "the inflation that occurs for each regression coefficient above the ideal situation of uncorrelated predictors" (Lomax, 2001, p. 63). The cut-off value for VIF used to diagnose high multicollinearity is greater than 4.0 (O'Brien, 2007). Moreover, I investigated the determinants of the correlation matrices of explanatory variables as a measure revealing the severity of multicollinearity (see Rockwell, 1975). As the determinant gets closer to 0 (which means that the correlation matrix is singular), multicollinearity becomes a concern for data analyses.

*The Rationale and Procedures of HLM Analyses:*

*Tests of Hypotheses and Examinations of Research Questions*

To test hypotheses and examine research questions, I conducted HLM tests. Hierarchical linear models allow researchers to deal with nested or multilevel data structures (e.g., Lee, 2003; Pollack, 1998; Whitener, 2001). The main purpose of this dissertation was to test the associations among the same-level variables (the individual-level) while considering that the data were actually nested within each individual organization as well as across different organizations. This can be accomplished by using the null model and the random-coefficient regression model of HLM, i.e., the first and second steps in HLM tests.

HLM analyses in this dissertation consisted of two stages: (1) all the exogenous variables were examined in relation to three endogenous variables in the theoretical model: time-based work-life conflict, strain-based work-life conflict, and quality of employee-organization relationships; (2) mediation tests were performed to examine the mediation effects of time-based work-life conflict (mediator 1) and strain-based work-life conflict (mediator 2).

It is common to analyze data collected from individuals nested within various organizations in organizational studies. Scholars from a number of disciplines have investigated how to examine hierarchical data structure, including researchers from sociology, education, economics, statistics, and organizational behavior (Hoffmann, 1997). Not many theoretical discussions or empirical investigations in communication and public relations in particular have discussed multilevel analytical techniques for nested data or identified relationships among variables residing at hierarchically ordered



systems. Therefore, I introduce the basic logic of hierarchical linear modeling (HLM) as the method chosen for this study, discuss the null model and random-coefficient regression model particularly relevant to this study, and address centering as a critical issue in HLM.

#### *A Brief Introduction of Hierarchical Linear Modeling (HLM)*

Hierarchical linear models allow researchers to simultaneously examine relationships among variables within a given hierarchical level (i.e., the individual level or within-group level) and relationships between or across different hierarchical levels (i.e., between-group level) (Kidwell, Mossholder, & Bennett, 1997; Lee, 2003; Pollack, 1998; Vancouver, Millsap, & Peters, 1994; Whitener, 2001). In order to investigate both within-group and between-group relationships, researchers need to analyze the following two models: (1) one model specifying the relationships among individual-level variables within each group (i.e., calculating the intercept and slope(s) for each group); (2) another model depicting whether those relationships significantly vary across groups (i.e., the intercept and slope estimates from the first model are treated as outcome variables in the second model) (Bryk & Raudenbush, 1992; Hofmann, 1997). Conceptually, the general logic of HLM can be represented by the following two models:

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \beta_{1j}X_{1ij} \dots + \beta_{nj}X_{nij} + r_{ij}$$

Where

$Y_{ij}$  = the outcome variable for individual  $i$  in group  $j$ ;

$X_{1ij} \dots X_{nij}$  = the values on the level-1 predictors for individual  $i$  in group  $j$ ;

$\beta_{0j}$  = intercepts estimated for each of  $j$  groups;

$\beta_{1j} \dots \beta_{nj}$  = slopes estimated for each of  $j$  groups;

$r_{ij}$  = the residual at level-1;

Level 2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}G_j + U_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}G_j + U_{1j}$$

...

$$\beta_{nj} = \gamma_{n0} + \gamma_{nn}G_j + U_{nj}$$

Where

$G_j$  = a group-level variable;

$\gamma_{00}$  = the level-2 intercept term;

$\gamma_{10}$  = the level-2 intercept term;

...

$\gamma_{n0}$  = the level-2 intercept term;

$\gamma_{01}$  = the slope relating  $G_j$  to the level-1 intercept;

$\gamma_{11}$  = the slope relating  $G_j$  to the level-1 slope;

...

$\gamma_{nn}$  = the slope relating  $G_j$  to the level-1 slope;

$U_{0j}$  = the residual at level-2;

$U_{1j}$  = the residual at level-2.

...

$U_{nj}$  = the residual at level-2. (Hofmann, 1997, pp. 727-728)

According to Hofmann et al. (2000), the level-2 equation with the level-1 intercept as the outcome (e.g.,  $\beta_{0j} = \gamma_{00} + \gamma_{01}G_j + U_{0j}$ ) is actually analogous to a cross-level main effect model where group averages of an individual-level outcome are regressed

onto a group-level variable, whereas the level-2 equation with the level-1 slope as the outcome (e.g.,  $\beta_{1j} = \gamma_{10} + \gamma_{11}G_j + U_{1j}$ ) is equivalent to a cross-level interaction model in which a group-level variable actually moderates the relationship between two individual-level variables.

HLM is not only designed to diagnose the extent to which group-level variables explain between-group variance in outcome variables, but also appropriate to accommodate multilevel data structures with predictors only at level-1. The latter was actually the focus of this study. In this case, group-level variables (i.e.,  $G_j$ ) and the slopes associated with them (i.e.,  $\gamma_{01}, \gamma_{11} \dots \gamma_{nn}$ ) are removed from the equations at level-2:

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

$$\beta_{1j} = \gamma_{10} + U_{1j}$$

...

$$\beta_{nj} = \gamma_{n0} + U_{nj}$$

where variability in level-1 intercept and slope can still be examined across groups.

To study individual behaviors within organizations, researchers need to measure both individual attributes and aspects of the organizations where they take place. This is usually referred to as a cross-level investigation or analysis (Hofmann, 1997).

Researchers have discussed three main options for such a cross-level data analysis (Bryk & Raudenbush, 1992; Kidwell et al., 1997; Lee, 2003; Pollack, 1998; Vancouver et al., 1994; Whitener, 2001).

The first option, called the disaggregation approach, is “one can disaggregate the data such that each lower unit is assigned a score representing the higher level unit within which it is nested” (Hofmann, 1997, p. 725). The problem with this approach is that

lower-level units (i.e., individuals) from the same higher-level unit (i.e., group or organization) are influenced by the similar stimuli existing in it; therefore, the assumption of independent observations underlying the ordinary least squares (OLS) approach is violated. Another problem is that the effects of higher-level variables are analyzed based on the number of lower-level units rather than that of higher-level ones. As a consequence, estimation of the standard errors and statistical inferences are influenced (Bryk & Raudenbush, 1992; Hofmann, 1997).

The second option, namely the aggregation approach, is basically “to aggregate the lower level units and investigate relationships at the aggregate level of analysis” (Hofmann, 1997, p. 726). The disadvantage of this approach is that potentially meaningful individual-level variance in variables is discarded.

Hierarchical linear modeling (HLM), as the third option, remedies the problems and disadvantages associated the first two (Bryk & Raudenbush, 1992; Hofmann, 1997). First, HLM acknowledges the possible interdependence of individuals within the same group, and therefore models both individual-level and group-level residuals. In this way, it overcomes the shortcoming of assumption violation in the disaggregation approach. Second, HLM enables researchers to examine the association between lower-level outcomes and both their lower-level and higher-level predictors using the appropriate level of analysis. Consequently, individual-level and group-level variance in the outcome variables are properly partitioned without ignoring any potentially meaningful within-group variance (Hofmann, 1997, p. 726).

Although this study was merely interested in examining the associations among predictors and outcome variables at the individual level, HLM adequately accommodated

its nested data structure without ignoring the potential influence of organizational membership on the outcome variables of interest. In particular, HLM data analyses calculated the amount of variance in the outcome variables that within-group and between-group levels accounted for. Moreover, they provided information about how much within-group variances that individual-level predictors actually explained in the outcome variables. If data were treated as if they were collected from the same organization and variables were only estimated at the individual level, the independence of observations assumption would be violated. Therefore, HLM dealt with the hierarchically nested data structure in this study appropriately.

#### *Null Model*

The first step in HLM analyses is equivalent to one-way random-effects ANOVA (Raudenbush & Bryk, 2002, p. 69). It is called a null model because no predictors are included in its level-1 equation (Hofmann, Griffin, & Gavin, 2000). The null model provides useful information with regard to how much variation in a given outcome variable resides within and between organizations. It also tests the reliability of each organization's sample mean to estimate its true population mean (Hofmann, 1997). In this study, the null models for the three endogenous variables provided information on whether there were significant individual and organizational differences in (1) perceived time-based work-life conflict, (2) perceived strain-based work-life conflict, and (3) perceived quality of employee-organization relationships. Here is a brief illustration of a null model in HLM:

The level-1 or individual-level equation is:

$$Y_{ij} = \beta_{0j} + r_{ij}.$$

At level 2 or the organizational level, the equation is:

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

where

$Y_{ij}$  = the outcome variable for individual  $i$  in group  $j$ ;

$\beta_{0j}$  = mean  $Y_{ij}$  for organization  $j$ ;

$\gamma_{00}$  = grand mean  $Y_{ij}$  (i.e., the mean of the group means  $\beta_{0j}$ );

Variance ( $r_{ij}$ ) =  $\sigma^2$  = within-group variance in  $Y_{ij}$ ;

Variance ( $U_{0j}$ ) =  $\tau_{00}$  = between-group variance in  $Y_{ij}$ .

When no predictors are included in the level-1 equation, the variance in  $Y_{ij}$  is regressed onto a constant unit vector that generates a regression-based intercept estimate. Because  $Y_{ij}$  is regressed only onto a constant unit vector, the parameter  $\beta_{0j}$  is equal to the mean for organization  $j$  (Hofmann, 1997, p. 732).

In summary, the level-1 equation predicts  $Y_{ij}$  based on (1)  $\beta_{0j}$ , the mean score within each of the  $j$  organizations, and (2)  $r_{ij}$ , the error term for each of  $i$  individuals of  $j$  organizations. At level-2, each organization's mean score of  $Y_{ij}$ , i.e.,  $\beta_{0j}$  is represented as a function of the grand mean  $\gamma_{00}$  and each organization's random error  $U_{0j}$ .

Results of a null model analysis in HLM consist of the following key information:

- 1) Random effects: the weighted least squares estimate for the grand mean  $\gamma_{00}$ ;
- 2) Variance components: the restricted maximum likelihood estimates of the variance components including  $\sigma^2$  (within group variance) and  $\tau_{00}$  (between group variance);
- 3) A significance test about whether the estimated value of  $\tau_{00}$  is significantly greater than 0;

4) An estimation of the reliability of the sample mean in any organization for the true organization mean.

(Raudenbush & Bryk, 2002, pp. 70-72)

#### *Random-Coefficient Regression Model*

The second step in HLM as it applies to the present study is a random-coefficient regression model where predictor(s) is (are) added into the level-1 equation (Hofmann, 1997; Raudenbush & Bryk, 2002). For example, if one predictor ( $X_{ij}$ ) is added, then the following set of equations will be analyzed in the model:

The level-1 or individual level equation is:

$$Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij} + r_{ij}.$$

At level-2 or the organizational level, the equations are:

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

$$\beta_{1j} = \gamma_{10} + U_{1j}$$

where

$\gamma_{00}$  = mean of the intercepts across organizations;

$\gamma_{10}$  = mean of the slopes across organizations;

Variance ( $r_{ij}$ ) =  $\sigma^2$  = the level-1 residual variance;

$U_{0j}$  = unique increment to the mean intercept associated with organization  $j$ ;

$U_{1j}$  = unique increment to the mean slope associated with organization  $j$ ;

Variance ( $U_{0j}$ ) =  $\tau_{00}$  = variance in intercepts;

Variance ( $U_{1j}$ ) =  $\tau_{11}$  = variance in slopes.

(Raudenbush & Bryk, 2002, pp. 26-27)

The degree of within- and between-group variance in an outcome variable ( $Y_{ij}$ ) is

assessed in the null model. However, the random-coefficient regression model examines whether there is significant variance in the intercepts and slopes across organizations (Hofmann, 1997, p. 733). Because there are no predictors in the level-2 equations,  $\beta_{0j}$  and  $\beta_{1j}$  are predicted by the overall mean intercept ( $\gamma_{00}$ ) and mean slope ( $\gamma_{10}$ ). As  $\beta_{0j}$  and  $\beta_{1j}$  are regressed onto two constants, each of the level-2 regression equations is equal to an intercept ( $\gamma_{00}$  or  $\gamma_{10}$ ) and a residual ( $U_{0j}$  or  $U_{1j}$ ). The variance of  $U_{0j}$  and  $U_{1j}$  actually represent between-group variance in  $\beta_{0j}$  and  $\beta_{1j}$  (Hofmann et al., 2000).

In HLM, a  $t$  test is conducted to investigate whether the parameters  $\gamma_{00}$  and  $\gamma_{10}$  are significantly different from 0. Specifically, in the case of  $\gamma_{00}$ , its significance indicates whether, on average, the outcome variable  $Y_{ij}$  significantly departs from 0. The significance of  $\gamma_{10}$  suggests, across organizations, whether  $X_{ij}$  as an individual-level predictor is significantly related to  $Y_{ij}$  as an individual-level outcome. In other words, a significant  $t$  value shows the pooled level-1 slope between  $X_{ij}$  and  $Y_{ij}$  differs significantly from 0. Moreover, HLM provides a chi-square test for the two residual variances in the random-coefficient regression model ( $\tau_{00}$  and  $\tau_{11}$ ). It indicates whether there is a significant amount of variance in the level-1 intercepts and slopes across organizations.

In summary, a random-coefficient regression model reports the following two key messages: (1) the significance of the pooled level-1 slope testing the association between  $X_{ij}$  and  $Y_{ij}$  as the predictor and outcome variables at the individual level; (2) the significance of the variance in the pooled level-1 intercepts and slopes (Hofmann, 1997).

In addition to testing  $\gamma$ 's and  $\tau$ 's, HLM also estimates variance ( $r_{ij}$ ) or  $\sigma^2$  as the level-1 residual variance. In the null model,  $\sigma^2$  equals within-group variance in the outcome variable  $Y_{ij}$ . Based on the two values of  $\sigma^2$  (within-group variance versus level-1



residual variance), one can calculate  $R^2$ —the level-1 variance in the outcome variable  $Y_{ij}$  that the predictor  $X_{ij}$  accounted for. It is computed as follows:

$R^2$  for level-1 model =  $(\sigma^2_{\text{null model}} - \sigma^2_{\text{random regression}}) / \sigma^2_{\text{null model}}$  (Hofmann, 1997; Hofmann et al., 2000; Snijders & Bosker, 1994)<sup>11</sup>.

#### *Group Mean Centering Level-1 Predictors with No Contextual Predictors at Level-2*

Centering is another important issue in HLM that is relevant to this study. In the level-1 equation  $Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij} + r_{ij}$ , the slope parameter  $\beta_{1j}$  represents the expected increase in the  $Y_{ij}$  given a unit change in  $X_{ij}$ . The intercept parameter  $\beta_{0j}$  displays the expected value of  $Y_{ij}$  when the value of  $X_{ij}$  equals zero. Because the equation  $\beta_{0j} = \gamma_{00} + U_{0j}$  at level 2 attempts to account for variation in  $\beta_{0j}$ , it is essential to choose the right metric for the level-1 predictor  $X_{ij}$  (Hofmann, 1997; Raudenbush & Bryk, 2002).

Researchers in multilevel modeling studies have addressed the “rescaling” of the level-1 predictor(s) using different “centering” options (Hofmann, 1997; Hofmann & Gavin, 1998; Raudenbush & Bryk, 2002). This study was primarily interested in the estimates for the level-1 regression coefficients with no contextual-level or organizational-level predictors entered at level-2. Group-mean centering produces unbiased estimates of  $\beta_{1j}, \dots, \beta_{nj}$  as the pooled-within-organization relationships between  $n$  level-1 predictors and their outcome variable (Bryk & Raudenbush, 1992; Kreft, De Leeuw, & Aiken, 1995; Raudenbush & Bryk, 2002; Wu & Wooldridge, 2005).

Group mean centering means that the relevant level-2 unit mean(s), i.e., group mean(s) of the level-1 predictor(s), is (are) subtracted from each case (i.e., a given group-mean centered level-1 predictor is of the form  $X_{ij} - \overline{X_{.j}}$  with  $\overline{X_{.j}}$  symbolizing the mean

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<sup>11</sup> The formula is also written as  $R^2$  for level-1 model =  $(\sigma^2_{\text{oneway ANOVA}} - \sigma^2_{\text{random regression}}) / \sigma^2_{\text{oneway ANOVA}}$ .

for organization  $j$ ) (Raudenbush & Bryk, 2002). With group mean centering,  $\beta_{0j}$  represents the expected value of  $Y_{ij}$  when the value of  $X_{ij}$  for an individual participant equals his or her group's average score on  $X_{ij}$  (Hofmann, 1997; Hofmann & Gavin, 1998).

Table 4

*Comparison of Alternative Estimators of Fixed Level-1 Regression Coefficient*

Alternative Statistical Models			
OLS Regression at Level 1 (an ungrouped analysis)	OLS Regression at Level 2 (a between-group analysis)	Hierarchical Linear Model (group-mean centering)	Hierarchical Linear Model (grand-mean centering)
$Y_i = \beta_0 + \beta_1 X_i + r_i$ $i = 1, \dots, N$ persons (note: nesting of persons within organization is ignored) $\beta_l = \beta_t$	$\bar{Y}_j = \beta_0 + \beta_1 \bar{X}_j + U_j$ $j = 1, \dots, J$ organizations $\beta_l = \beta_b$	$Y_{ij} = \beta_{0j} + \beta_{1j}(X_{ij} - \bar{X}_j) + r_{ij}$ $\beta_{0j} = \gamma_{00} + U_{0j}$ $\beta_{1j} = \gamma_{10}$ $\gamma_{10} = \beta_w$	$Y_{ij} = \beta_{0j} + \beta_{1j}(X_{ij} - \bar{X}_{..}) + r_{ij}$ $\beta_{0j} = \gamma_{00} + U_{0j}$ $\beta_{1j} = \gamma_{10}$ $\gamma_{10} = (w_1 \beta_w + w_2 \beta_b) / (w_1 + w_2)$

As shown in Table 4, Raudenbush and Bryk (2002) compared four methods of estimating a fixed level-1 regression coefficient: OLS Regression at Level 1 (an ungrouped analysis), OLS Regression at Level 2 (a between-group analysis), Hierarchical Linear Model (group-mean centering), and Hierarchical Linear Model (grand-mean

centering) (p. 136). As shown in the third and fourth columns of Table 4, group-mean centering produces an unbiased estimate of  $\beta_w$ ; whereas when the data are grand-mean centered, the resulting estimator combines  $\beta_w$  and  $\beta_b$  with two weights  $w_1$  and  $w_2$ . As an uninterpretable blend (neither  $\beta_w$  nor  $\beta_b$ , nor  $\beta_t$ ), the hierarchical estimator  $\beta_{1j}$  with grand-mean centering is not an appropriate estimator for level-1 effect (p. 139). When group mean centering is used, the unbiased slope estimates for within group variables obtained by using fixed effects models can be achieved.

Second, when grand-mean centering is used, the variance in the intercept term ( $\beta_{0j}$ ) actually represents between-group variance in the outcome measure adjusted for the influence of the level-1 predictor(s). Nevertheless, group-mean centering results in the level-1 intercept variance simply equal to the between-group variance in the outcome variable (Hofmann & Gavin, 1998, p. 628). Consequently, when group-mean centering is used, the variance structures at level 1 and level 2 are orthogonal (within-group versus between-group). The level-1 regression coefficients are not inflated by possible level-2 effects.<sup>12</sup> If grand-mean centering is adopted, it is possible that level-1 coefficient(s) will be inflated if it (they) capture(s) some of the level-2 variance. Group-mean centering does a better job of disentangling level-1 and contextual effects.

Finally, group-mean centering is also the better option when estimating random level-1 coefficients. In the equation  $Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij} + r_{ij}$ , if we specify the  $\beta_{1j}$  coefficient as fixed, we constrain its variance  $\tau_{11}$  as zero. Inferences about  $\tau_{11}$ , however, become much more complex when estimating a random level-1 coefficient. When organizations

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<sup>12</sup> Contextual effects that occur when the aggregate of an individual-level (or level-1) variable, i.e.,  $\overline{X_{.j}}$  is related to the outcome variable  $Y_{ij}$  even if the effect of the individual-level variable  $X_{ij}$  is controlled for (see Raudenbush & Bryk, 2002, p. 139). Contextual effects can be symbolized as  $\beta_c = \beta_b - \beta_w$ .

have the identical mean of  $X_{ij}$ , centering does not greatly affect the estimation of  $\tau_{11}$ . Once the mean of  $X_{ij}$  varies systematically across organizations, choice of centering (group-mean centering, i.e., centering on different group means vs. grand-mean centering, i.e., centering on the grand mean as a constant) does make a big difference. Raudenbush and Bryk (2002) recommended group-mean centering as the better approach than grand-mean centering because it can detect the slope heterogeneity more accurately (p. 143). With grand-mean centering, the adjusted mean for organization  $j$  represents the expected outcome for an individual at the organization whose value of  $X_{ij}$  equals the grand mean. Consequently, the empirical estimates of  $\beta_{0j}$  for  $j$  organizations will be shrunk toward the grand mean of  $Y_{ij}$ . Subsequently, the estimates of  $\beta_{1j}$  will suffer such shrinkage as well and become homogenized. Thus, when the level-1 sample size is small or moderate and group means of  $X_{ij}$  vary substantially, group-mean centering will result in more robust estimates of unit-specific regression equations (Raudenbush & Bryk, 2002, p. 149).

Based on the aforementioned discussion supporting the use of group-mean centering for estimation of level-1 regression coefficients, in all random-coefficient regression models of the study, level-1 predictors were input as group-mean centered.

#### *Mediation Tests*

The causal steps strategy is the most widely used method for testing mediation effects (Preacher & Hayes, 2008). The causal steps strategy (Baron & Kenny, 1986; Judd & Kenny, 1981; Kenny, Kashy, & Bolger, 1998) proposed that the mediating variable (M) mediated the association between the antecedent (X) and the outcome (Y) if the following criteria were satisfied:

- 1) X significantly predicts Y;<sup>13</sup>
- 2) X significantly predicts M;
- 3) M significantly predicts Y when controlling for X. It is insufficient only to establish a significant link between M and Y. The mediator and the outcome variable may be related because both are caused by the antecedent variable X. Therefore, X must be controlled for in establishing the significant effect of M on Y;
- 4) To establish that M completely mediates the relationship between X and Y, the effect of X on Y when M is controlled for is expected to be zero. Partial mediation is successfully set up when the effect of X on Y decreases substantially with M and X simultaneously predicting Y.
- 5) The effects in step 3) and step 4) can be examined in the same model.

Some scholars (Collins, Graham, & Flaherty, 1998; Judd & Kenny, 1981; Kenny et al., 1998) have argued that a significant effect of X on Y with the absence of M was not an essential step for a mediation effect to occur. The causal steps approach can be applied to test mediation in contexts with multiple mediators (Preacher & Hayes, 2008).

#### Ethics of the Research

To conduct ethical survey research, researchers should keep participants well informed of the research and protect their rights (Fowler, 2002). In January 2009, I submitted the initial application for research involving human subjects. The University of Maryland Institutional Review Board (IRB) approved it in February, 2009 (see Appendix B). In this study, each participant was provided with information about the survey. The

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<sup>13</sup> Research has suggested that the first criterion is not always considered necessary for mediation to occur (see Kenny et al., 1998; Preacher & Hayes, 2008).

questionnaire did not ask for information that would reveal the identities of participants except for some basic demographic information. Consent of participation was asked before participants clicked the radio button “Next” to proceed in the survey.

## Chapter 4: Results

### Data Entry Checks

First of all, I examined frequencies of all the variables and found that all frequencies fell within the range defined by the lower and higher boundaries for each variable. Second, I identified several errors in entries for the availability, perceived and assumed helpfulness of childcare, job flexibilities, and personal day workplace supportive initiatives. Based on participants' answers to the first question about the availability of such initiatives (i.e., "Yes," "No," or "Unknown/Not Sure"), they were supposed to either answer the second question asking for their perceived helpfulness of those initiatives or the third question inquiring about their assumed helpfulness of those initiatives (see Appendix A). A few participants answered both regardless of their responses to the first one. I corrected their errors by deleting their inputs under the questions they were not supposed to answer.<sup>14</sup> In addition, for the four open-ended questions in the survey (see Appendix A), I deleted units of quantity that participants added in their answers, including years of age, hours (household involvement), and people/persons (the total number of employees within an organization and the number of employees a participant was directly or indirectly supervising). For example, if a participant answered "How old are you?" by typing "30 years of old," "years of old" was removed from the SPSS data file.

### Data Recoding

I used the collector IDs that the 396 cases were tagged with and recoded

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<sup>14</sup> This type of mistake was corrected only when the answers for the second and third questions were identical. Those cases with different answers to the questions were removed and not included in data analyses.

organizational membership as a categorical variable with values ranging from 1 to 44, representing the 44 organizations from which data were collected.

In terms of the length of employment with participants' current employers (i.e., \_\_\_\_\_ years and \_\_\_\_\_ months), I recoded the two data columns (i.e., years and months) into a new variable using the following equation:

$$\text{New Variable} = \text{Years} + \text{Months}/12.$$

In addition, I reverse coded one item measuring control mutuality as it was reverse worded in the survey (i.e., "In dealing with people like me, my organization has a tendency to throw its weight around.").

Finally, those participants who (1) thought their organizations did not have supportive initiatives such as childcare, job flexibilities, and personal day, (2) did not know, or (3) were unsure whether such initiatives were accessible within their organizations did not answer the following questions:

1. "How much do those childcare policies help you in balancing between your work and your personal life?" [Perceived Helpfulness of Childcare]
2. "How much do those job flexibility policies help you in balancing your work and personal life?" [Perceived Helpfulness of Job Flexibilities]
3. "How much do those personal day policies help you in balancing between your work and personal life?" [Perceived Helpfulness of Personal Day]

In order to determine whether their responses to the above three questions should be recoded as "system missing" or "0s" [0 = not helpful at all], I conducted a series of bivariate correlation analyses. Six columns of data were subtracted from the SPSS data file ( $N = 396$ ): (1) Perceived Helpfulness of Childcare, (2) Assumed Helpfulness of



Childcare,<sup>15</sup> (3) Perceived Helpfulness of Job Flexibilities, (4) Assumed Helpfulness of Job Flexibilities,<sup>16</sup> (5) Perceived Helpfulness of Personal Day, and (6) Assumed Helpfulness of Personal Day.<sup>17</sup> Based on the subtracted data, a new data file was produced with mean scores of participants' responses from each organization residing in 264 cells of the data file (i.e., 6 columns representing means scores of responses x 44 rows representing 44 organizations). Three Pearson correlation coefficients were calculated:

$$r_{\text{perceived helpfulness of childcare, assumed helpfulness of childcare}} = -.161 (p > .05)$$

$$r_{\text{perceived helpfulness of job flexibilities, assumed helpfulness of job flexibilities}} = .271 (p > .05)$$

$$r_{\text{perceived helpfulness of personal day, assumed helpfulness of personal day}} = .001 (p > .05).$$

The bivariate correlations were low and not statistically significant, which suggested that participants' perceived helpfulness of workplace supportive initiatives was a different construct than their assumed helpfulness of those initiatives. Thus, for participants who thought those initiatives were not available, did not know, or were not sure whether they were available, I coded their perceived helpfulness of childcare, job flexibilities, and personal day initiatives as "0's"—not helpful at all.

### Missing Data

Kline (1998, 2005) argued that missing data should be adequately dealt with in statistical analyses, although non-systematic missing data can generally be ignored.

According to Kline (1998, 2005), pairwise deletion should be chosen in conducting

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<sup>15</sup> "Assuming your organization had such childcare policies, how much do you imagine they would help you in balancing your work and your personal life?"

<sup>16</sup> "Assuming your organization had such job flexibility policies, how much do you imagine they would help you in balancing your work and personal life?"

<sup>17</sup> "Assuming your organization had such personal day policies, how much do you imagine they would help you in balancing between your work and personal life?"

principal component analyses (PCAs), regression analyses, and analyses of variance (ANOVAs) for the sake of maintaining statistical power and increasing the effect size. However, listwise deletion is a preferable option for confirmatory factor analyses (CFAs) and structural equation modeling (SEM) when the number of cases with missing data is small (Kline, 2005). In a hierarchical linear modeling (HLM) program, observations with missing data at level-1 of hierarchy, i.e., the individual-level, are removed using listwise deletion either when the MDM file is created or during the process of running a specific analysis. Level-2 data are assumed to be complete in HLM program. Thus, any cases with missing data at the higher level (i.e., usually the group-level or the organizational-level) should be deleted or marked as such; otherwise, they will automatically be deleted (Raudenbush, Bryk, Cheong, & Congdon, 2000). Apart from various deletion methods, another way to handle missing data is data imputation, for instance, mean substitution or regression-based substitution (Hancock & Mueller, 2006; Kline, 1998). However, data imputation methods result in biased covariances that underrepresent the population covariances (Yang, 2005).

Missing data did not become a great concern for this study. With the remaining 396 observations, none of the exogenous and endogenous variables contained any missing value, though missing data did exist among demographic variables.

### Descriptive Statistics

#### *Quality of Employee-Organization Relationships (EORs)*

Table 5 shows descriptive statistics of quality of employee-organization relationships (EORs). Eleven-point Likert-type scales ranging from 0 (“strongly disagree”) to 10 (“strongly agree”) were used to measure perceived quality of EORs. The

means for the relationship outcome variables indicated that overall, participants had moderate relationships with their organizations. The mean score for each of four relationship outcomes was 6.583 ( $SD = 2.549$ ) for trust, 6.592 ( $SD = 2.719$ ) for commitment, 6.754 ( $SD = 2.651$ ) for satisfaction, and 6.230 ( $SD = 2.177$ ) for control mutuality. In summary, participants perceived the relationships with their organizations as being relatively of a higher level of satisfaction, a medium level of trust and commitment, and a lower level of control mutuality. As shown in Table 5, all the correlations among trust, commitment, satisfaction, and control mutuality were significant at the .01 level when organizational membership was controlled for. In calculating individual-level correlations, I controlled for organizational membership because it might have influenced relationships among variables at the individual-level.

Table 5

*Individual-level Means, Standard Deviations, and Correlations of Employee-Organization Relationship Outcomes (N=352)*

Variable	<i>M</i>	<i>SD</i>	1.	2.	3.	4.
1. Trust	6.583	2.549	1			
2. Commitment	6.592	2.719	.922**	1		
3. Satisfaction	6.754	2.651	.929**	.955**	1	
4. Control Mutuality	6.230	2.177	.838**	.840**	.824**	1

*Note.* \* $p < .05$ . \*\* $p < .01$ .

#### *Time-Based and Strain-Based Work-Life Conflict*

Eleven-point Likert-type scales ranging from 0 (“strongly disagree”) to 10 (“strongly agree”) were used to assess participants’ perceived time-based work-life

conflict and strain-based work-life conflict. As shown in Table 6, participants from the 44 organizations experienced relatively low levels of work-life conflict with the mean score of time-based work-life conflict ( $M = 4.656$ ,  $SD = 3.079$ ), slightly higher than that of strain-based work-life conflict ( $M = 4.198$ ,  $SD = 3.049$ ). In addition, the level of perceived time-based work-life conflict and that of perceived strain-based work-life conflict were significantly correlated, given that organizational membership was controlled for ( $r = .671$ ,  $p < .01$ ).

Table 6

*Individual-level Means, Standard Deviations, and Correlation between Work-Life Conflict Variables (N=352)*

Variable	<i>M</i>	<i>SD</i>	1.	2.
Time-based Work-Life Conflict	4.656	3.079	1	
Strain-based Work-Life Conflict	4.198	3.049	.671**	1

*Note.* \* $p < .05$ . \*\* $p < .01$ .

#### *Transformational Leadership*

In this dissertation, 11-point Likert-type scales ranging from 0 (“strongly disagree”) to 10 (“strongly agree”) were adopted in evaluating transformational leadership. Table 7 presented the means, standard deviations, and correlations of the individual-level transformational leadership variables. Shown in Table 7, I investigated the four elements of transformational leadership, i.e., idealized influence (behavior) (II), inspirational motivation (IM), intellectual stimulation (IS), and individualized consideration (IC) separately. At the individual level, participants rated transformational leadership behaviors of their immediate supervisors moderately with the mean score of

inspirational motivation (IM) ( $M = 7.343$ ,  $SD = 2.275$ ) slightly higher than the mean score of idealized influence (behavior) (II) ( $M = 7.185$ ,  $SD = 2.345$ ), that of intellectual stimulation (IS) ( $M = 7.146$ ,  $SD = 2.499$ ), and that of individualized consideration (IC) ( $M = 7.157$ ,  $SD = 2.591$ ). At the individual level, Idealized Influence (Behavior) (II), Inspirational Motivation (IM), Intellectual Stimulation (IS), and Individualized Consideration (IC) were all highly correlated with one another significantly ( $r_{II, IM} = .798, p < .01$ ;  $r_{II, IS} = .774, p < .01$ ;  $r_{II, IC} = .749, p < .01$ ;  $r_{IM, IS} = .806, p < .01$ ;  $r_{IM, IC} = .762, p < .01$ ;  $r_{IS, IC} = .840, p < .01$ ).

Table 7

*Individual-level Means, Standard Deviations, and Correlations among Transformational Leadership Variables (N=352)*

Variable	<i>M</i>	<i>SD</i>	1. II	2. IM	3. IS	4. IC
1. Idealized Influence (Behavior) (II)	7.185	2.345	1			
2. Inspirational Motivation (IM)	7.343	2.275	.798**	1		
3. Intellectual Stimulation (IS)	7.146	2.499	.774**	.806**	1	
4. Individualized Consideration (IC)	7.157	2.591	.749**	.762**	.840**	1

*Note.* \* $p < .05$ . \*\* $p < .01$ .

#### *Procedural Justice*

To assess participants' perceived fairness of general decision-making procedures and perceived fairness of work-life policies, decisions, and procedures in their

organizations, 11-point Likert-type scales ranging from 0 (“strongly disagree”) to 10 (“strongly agree”) were used. Table 8 reported the means, standard deviations, and correlations of the individual-level procedural justice variables. At the individual level, participants rated fairness of general decision-making procedures in their organizations moderately ( $M = 6.231$ ,  $SD = 2.558$ ). The degree of perceived fairness of work-life policies, decisions, and procedures was not very high either ( $M = 6.670$ ,  $SD = 2.291$ ). At the individual level, the degree of perceived fairness of general decision-making procedures and that of perceived fairness of work-life policies, decisions, and procedures were significantly correlated with each other ( $r = .569$ ,  $p < .01$ ).

Table 8

*Individual-level Means, Standard Deviations, and Correlations between Procedural Justice Variables (N=352)*

Variable	<i>M</i>	<i>SD</i>	1.	2.
1. Procedural Justice in General	6.231	2.558	1	
2. Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures	6.670	2.291	.569**	1

*Note.* \* $p < .05$ . \*\* $p < .01$ .

#### *Family-Supportive Workplace Initiatives<sup>18</sup>*

To evaluate participants’ perceived helpfulness of family-supportive workplace initiatives, I used 11-point Likert-type scales ranging from 0 (“not help at all”) to 10 (“extremely helpful”). Table 9 reported the means, standard deviations, and correlations

<sup>18</sup> Helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives were conceptualized as three latent factors with their respective single indicators. They were not indicators of helpfulness of family-supportive workplace initiatives as a single latent factor.

of the individual-level variables of family-supportive workplace initiatives. Three categories of family-supportive workplace initiatives were examined: childcare, job flexibilities, and personal day. At the individual level, participants did not perceive their organizations' childcare initiatives as very helpful ( $M = 1.503$ ,  $SD = 2.886$ ). The level of perceived helpfulness of job flexibility initiatives was not high, though much higher than that of childcare initiatives ( $M = 5.649$ ,  $SD = 4.085$ ). Among the three categories of initiatives, personal day seemed to be the most effective in terms of helping employees integrate their work and non-work responsibilities ( $M = 7.119$ ,  $SD = 3.604$ ). Controlling for the effect of organizational membership, I found a statistically significant correlation between helpfulness of childcare and helpfulness of job flexibilities, and a significant correlation between helpfulness of job flexibilities and helpfulness of personal day initiatives ( $r_{\text{helpfulness of childcare, helpfulness of job flexibilities}} = .177, p < .01$ ;  $r_{\text{helpfulness of job flexibilities, helpfulness of personal day}} = .206, p < .01$ ). Nevertheless, the correlation between helpfulness of childcare initiatives and helpfulness of personal day initiatives was not statistically significant ( $r_{\text{helpfulness of childcare, helpfulness of personal day}} = .095, p > .05$ ).

Table 9

*Individual-level Means, Standard Deviations, and Correlations among Family-Supportive Workplace Initiatives Variables (N=352)*

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Helpfulness of Childcare Initiatives	1.503	2.886	1		
2. Helpfulness of Job Flexibilities	5.649	4.085	.177**	1	
Initiatives					
3. Helpfulness of Personal Day Initiatives	7.119	3.604	.095	.206**	1

*Note.* \* $p < .05$ . \*\* $p < .01$ .

*Means, Standard Deviations, and Correlations of All Endogenous and Exogenous Variables*

In addition to computing means, standard deviations, and correlations of the aforementioned five groups of variables separately, I correlated all the endogenous and exogenous variables in the formal study and presented an overall pattern of relationships in Table 10.

Most of the correlations turned out to be statistically significant after controlling for organizational membership. In particular, time-based work-life conflict was found negatively correlated with quality of employee-organization relationships significantly ( $r = -.236, p < .01$ ). This individual-level correlation was consistent with my theoretical anticipation that the higher the level of employees' perceived time-based work-life conflict, the lower the quality of employee-organization relationships. Strain-based work-life conflict was also significantly negatively correlated with quality of employee-organization relationships ( $r = -.262, p < .01$ ). It confirmed my theoretical expectation about the negative association between the two variables.

Moreover, transformational leadership was significantly positively related to quality of employee-organization relationships ( $r = .670, p < .01$ ). It made sense to me because when employees had more supportive and helpful supervisors, it was more likely for them to generalize positive impressions toward their immediate supervisors to those about their employing organizations as a whole, and thus perceived better relationship outcomes.

Procedural justice was also significantly positively associated with quality of



employee-organization relationships ( $r = .746, p < .01$ ). Based on the significant correlation, it seemed reasonable to argue that fair decision-making procedures within organizations might result in employees' perceived quality relationships with their employers.

Furthermore, it was revealed that transformational leadership was significantly and negatively correlated with both time-based work-life conflict ( $r = -.100, p < .01$ ) and strain-based work-life conflict ( $r = -.206, p < .01$ ). This finding was compatible with my theoretical assumption that leadership behaviors of direct supervisors could possibly affect employees' perceived work-life conflict.

Procedural justice was also negatively associated with time-based work-life conflict ( $r = -.217, p < .01$ ) and strain-based work-life conflict ( $r = -.289, p < .01$ ) significantly. The fairer the decision-making procedures, the easier was it for employees to integrate the competing demands from their work and nonwork domains. Despite the significant relationships that time- and strain-based work-life conflict had with transformational leadership and procedural justice, perceived helpfulness of childcare initiatives, job flexibility initiatives, and personal day initiatives were found not to be significantly related to time-based work-life conflict ( $r = -.075; r = -.080; r = -.031; p > .05$ ) or strain-based work-life conflict ( $r = -.055; r = -.092; r = -.062; p > .05$ ).

It seemed that even if participants perceived family-supportive workplace initiatives were helpful, the use of such initiatives did not significantly contribute to reducing the interference that job responsibilities could create for employees' nonwork lives.

Table 10

*Individual-level Means, Standard Deviations, and Correlations of Variables in the Formal Study (N=352)*

Variable	M	SD	1.	2.	3.	4.	5.	6.	7.	8.
1. EORs Quality	7.208	2.249	1							
2. Trust	7.185	2.345	.974**	1						
3. Commitment	7.343	2.275	.972**	.922**	1					
4. Satisfaction	7.146	2.499	.971**	.929**	.955**	1				
5. Control Mutuality	7.157	2.591	.900**	.838**	.840**	.824**	1			
6. Time	1.503	2.886	-.236**	-.227**	-.243**	-.269**	-.160**	1		
7. Strain	5.649	4.085	-.262**	-.274**	-.251**	-.290**	-.162**	.671**	1	
8. TL	7.119	3.604	.670**	.635**	.670**	.669**	.584**	-.100*	-.206**	1
9. II	6.450	2.164	.597**	.579**	.574**	.582**	.538**	-.066	-.140**	.898**
10. IM	6.231	2.558	.594**	.569**	.582**	.606**	.514**	-.107*	-.213**	.904**
11. IS	6.670	2.291	.618**	.579**	.627**	.618**	.545**	-.116*	-.202**	.933**
12. IC	4.656	3.079	.648**	.609**	.669**	.648**	.554**	-.095	-.198**	.918**
13. PJ	4.198	3.049	.746**	.750**	.701**	.725**	.666**	-.217**	-.289**	.624**

*Note.* \* $p < .05$ . \*\* $p < .01$ .

*(table continues)*

Table 10 (continued).

Variable	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.
14. PJ In	6.545	2.449	.698**	.710**	.645**	.662**	.637**	-.158**	-.257**	.567**
General										
15. WLPJ	6.583	2.549	.630**	.623**	.603**	.629**	.549**	-.215**	-.232**	.551**
16. Help1	6.592	2.719	.242**	.221**	.246**	.253**	.234**	-.075	-.055	.273**
17. Help2	6.754	2.651	.231**	.209**	.239**	.247**	.200**	-.080	-.092	.272**
18. Help3	6.230	2.177	.213**	.175**	.221**	.233**	.208**	-.031	-.062	.185**

Note. \* $p < .05$ . \*\* $p < .01$ .

(table continues)

Table 10 (continued).

Variable	<i>M</i>	<i>SD</i>	9.	10.	11.	12.	13.	14.	15.	16.
1. EORs Quality	7.208	2.249								
2. Trust	7.185	2.345								
3. Commitment	7.343	2.275								
4. Satisfaction	7.146	2.499								
5. Control Mutuality	7.157	2.591								
6. Time	1.503	2.886								
7. Strain	5.649	4.085								
8. TL	7.119	3.604								
9. II	6.450	2.164	1							
10. IM	6.231	2.558	.798**	1						
11. IS	6.670	2.291	.774**	.806**	1					
12. IC	4.656	3.079	.749**	.762**	.840**	1				
13. PJ	4.198	3.049	.589**	.595**	.572**	.569**	1			

*Note.* \* $p < .05$ . \*\* $p < .01$ .

(table continues)

Table 10 (continued).

Variable	<i>M</i>	<i>SD</i>	9.	10.	11.	12.	13.	14.	15.	16.
14. PJ In	6.545	2.449	.563**	.517**	.514**	.502**	.880**	1		
General										
15. WLPJ	6.583	2.549	.502**	.538**	.509**	.506**	.873**	.569**	1	
16. Help1	6.592	2.719	.247**	.226**	.249**	.273**	.202**	.214**	.159**	1
17. Help2	6.754	2.651	.242**	.270**	.252**	.232**	.259**	.197**	.269**	.177**
18. Help3	6.230	2.177	.146**	.197**	.153**	.191**	.250**	.163**	.300**	.095

Note. \* $p < .05$ . \*\* $p < .01$ .

(table continues)

Table 10 (continued).

Variable	<i>M</i>	<i>SD</i>	17.	18.
1. EORs Quality	7.208	2.249		
2. Trust	7.185	2.345		
3. Commitment	7.343	2.275		
4. Satisfaction	7.146	2.499		
5. Control Mutuality	7.157	2.591		
6. Time	1.503	2.886		
7. Strain	5.649	4.085		
8. TL	7.119	3.604		
9. II	6.450	2.164		
10. IM	6.231	2.558		
11. IS	6.670	2.291		
12. IC	4.656	3.079		
13. PJ	4.198	3.049		

*Note.* \* $p < .05$ . \*\* $p < .01$ . (table continues)

Table 10 (continued).

Variable	<i>M</i>	<i>SD</i>	17.	18.
14. PJ In General	6.545	2.449		
15. WLPJ	6.583	2.549		
16. Help1	6.592	2.719		
17. Help2	6.754	2.651	1	
18. Help3	6.230	2.177	.206**	1

*Note.* \* $p < .05$ . \*\* $p < .01$ . EOR = Employee-Organization Relationship;

Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict;

TL = Transformational Leadership; II = Idealized Influence (Behavior);

IM = Inspirational Motivation; IS = Intellectual Stimulation; IC = Idealized Consideration;

PJ = Procedural Justice; WLPJ = Procedural Justice Referencing Work-Life Policies,

Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives;

Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives.

### One-Way Random-Effect ANOVA and Its Alternative Tests:

#### Justifications for Performing Multilevel Confirmatory Factor Analyses (CFAs)

#### and Hierarchical Linear Modeling (HLM) Tests

The results of ANOVA and its alternative tests were reported in Table 11, Table 12, and Table 13. The homogeneity of variance assumption (see Table 11) was met only for procedural justice as the dependent variable ( $p > .05$ ). Therefore, a regular ANOVA was conducted for procedural justice and the results were presented in Table 12. There was a statistically significant group difference in the variable of procedural justice ( $p < .001$ ). The amount of variance that organizational membership explained was substantial ( $\tilde{\eta}^2 = .283$ ).

Table 11

#### *Test of Homogeneity of Variances*

Variables	Levene's Statistic	$df_1$	$df_2$	Sig.
Quality of EORs	2.002	43	352	.000
Time-Based Work-Life Conflict	1.813	43	352	.002
Strain-Based Work-Life Conflict	1.971	43	352	.000
Transformational Leadership	1.833	43	352	.002
Procedural Justice	1.129	43	352	.275
Helpfulness of Childcare Initiatives	7.232	43	352	.000
Helpfulness of Job Flexibilities Initiatives	3.211	43	352	.000
Helpfulness of Personal Day Initiatives	5.188	43	352	.000



Table 12

*One-Way Random-Effect ANOVA with Organizational Membership as Predictor (N = 396)*

Dependent Variable	SSB	SST	$\tilde{\eta}^2 =$ SSB/SST	$F(43,352)$	$p < .01$
Procedural Justice	111.758	395.000	.283	3.230	.000

*Note.* SSB = Sum of Squares Between, SST = Sum of Squares Total,

$\tilde{\eta}^2$  = proportion of variation in the variable explained by group differences.

Table 13

*Robust Tests of Equality of Means*

Variables	Tests	Statistic	$df_1$	$df_2$	Sig.
Quality of EORs	Welch	3.955	43	76.705	.000
	Brown-Forsythe	4.817	43	129.683	.000
Time-Based Work-Life Conflict	Welch	27.522	43	77.315	.000
	Brown-Forsythe	2.448	43	116.199	.000
Strain-Based Work-Life Conflict	Welch	3.921	43	76.773	.000
	Brown-Forsythe	2.863	43	135.395	.000
Transformational Leadership	Welch	3.988	43	76.531	.000
	Brown-Forsythe	3.950	43	182.603	.000
Helpfulness of Personal Day Initiatives	Welch	4.072	43	75.602	.000
	Brown-Forsythe	2.586	43	102.917	.000

*Note.* Robust tests of equality of means cannot be performed for helpfulness of childcare initiatives and helpfulness of job flexibilities initiatives because at least one group has 0 variance.

For all the other variables, Welch's tests and Brown-Forsythe tests were performed because Levene's tests indicated heterogeneity of variance ( $p < .05$ ) (see Table 11). Evident in Table 13, statistically significant group differences were discovered ( $p < .01$ ). Based on the results of ANOVA and its alternative tests, multilevel confirmatory factor analyses (CFAs) and hierarchical linear modeling (HLM) analyses were to be performed so as to take the influence of group membership into account.

#### Data Transformations

As described in the method chapter, level of perceived time-based work-life conflict was measured by three questionnaire items. Level of perceived strain-based work-life conflict had three indicators as well. In addition, quality of employee-organization relationships had 18 indicators. In total, the endogenous variables had 24 indicators. The skewness and kurtosis statistics of the 24 indicators were described in Table 14. As shown in Table 14, all the 24 indicators of endogenous variables were not severely skewed, according to the value (-1, 1) criterion. I decided not to transform data before all the relevant statistical analyses were performed. I would analyze whether the assumptions of normality and homoscedasticity were satisfied. Then decisions about whether data transformation needed to be performed were determined later.

Table 14

*Descriptives of the Indicators before Transformation*

Indicators	Skewness		Kurtosis		Indicators	Skewness		Kurtosis	
	S	SE	S	SE		S	SE	S	SE
Time1	-.019	.123	-1.176	.245	Commit1	-.847	.123	-.169	.245
Time2	.074	.123	-1.218	.245	Commit2	-.608	.123	-.603	.245
Time3	.174	.123	-1.182	.245	Commit3	-.856	.123	-.097	.245
Str1	.218	.123	-1.090	.245	Commit4	-.746	.123	-.452	.245
Str2	.381	.123	-1.033	.245	Sa1	-.917	.123	.119	.245
Str3	.303	.123	-1.161	.245	Sa2	-.793	.123	-.016	.245
Trust1	-.887	.123	-.053	.245	Sa3	-.717	.123	-.328	.245
Trust2	-.522	.123	-.792	.245	Sa4	-.803	.123	-.267	.245
Trust3	-.731	.123	-.422	.245	CMtual1	-.899	.123	.348	.245
Trust4	-.435	.123	-.815	.245	CMtual2	-.767	.123	-.266	.245
Trust5	-.938	.123	.270	.245	CMtual3	-.147	.123	-.825	.245
Trust6	-1.000	.123	.569	.245	CMtual4	-.538	.123	-.773	.245

*Note.* S = Statistic; SE = Standard Error; Time = Time-Based Work-Life Conflict;

Str = Strain-Based Work-Life Conflict; Commit = Commitment; Sa = Satisfaction;

CMtual = Control Mutuality. Please see Appendix A for complete questionnaire items for the listed indicators.

## Reliability and Validity of Measurement:

### Results of Multilevel Confirmatory Factor Analyses (CFAs)

#### *Quality of Employee-Organization Relationships*

For quality of employee-organization relationships, multilevel CFA results did not yield strictly satisfactory results supporting either a one-factor, ( $\chi^2 (238, N = 396) = 1227.897, p < .01; \chi^2/df = 5.159; RMSEA = 0.102; SRMR^{19}_{within} = 0.039; CFI = 0.901$ ), or four-factor structure, ( $\chi^2 (232, N = 396) = 1191.280, p < .01; \chi^2/df = 5.135, RMSEA = 0.102; SRMR_{within} = 0.039, CFI = 0.904$ ). Each indicator's within level factor loading<sup>20</sup> and the measurement model fit indices for both one-factor and four-factor structures were presented in Table 15. Given the imperfect and similar data-model fit indices for the two models, a simpler or more parsimonious model should be selected (Hancock & Mueller, 2006). In addition, a principal components analysis (PCA) without rotation<sup>21</sup> was conducted to examine the underlying structure. The results indicated that only one component had an eigenvalue larger than 1 (eigenvalue = 13.859), explaining 81.525% of the total variance. Using a maximum likelihood estimator, I extracted one factor with an eigenvalue greater than 1 (eigenvalue = 13.669), explaining 80.404% of the total variance. Based on the above discussion, quality of employee-organization relationships

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<sup>19</sup> The values of  $SRMR_{between}$  were not reported as this dissertation conceptualized all the constructs at the individual level and therefore focused on with-group statistics in multilevel analyses.

<sup>20</sup> Between-group loadings were not reported either for the same reason.

<sup>21</sup> One item for control mutuality (see Table 12) was dropped according to the output of Mplus suggesting it was an ill item and had parameter estimation problems. The results of multilevel CFAs, PCA, and EFA with maximum likelihood as the estimator were all based on the 17-item scale with the problematic item dropped. (The original scale for quality of employee-organization relationships had 18 items. See Appendix A.)

was treated as one single latent variable in the finalized theoretical model (see Figure 3).

The factor of quality of employee-organization relationships had its value of coefficient  $H$  equal to 0.985 ( $H = 63.595/64.595 = 0.985$ ), which was greater than 0.90. The Cronbach's alpha for the sum of 17 items was 0.986. The average squared standardized factor loading by the 17 indicators of quality of employee-organization relationships was 0.768, satisfying the greater than 0.50 criterion.

#### *Time-Based and Strain-Based Work-Life Conflict*

As for time- and strain-based work-life conflict, the fit indices for a two-factor structure were as follows:  $\chi^2 (16, N = 396) = 87.869, p < .01$ ;  $\chi^2/df = 5.492$ ; RMSEA = 0.107; SRMR<sub>within</sub> = 0.026; CFI = 0.958. The results were generally satisfactory, though not perfect with the values of  $\chi^2/df$  and RMSEA greater than the target values to retain the model, but strong enough to be chosen as the one-factor model turned out to be much less tenable,  $\chi^2 (20, N = 396) = 895.814, p < .01$ ;  $\chi^2/df = 44.791$ ; RMSEA = 0.333; SRMR<sub>within</sub> = 0.215; CFI = 0.489. See Table 16 for the unstandardized and standardized within-level factor loadings from CFAs and summaries of the measurement model fit indices. Therefore, time-based work-life conflict and strain-based work-life conflict were maintained as two latent constructs in the finalized theoretical model for further analyses (see Figure 3).

The factor of time-based work-life conflict had its value of coefficient  $H$  equal to 0.972 ( $H = 35.277 / [1+35.277] = 0.972$ ). The coefficient  $H$  for strain-based work-life conflict was 0.949 ( $H = 18.793 / [1+18.793] = 0.949$ ). The Cronbach's alpha for the sum of three items for time-based work-life conflict was 0.963. The Cronbach's alpha for the sum of three items for strain-based work-life conflict was 0.952. The average squared

standardized factor loadings for the indicators of time- and strain-based work-life conflict were 0.884 and 0.855, respectively.

### *Transformational Leadership*

Results of multilevel CFAs supported a four-dimensional factor structure of transformational leadership,  $\chi^2(189, N = 396) = 522.471, p < .01; \chi^2/df = 2.764$ ; RMSEA = 0.067; SRMR<sub>within</sub> = 0.051; CFI = 0.928, whereas rejected a unidimensional factor structure based on indices suggesting an unacceptable data-model fit,  $\chi^2(180, N = 396) = 1196.417, p < .01; \chi^2/df = 6.647$ ; RMSEA = 0.119; SRMR<sub>within</sub> = 0.058; CFI = 0.781.

Table 17 presented the unstandardized and standardized within-level factor loadings for both the one-factor and four-factor structures and summarized the measurement model fit indices for both models as well. The Mplus outputs of multilevel CFAs identified one item for individualized consideration as problematic. It was dropped from the original scale. The results of multilevel CFAs testing the fit of one-factor versus four-factor structures were actually calculated using the 15-item<sup>22</sup> scale with that item for individualized consideration dropped. Based on the results of multilevel CFAs, idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration were included as four latent variables with their indicators in the finalized theoretical model (see Figure 3).

The values of coefficient  $H$  for idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration were 0.934 ( $H = 14.196 / [1+14.196] = 0.934$ ), 0.944 ( $H = 16.794 / [1+16.794] = 0.944$ ), 0.956 ( $H =$

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<sup>22</sup> The original scale for transformational leadership consisted of 16 items, four items for idealized influence (behavior), four items for inspirational motivation, four items for intellectual stimulation, and four items for individualized consideration.

21.740 / [1+21.740] = 0.956), and 0.904 ( $H = 9.373 / [1+9.373] = 0.904$ ), respectively.

The Cronbach's alpha for the sum of four items for idealized influence (behavior), that for the sum of four items for inspirational motivation, that for the sum of four items for intellectual stimulation, and that for the sum of three items for individualized consideration were 0.922, 0.940, 0.949, and 0.892 respectively. The average squared standardized factor loadings by the indicators of idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration were 0.756, 0.801, 0.832, and 0.755, respectively.

### *Procedural Justice*

In terms of the factor structure of procedural justice, results of multilevel CFAs supported a two-factor structure: procedural justice in general as one factor and procedural justice referencing work-life conflict policies, decisions, and procedures as another,  $\chi^2 (68, N = 396) = 217.347, p < .01$ ;  $\chi^2/df = 3.196$ ; RMSEA = 0.074; SRMR<sub>within</sub> = 0.042; CFI = 0.952. The fit indices for the structure with all the items loaded on one single factor were significantly worse and unsatisfactory  $\chi^2 (80, N = 396) = 1593.397, p < .01$ ;  $\chi^2/df = 19.917$ ; RMSEA = 0.219; SRMR<sub>within</sub> = 0.169; CFI = 0.518. The unstandardized and standardized within-level factor loadings for both one-factor and two-factor structures were summarized in Table 18.

The values of coefficient  $H$  for procedural justice in general and procedural justice referencing work-life conflict policies, decisions, and procedures were 0.936 ( $H = 14.586 / [1+14.586] = 0.936$ ), and 0.956 ( $H = 21.422 / [1+21.422] = 0.956$ ). The Cronbach's alpha for the sum of five items for procedural justice in general and that for the sum of five items for procedural justice referencing work-life conflict policies,

decisions, and procedures were 0.933 and 0.949, respectively. The average squared standardized factor loadings by the indicators of procedural justice in general and the indicators of procedural justice referencing work-life conflict policies, decisions, and procedures were 0.707 and 0.782, respectively.

### *Summary*

In conclusion, results of multilevel confirmatory factor analyses (CFAs) supported the unidimensional structures of (1) quality of employee-organization relationships (Quality of EORs), (2) time-based work-life conflict (Time), (3) strain-based work-life conflict (Strain), (4) idealized influence (behavior) (II), (5) inspirational motivation (IM), (6) intellectual stimulation (IS), (7) individualized consideration (IC), (8) procedural justice in general (PJ), and (9) procedural justice referencing work-life conflict policies, decisions, and procedures (WLPJ). The unstandardized and standardized factor loadings and data-model fit indexes are presented in Table 15, Table 16, Table 17, and Table 18. The values of Coefficient *H*, Cronbach's alpha, and average squared standardized loadings for the unidimensional factors revealed very strong construct reliability and validity. All the statistics are reported in Table 19. The finalized theoretical model is found in Figure 3.



Table 15

*Results of Multilevel CFAs: Quality of Employee-Organization Relationships (One Factor vs. Four Factors), Indicator Loadings, and*

*Measurement Model Indices*

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
One Factor	<i>Quality of Employee-Organization Relationships (EORs)</i>	
	My organization treats people like me fairly and justly.	2.249** (0.860**)
	Whenever my organization makes an important decision, I know it will be concerned about people like me.	2.292** (0.869**)
	My organization can be relied on to keep its promises.	2.356** (0.874**)
	I believe that my organization...into account when making decisions.	2.409** (0.880**)
	I feel very confident about my organization's skills.	1.850** (0.754**)
	My organization has the ability to accomplish what it says it will do.	1.756** (0.743**)
	I feel that my organization is trying to maintain...to people like me.	2.264** (0.869**)
	I can see that my organization wants to maintain...with people like me.	2.378** (0.903**)
	There is a long-lasting bond between my organization and people like me.	2.359** (0.889**)

*Note.* \*  $p < .05$ ; \*\*  $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).

(table continues)

Table 15 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
	Compared to other organizations, I value...with my organization more.	2.458** (0.911**)
	I am happy with my organization.	2.276** (0.910**)
	Both my organization and people like me benefit from the relationship.	2.199** (0.902**)
	Most people like me are happy in their interactions...my organization.	2.279** (0.898**)
	Generally speaking, I am pleased with the relationship...people like me.	2.418** (0.919**)
	My organization and people like me are attentive to what each other say.	1.949** (0.845**)
	My organization believes the opinions of people like me are legitimate.	2.358** (0.912**)
	In dealing with people like me, my organization...to throw its weight around.	(Item Dropped)
	My organization really listens to what people like me have to say.	2.486** (0.903**)
$\chi^2$ (238, $N$ = 396) = 1227.897, $p$ < .01, $\chi^2/df$ = 5.159, RMSEA = 0.102, SRMR <sub>within</sub> = 0.039, CFI = 0.901.		
Note. * $p$ < .05; ** $p$ < .01. U Loadings (S) stands for unstandardized loadings (standardized).		(table continues)

Table 15 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
Four Factors	<i>Trust</i>	
	My organization treats people like me fairly and justly.	2.244** (0.859**)
	Whenever my organization makes an important decision, I know it will be concerned about people like me.	2.300** (0.871**)
	My organization can be relied on to keep its promises.	2.366** (0.877**)
	I believe that my organization...into account when making decisions.	2.436** (0.888**)
	I feel very confident about my organization's skills.	1.850** (0.755**)
	My organization has the ability to accomplish what it says it will do.	1.757** (0.743**)
	<i>Commitment</i>	
	I feel that my organization is trying to maintain...to people like me.	2.255** (0.866**)
	I can see that my organization wants to maintain...with people like me.	2.368** (0.900**)
	There is a long-lasting bond between my organization and people like me.	2.363** (0.890**)
	Compared to other organizations, I value...with my organization more.	2.449** (0.906**)
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).		(table continues)

Table 15 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
	<i>Satisfaction</i>	
	I am happy with my organization.	2.282** (0.913**)
	Both my organization and people like me benefit from the relationship.	2.199** (0.903**)
	Most people like me are happy in their interactions...my organization.	2.279** (0.899**)
	Generally speaking, I am pleased with the relationship...people like me.	2.427** (0.923**)
	<i>Control Mutuality</i>	
	My organization and people like me are attentive to what each other say.	1.951** (0.846**)
	My organization believes the opinions of people like me are legitimate.	2.381** (0.920**)
	In dealing with people like me, my organization...to throw its weight around.	(Item Dropped)
	My organization really listens to what people like me have to say.	2.512** (0.912**)
$\chi^2$ (232, $N = 396$ ) = 1191.280, $p < .01$ , $\chi^2/df = 5.135$ , RMSEA = 0.102, SRMR <sub>within</sub> = 0.039, CFI = 0.904. The correlations among the four latent factors are as follows: $r_{\text{commitment,trust}} = 0.993$ , $r_{\text{satisfaction,trust}} = 0.991$ , $r_{\text{control mutuality,trust}} = 0.999$ , $r_{\text{commitment,satisfaction}} = 1.008$ , $r_{\text{control mutuality,commitment}} = 0.996$ , and $r_{\text{control mutuality,satisfaction}} = 0.977$ .		
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (Standardized). Only within-level loadings were		

presented in this table. The between-level loadings and SRMA<sub>between</sub> were not reported as this dissertation conceptualized all the constructs at the individual level, though data were collected from various organizations. Questionnaire items/indicators were abbreviated. See Appendix A for their complete wording.

Table 16

*Results of Multilevel CFAs: Work-Life Conflict (One Factor vs. Two Factors), Indicator Loadings, and Measurement Model Indices*

One Factor vs. Two Factors	Variables and Indicators	U Loadings (S)
One Factor	<i>Work-Life Conflict</i>	
	My work keeps me from my personal...more than I would like.	1.000 (0.420**)
	The time I must devote to my job keeps...non-work responsibilities.	2.002 (0.731*)
	I have to miss my personal non-work activities...responsibilities.	1.998 (0.735*)
	When I get off work I am often too frazzled...non-work activities.	2.441* (0.902**)
	I am often so emotionally drained...non-work responsibilities.	2.457* (0.912**)
	Due to all the pressures at work, I am sometimes...off work.	2.499 (0.886**)
$\chi^2 (20, N = 396) = 895.814, p < .01, \chi^2/df = 44.791, RMSEA = 0.333, SRMR_{within} = 0.215, CFI = 0.489.$		
Two Factors	<i>Time-Based Work-Life Conflict</i>	
	My work keeps me from my personal...more than I would like.	2.647** (0.913**)
	The time I must devote to my job keeps...non-work responsibilities.	2.921** (0.980**)
	I have to miss my personal non-work activities...responsibilities.	2.724** (0.926**)
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized). (table continues)		

Table 16 (continued).

One Factor vs. Two Factors	Variables and Indicators	U Loadings (S)
	<i>Strain-Based Work-Life Conflict</i>	
	When I get off work I am often too frazzled...non-work activities.	2.664** (0.910**)
	I am often so emotionally drained...my personal non-work responsibilities.	2.755** (0.947**)
	Due to all the pressures at work, I am sometimes too stressed...off work.	2.768** (0.917**)
$\chi^2 (16, N = 396) = 87.869, p < .01, \chi^2/df = 5.492, RMSEA = 0.107, SRMR_{within} = 0.026, CFI = 0.958$ . The correlation between the two factors was as follows: $r_{time, strain} = 0.728$		

*Note.* \*  $p < .05$ ; \*\*  $p < .01$ . U Loadings (S) stands for unstandardized loadings (Standardized). Only within-group loadings were presented in this table. The between-group loadings and SRMA (between-group) were not reported as this dissertation conceptualized all the constructs at the individual level, though data were collected from various organizations. Questionnaire items/indicators were abbreviated. See Appendix A for their complete wording.

Table 17

*Results of Multilevel CFAs: Transformational Leadership (One Factor vs. Four Factors), Indicator Loadings, and Measurement*

*Model Indices*

One Factor vs. Four	Variables and Indicators	U Loadings (S)
Factors		
One Factor	<i>Transformational Leadership</i>	
	My direct supervisor _____	1.959** (0.734**)
	Talks about his/her most important values and beliefs.	1.985** (0.797**)
	Specifies the importance of having a strong sense of purpose.	1.959** (0.831**)
	Considers the moral and ethical consequences of decisions.	2.079** (0.860**)
	Emphasizes the importance of having a collective sense of mission.	1.787** (0.787**)
	Talks optimistically about the future.	1.889** (0.825**)
	Talks enthusiastically about what needs to be accomplished.	2.170** (0.873**)
	Articulates a compelling vision of the future.	1.886** (0.851**)
	Expresses confidence that goals will be achieved.	

*Note.* \*  $p < .05$ ; \*\*  $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).

(table continues)



Table 17 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
	Re-examines critical assumptions to question whether they are appropriate.	2.216** (0.873**)
	Seeks differing perspectives when solving problems.	2.263** (0.850**)
	Gets me to look at problems from many different angles.	2.376** (0.882**)
	Suggests new ways of looking at how to complete assignments.	2.295** (0.880**)
	Spends time teaching and coaching.	2.470** (0.849**)
	Treats me as an individual rather than just as a member of a group.	1.849** (0.719**)
	Considers me as having different needs, abilities, and aspirations from others.	2.041** (0.768**)
	Helps me to develop my strengths.	(Item Dropped)
$\chi^2 (180, N = 396) = 1196.417, p < .01, \chi^2/df = 6.647, RMSEA = 0.119, SRMR_{within} = 0.058, CFI = 0.781.$		
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).		

(table continues)

Table 17 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
Four Factors	<i>Idealized Influence (Behavior)</i>	
	My direct supervisor _____	
	Talks about his/her most important values and beliefs.	2.198** (0.796**)
	Specifies the importance of having a strong sense of purpose.	2.339** (0.889**)
	Considers the moral and ethical consequences of decisions.	2.098** (0.867**)
	Emphasizes the importance of having a collective sense of mission.	2.365** (0.922**)
	<i>Inspirational Motivation</i>	
	My direct supervisor _____	
	Talks optimistically about the future.	2.113** (0.867**)
	Talks enthusiastically about what needs to be accomplished.	2.178** (0.896**)
	Articulates a compelling vision of the future.	2.422** (0.922**)
	Expresses confidence that goals will be achieved.	2.099** (0.895**)
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).		(table continues)

Table 17 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
<i>Intellectual Stimulation</i>		
	My direct supervisor _____	
	Re-examines critical assumptions to question whether they are appropriate.	2.299** (0.881**)
	Seeks differing perspectives when solving problems.	2.475** (0.912**)
	Gets me to look at problems from many different angles.	2.599** (0.947**)
	Suggests new ways of looking at how to complete assignments.	2.425** (0.907**)
<i>Individualized Consideration</i>		
	My direct supervisor _____	
	Spends time teaching and coaching.	2.583** (0.877**)
	Treats me as an individual rather than just as a member of a group.	2.219** (0.847**)
	Considers me as having different needs, abilities, and . . . from others.	2.402** (0.882**)
	Helps me to develop my strengths.	(Item Dropped)
$\chi^2 (189, N = 396) = 522.471, p < .01, \chi^2/df = 2.764, RMSEA = 0.067, SRMR_{within} = 0.051, CFI = 0.928.$ The correlations among the		

four factors were as follows:  $r_{II, IM} = 0.914$ ,  $r_{II, IS} = 0.855$ ,  $r_{II, IC} = 0.819$ ,  $r_{IM, IS} = 0.855$ ,  $r_{IM, IC} = 0.827$ ,  $r_{IS, IC} = 0.878$ .

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*Note.* \*  $p < .05$ ; \*\*  $p < .01$ . U Loadings (S) stands for unstandardized loadings (Standardized). Only within-group loadings were

presented in this table. The between-group loadings and SRMA (between-group) were not reported as this dissertation conceptualized all the constructs at the individual level, though data were collected from various organizations. Questionnaire items/indicators were abbreviated. See Appendix A for their complete wording.

Table 18

*Results of Multilevel CFAs: Procedural Justice (One Factor vs. Two Factors), Indicator Loadings, and Measurement Model Indices*

One vs. Two Factors	Variables and Indicators	U Loadings (S)
One Factor	<i>Procedural Justice</i>	
	The procedures used to make decisions . . . applied consistently in my organization.	1.584** (0.589**)
	The procedures for decision making have been free of bias in my organization.	1.733** (0.632**)
	The procedures used to . . . on accurate information in my organization.	1.606** (0.607**)
	I have been able to appeal . . . at by those decision-making . . . organization.	1.645** (0.573**)
	Decision making procedures that my organization . . . ethical and moral standards.	1.532** (0.574**)
	My organization's family friendly policies have been applied consistently.	2.319** (0.897**)
	My organization's family friendly policies have been free of bias.	2.327** (0.921**)
	My organization's family friendly policies have been based on accurate information.	2.099** (0.916**)
	I believe I can appeal the decisions that are made based on . . . in my organization.	2.231** (0.814**)
	My organization's family friendly policies have upheld ethical and moral standards.	2.110** (0.897**)
$\chi^2 (80, N = 396) = 1593.397, p < .01, \chi^2/df = 19.917, RMSEA = 0.219, SRMR_{within} = 0.169, CFI = 0.518.$		
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).		(table continues)

Table 18 (continued).

One Factor vs. Two Factors	Variables and Indicators	U Loadings (S)
Two Factors	<i>Procedural Justice in General</i>	
	The procedures used to make decisions . . . applied consistently in my organization.	2.295** (0.881**)
	The procedures for decision making have been free of bias in my organization.	2.353** (0.886**)
	The procedures used to . . . on accurate information in my organization.	2.307** (0.906**)
	I have been able to appeal . . . at by those decision-making . . . organization.	1.964** (0.708**)
	Decision making procedures that my organization . . . ethical and moral standards.	2.096** (0.808**)
	<i>Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures</i>	
	My organization's family friendly policies have been applied consistently.	2.171** (0.891**)
	My organization's family friendly policies have been free of bias.	2.241** (0.932**)
	My organization's family friendly policies have been based on accurate information.	2.009** (0.923**)
	I believe I can appeal the decisions that are made based on . . . in my organization.	2.023** (0.780**)
	My organization's family friendly policies have upheld ethical and moral standards.	2.005** (0.886**)

$\chi^2 (68, N = 396) = 217.347, p < .01, \chi^2/df = 3.196, RMSEA = 0.074, SRMR_{within} = 0.042, CFI = 0.952$ . The correlation between

the two factors was 0.550.

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*Note.* \*  $p < .05$ ; \*\*  $p < .01$ . U Loadings (S) stands for unstandardized loadings (Standardized). Only within-group loadings were presented in this table. The between-group loadings and SRMA (between-group) were not reported as this dissertation conceptualized all the constructs at the individual level, though data were collected from various organizations. Questionnaire items/indicators were abbreviated. See Appendix A for their complete wording.

Table 19

*Coefficient H, Cronbach's Alpha for the Sum of Measurement Items, and Average Squared Standardized Loadings for Unidimensional*

*Factors Measured by Multiple Items in the Formal Study*

Factor	Valid		Coefficient		Cronbach's		Average Squared		Number of Items
	N	H	(> 0.90)	$\alpha$	(> 0.80)	(> 0.50)	Standardized Loading		
Quality of EORs	396	0.985		0.986		0.768			17 <sup>1</sup>
Time-Based Work-Life Conflict	396	0.972		0.963		0.884			3
Strain-Based Work-Life Conflict	396	0.949		0.952		0.855			3
Idealized Influence (Behavior)	396	0.934		0.922		0.756			4
Inspirational Motivation	396	0.944		0.940		0.801			4
Intellectual Stimulation	396	0.956		0.949		0.832			4
Individualized Consideration	396	0.904		0.892		0.755			3 <sup>2</sup>
Procedural Justice in General	396	0.936		0.933		0.707			5

<sup>1</sup> One item measuring control mutuality was dropped based on the results of multilevel CFAs.

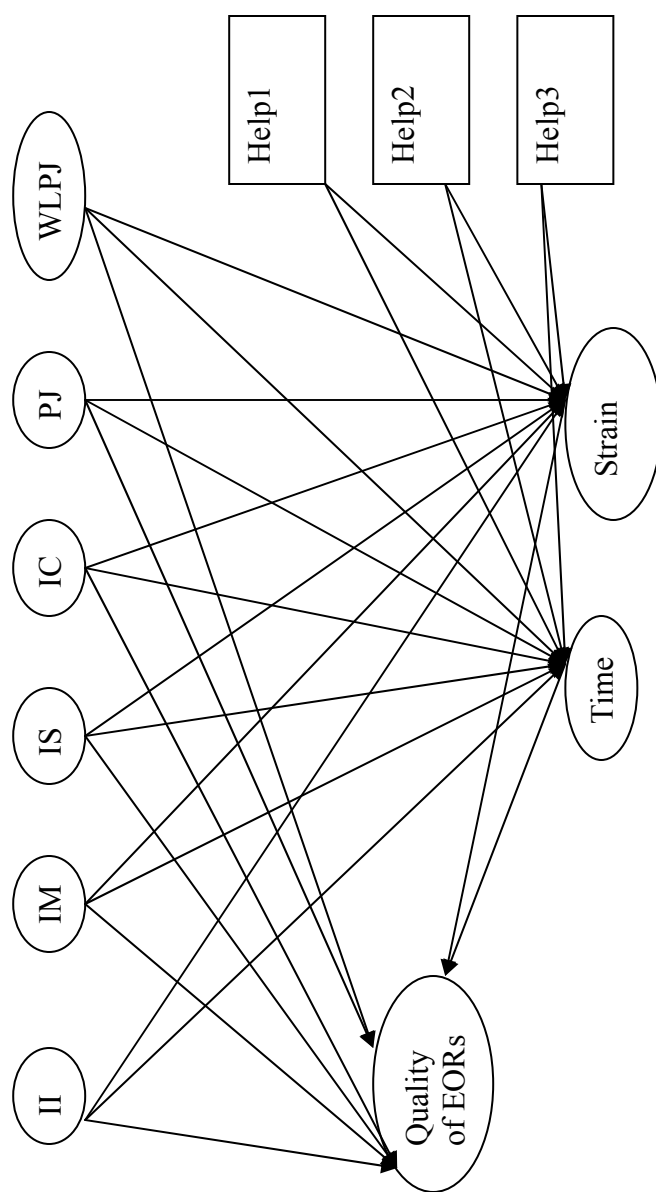
<sup>2</sup> One item measuring individualized consideration was dropped as well.



Table 19 (continued).

Factor	Valid <i>N</i>	Coefficient <i>H</i>	Cronbach's <i>α</i>	Average Squared Standardized Loading	Number of Items
Procedural Justice Referencing Work- Life Policies, Decisions, and Procedures	396	0.956 (> 0.90)	0.949 (> 0.80)	0.782 (> 0.50)	5

*Note.* Coefficient *H*, Cronbach's alpha, and average standardized loading for helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives were not computed as only one single item measured each of the three latent factors.



*Figure 3.* The finalized theoretical model for the formal study. Help1, Help2, and Help3 represented helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives.

Principal Component Analysis (PCA),<sup>25</sup> Component Scores, and Intercorrelations among  
Unidimensional Exogenous and Endogenous Latent Variables

Deleting a couple of measurement items according to the warning messages that multilevel CFAs produced, I kept (1) 17 items that assessed participants' perceived quality of employee-organization relationships, with six for trust, four for commitment, four for satisfaction, and three for control mutuality, (2) three items that evaluated their perceived levels of time-based work-life conflict, (3) three items that measured their perceived levels of strain-based work-life conflict, (4) 15 items that calibrated their perceptions of immediate supervisors' transformational leadership behaviors, with four for idealized influence (behavior), four for inspirational motivation, four for intellectual stimulation, and three for individualized consideration, (5) five items that captured participants' perceptions of fairness of general decision-making procedures within their employing organizations, and (6) another five procedural justice items that specifically referenced work-life policies, decisions, and procedures.

As shown in Table 20, the eigenvalue of the dominant principal component extracted for quality of employee-organization relationships was 13.859, explaining 81.525% of the total variance. The eigenvalue of the dominant component for time-based work-life conflict equaled 2.792, explaining 93.056% of the variance. The eigenvalue of the component for strain-based work-life conflict and the amount of variance it explained were 2.740 and 91.322%. The eigenvalues for the components of idealized influence

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<sup>25</sup> All the latent factors in the theoretical model (see Figure 3) were measured with multiple items except that perceived helpfulness of childcare initiatives, perceived helpfulness of job flexibilities initiatives, and perceived helpfulness of personal day initiatives were latent variables measured with one single item. Therefore, the three latent factors with single indicators were not subjected to principal component analysis.

(behavior), inspirational motivation, intellectual stimulation, and individualized consideration were 3.256, 3.396, 3.470, and 2.485, explaining 81.395%, 84.906%, 86.762%, and 82.832% of the variance, respectively. As for procedural justice in general and procedural justice referencing work-life policies, decisions, and procedures, the eigenvalues of the dominant components were 3.960 and 4.190, accounting for 79.198% and 83.809% of the variance, respectively.

Table 20

*Eigenvalues of the Dominant Principal Components of Exogenous and Endogenous Variables with the Proportions of the Variance Explained*

Variables	Eigenvalue	% Variance Explained
Quality of Employee-Organization Relationships	13.859	81.525%
Time-Based Work-Life Conflict	2.792	93.056%
Strain-Based Work-Life Conflict	2.740	91.322%
Idealized Influence (Behavior)	3.256	81.395%
Inspirational Motivation	3.396	84.906%
Intellectual Stimulation	3.470	86.762%
Individualized Consideration	2.485	82.832%
Procedural Justice in General	3.960	79.198%
Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures	4.190	83.809%

Table 21

*Intercorrelations among the Unidimensional Exogenous and Endogenous Variables in the Formal Study with Two*

*Measurement Items Dropped and Organizational Membership Controlled for (N=352)*

Variable	1	2	3	4	5	6	7	8
1. Quality of EORs	1							
2. Time	-.247**	1						
3. Strain	-.275**	.671**	1					
4. II	.593**	-.066	-.142**	1				
5. IM	.596**	-.108*	-.213**	.801**	1			
6. IS	.621**	-.116*	-.201**	.777**	.806**	1		
7. IC	.643**	-.093	-.200**	.731**	.744**	.818**	1	
8. PJ in General	.691**	-.157**	-.255**	.563**	.513**	.511**	.495**	1
9. WLPJ	.630**	-.213**	-.232**	.502**	.537**	.509**	.505**	.565**

*(table continues)*

Table 21 (continued).

Variable	1	2	3	4	5	6	7	8
10. Help1	.238**	-.075	-.054	.245**	.225**	.249**	.249**	.214**
11. Help2	.237**	-.080	-.092	.246**	.269**	.253**	.220**	.196**
12. Help3	.213**	-.031	-.062	.147**	.197**	.154**	.198**	.163**

(table continues)

Table 21 (continued).

Variable	9	10	11	12
1. Quality of EORs				
2. Time				
3. Strain				
4. II				
5. IM				
6. IS				
7. IC				
8. PJ in General				
9. WLPJ	1			

*(table continues)*

Table 21 (continued).

Variable	9	10	11	12
10. Help1	.161**	1		
11. Help2	.268**	.177**	1	
12. Help3	.299**	.095	.206**	1

*Note.* \*  $p < .05$ ; \*\*  $p < .01$ . EOR = Employee-Organization Relationship;

Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict;

II = Idealized Influence (Behavior); IM = Inspirational Motivation; IS = Intellectual Stimulation;

IC = Idealized Consideration; PJ = Procedural Justice; WLPJ = Procedural Justice

Referencing Work-Life Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives;

Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives.



The component scores were saved for further statistical analyses. Using the component scores and original item scores<sup>26</sup>, I also calculated the intercorrelations among the latent exogenous and endogenous variables in the finalized theoretical model (see Figure 3), controlling for the effect of organizational membership (see Table 21). The correlations were computed to diagnose whether multicollinearity would be a critical concern.

### *Multicollinearity Tests*

Multicollinearity in regression models refers to “strong linear relationship between two or more of the predictors” (Lomax, 2001, p. 62). When exogenous variables are unacceptably highly correlated, it is difficult to identify the unique contribution of each exogenous variable in predicting the endogenous variable. Consequently, the *p*-value for each predictor may not be statistically significant because highly correlated exogenous variables predict the same variance in the endogenous variable (Lomax, 2001).

One way of detecting multicollinearity is to look at the pairwise relationships between exogenous variables. As a rule of thumb, correlations above .80 or so are usually conceived of as troubling (Chatterjee, Hadi, & Price, 2000). As shown in Table 21, the intercorrelations among the exogenous variables were not too high except for those among the four transformational leadership variables: idealized influence (behavior) (II), inspirational motivation (IM), intellectual stimulation (IS), and individualized consideration (IC) ( $r_{II,IM} = .801, p < .01$ ;  $r_{II,IS} = .777, p < .01$ ;  $r_{II,IC} = .731, p < .01$ ;  $r_{IM,IS} = .806, p < .01$ ;  $r_{IM,IC} = .744, p < .01$ ;  $r_{IS,IC} = .818, p < .01$ ).

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<sup>26</sup> Original item scores were used to represent helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives.

Scholars also suggest that tolerance and variance inflation factors (VIF) can be computed to detect high levels of multicollinearity (Lomax, 2001). The tolerance level is calculated as  $1-R^2$  with  $R^2$  as the squared multiple correlation when a given exogenous variable is regressed on all the other exogenous variables. The VIF is computed as the reciprocal of the tolerance. As a rule of thumb, a variable needs to be dropped from the analysis if the tolerance value is smaller than .20. The cut-off value for VIF used to diagnose high multicollinearity is 4.0<sup>27</sup> (O'Brien, 2007). I conducted a series of tests<sup>28</sup> to determine whether multicollinearity would be a concern for this study. Results are presented in Table 22.

Consistent with the bivariate correlations among exogenous variables, the results of VIF and tolerance tests suggested that the relationships among idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration have made multicollinearity a reason for concern. In particular, the values of VIF for idealized influence (behavior) (4.329), inspirational motivation (4.367), and intellectual stimulation (4.525) were higher than the conservative cut-off value 4.0.

As discussed earlier in this chapter, I extracted principal components (PCs) to represent all the unidimensional latent variables in data analyses. According to Rockwell

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<sup>27</sup> Some scholars use  $\geq 5.0$  as a more lenient criterion.

<sup>28</sup> Based on the hierarchical linear modeling analyses that I would conduct for testing hypotheses and examining research questions, I included the following exogenous variables in the multicollinearity tests: 1) time-based work-life conflict, 2) strain-based work-life conflict, 3) idealized influence (behavior), 4) inspirational motivation, 5) intellectual stimulation, 6) individualized consideration, 7) procedural justice in general, 8) procedural justice referencing work-life policies, decisions, and procedures, 9) helpfulness of childcare initiatives, 10) helpfulness of job flexibilities initiatives, and 11) helpfulness of personal day initiatives.

(1975), the determinant of the correlation matrix of explanatory variables is a measure revealing the severity of multicollinearity (p. 308). As the determinant gets closer to 0 (which means the correlation matrix is singular), it suggests that multicollinearity may be a great threat. The determinant of the correlation matrix of the four PCs for transformational leadership was .025 (see Table 23).

Table 22

*VIF and Tolerance Test to Check Multicollinearity*

Dependent Variable	Independent Variables	$R^2$	Tolerance	VIF
1. Time-Based Work-Life Conflict	2, 3, 4, 5, 6, 7, 8, 9, 10, and 11	.584	.416	2.404
2. Strain-Based Work-Life Conflict	1, 3, 4, 5, 6, 7, 8, 9, 10, and 11	.601	.399	2.506
3. Idealized Influence (Behavior)	1, 2, 4, 5, 6, 7, 8, 9, 10, and 11	.769	.231	4.329
4. Inspirational Motivation	1, 2, 3, 5, 6, 7, 8, 9, 10, and 11	.771	.229	4.367
5. Intellectual Stimulation	1, 2, 3, 4, 6, 7, 8, 9, 10, and 11	.779	.221	4.525

*(table continues)*

Table 22 (continued).

Dependent Variable	Independent Variables	$R^2$	Tolerance	VIF
6. Individualized Consideration	1, 2, 3, 4, 5, 7, 8, 9, 10, and 11	.708	.292	3.425
7. Procedural Justice in General	1, 2, 3, 4, 5, 6, 8, 9, 10, and 11	.498	.502	1.992
8. Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures	1, 2, 3, 4, 5, 6, 7, 9, 10, and 11	.471	.529	1.890
9. Helpfulness of Childcare Initiatives	1, 2, 3, 4, 5, 6, 7, 8, 10, and 11	.087	.913	1.095
10. Helpfulness of Job Flexibilities Initiatives	1, 2, 3, 4, 5, 6, 7, 8, 9, and 11	.145	.855	1.170
11. Helpfulness of Personal Day Initiatives	1, 2, 3, 4, 5, 6, 7, 8, 9, and 10	.101	.899	1.112

Researchers have proposed different remedies for multicollinearity, including dropping one of the variables or obtaining more data (O'Brien, 2007). More specifically, an exogenous variable may be dropped to achieve a model with significant coefficients. Additional data may result in more precise parameter estimates. Practically speaking, the first proposal was the more manageable solution for the current study. I dropped one transformational leadership PC at a time and checked the determinant changes. Results are exhibited in Table 23. Based on the determinants of correlation matrices after each

variable was dropped at a time, I decided to drop intellectual stimulation (IS) and only included the other three transformational leadership variables in further data analyses (i.e., II, IM, and IC).

Table 23

*Determinants of Correlation Matrices with Explanatory Variables Dropped (N=396)*

Variable Dropped	Determinant	Original Determinant	Determinant Change
Idealized Influence (Behavior)	0.104	.025	0.079
Inspirational Motivation	0.106		0.081
Intellectual Stimulation	0.110		0.085
Individualized Consideration	0.083		0.058

### Testing Hypotheses and Answering Research Questions

In this section, I report the results of testing Hypotheses 1 and 2, Research Questions 1 and 2, Hypotheses 3, 4, 5, 6, 9, and 10. In addition, I present the findings of mediation tests, i.e., findings about Research Questions 3, 4, Hypotheses 7 and 8, and test the theoretical model as a whole.

#### *Testing Hypotheses 1, 2, 3, 4, 5, 6, 9 and 10 and Research Questions 1 and 2*

To test hypotheses and answer research questions, I first report the results of relevant null model tests and then present those findings derived from testing random-coefficient regression models.

### *Null Model Tests to Calculate Intraclass Correlation Coefficients (ICCs)*

Before I performed random-coefficient regression analyses to test hypotheses and answer research questions, I estimated three null models for the endogenous variables in this study, time-based work-life conflict (Time), strain-based work-life conflict (Strain), and quality of employee-organization relationships (Quality of EORs).

The three null models for this study were as follows:

Level 1:	Level 1:	Level 1:
Time = $\beta_{0j} + r_{ij}$ .	Strain = $\beta_{0j} + r_{ij}$ .	Quality of EORs = $\beta_{0j} + r_{ij}$ .
Level 2:	Level 2:	Level 2:
$\beta_{0j} = \gamma_{00} + U_{0j}$	$\beta_{0j} = \gamma_{00} + U_{0j}$	$\beta_{0j} = \gamma_{00} + U_{0j}$

Where

$\beta_{0j}$  = mean Time/Strain/Quality of EORs for organization  $j$ ;

$\gamma_{00}$  = grand mean Time/Strain/Quality of EORs (i.e., the mean of the group means  $\beta_{0j}$ );

Variance ( $r_{ij}$ ) =  $\sigma^2$  = within-group variance in Time/Strain/Quality of EORs;

Variance ( $U_{0j}$ ) =  $\tau_{00}$  = between-group variance in Time/Strain/Quality of EORs.

Intraclass correlation coefficients (ICCs) can be estimated in HLM to assess how much of the variance in the variables is due to organizational membership, i.e.,  $ICC_{\text{between}}$  and how much of the variance is accounted for by within-organization, i.e.,  $ICC_{\text{within}}$ :

$$ICC_{\text{between}} = \tau_{00} / (\tau_{00} + \sigma^2);$$

$$ICC_{\text{within}} = \sigma^2 / (\tau_{00} + \sigma^2).$$

According to Bliese (2000),  $ICC_{\text{between}}$  usually ranges from .05 to .20. A value greater than .059 indicates it is worthwhile to conduct multilevel analyses (Cohen, 1988).

Although HLM does not produce a significant test for  $\sigma^2$ , it generates one for  $\tau_{00}$  (Hofmann, 1997). A significant between-organization variance indicates statistically significant variability in a given endogenous variable (Hofmann et al., 2000).

*Results of null model testing.* As shown in Table 24, all between-group variances ( $\tau_{00}$ 's) were statistically significant at the .01 level. Moreover, the ICCs were sufficiently large and supported the use of HLM analyses for this study. Specifically, time-based work-life conflict's ICC<sub>between</sub> score was .215, which suggested that 21.5% of the variance was explained by organizational membership, while 78.5% of the variance (the score of ICC<sub>within</sub>) resided in within groups. The ICC<sub>between</sub> score for strain-based work-life conflict also satisfied Cohen's (1988) criterion ( $> .059$ ). Its ICC<sub>within</sub> score revealed that 81.1% of the variance in strain-based work-life conflict was accounted for by within groups. Finally, the quality of employee-organization relationships variable's ICC<sub>between</sub> score was .280, indicating that 28% of the variance was actually explained by between groups with the rest 72% attributed to within groups.

Table 24

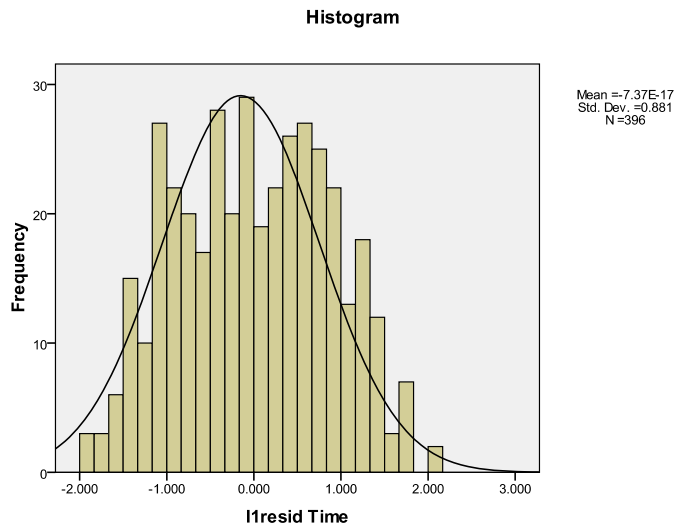
*Results of Null Model Tests*

Dependent Variable	$\tau_{00}$	$\sigma^2$	ICC <sub>between</sub>	ICC <sub>within</sub>
Time-Based Work-Life Conflict	.179**	.831	.215	.785
Strain-Based Work-Life Conflict	.160**	.850	.189	.811
Quality of Employee-Organization Relationships	.216**	.773	.280	.720

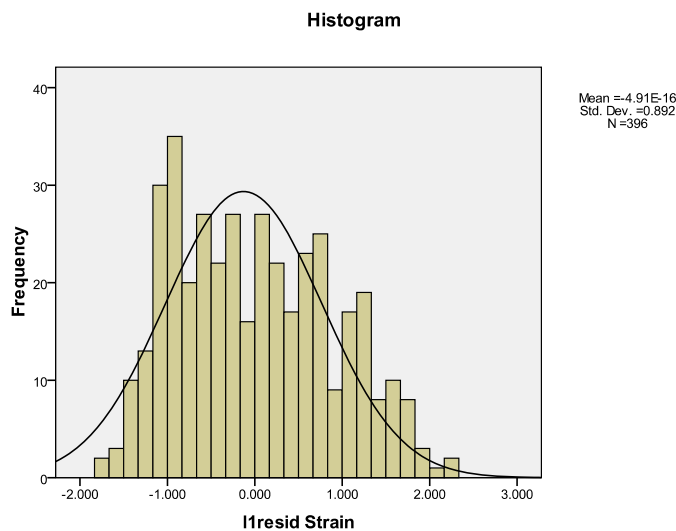
*Note.* \*\* $p < .01$ .

*Testing assumptions of normally distributed residuals and homogeneity of*

*variance*. To examine the assumptions for analyses of the three null models, histograms, descriptives, and normal P-P plots, tests of homogeneity of level-1 variance were generated. Scatterplots of residuals were graphed as well.



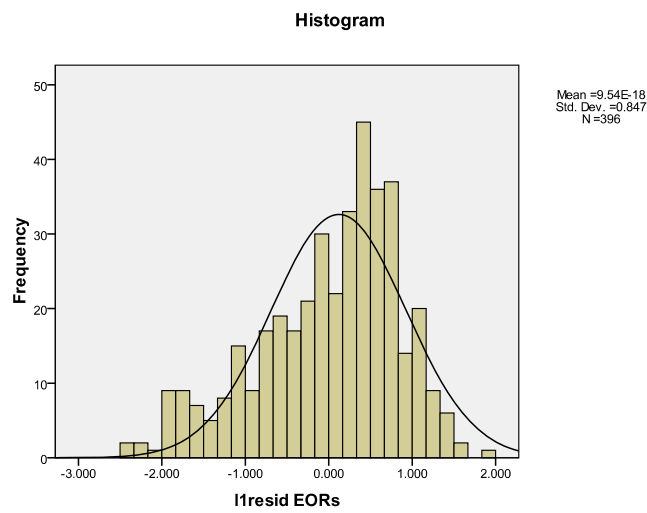
(Skewness = .011; Std. Error of Skewness = .123; Kurtosis = -.849; Std. Error of Kurtosis = .245)



(Skewness = .283; Std. Error of Skewness = .123; Kurtosis = -.860; Std. Error of Kurtosis

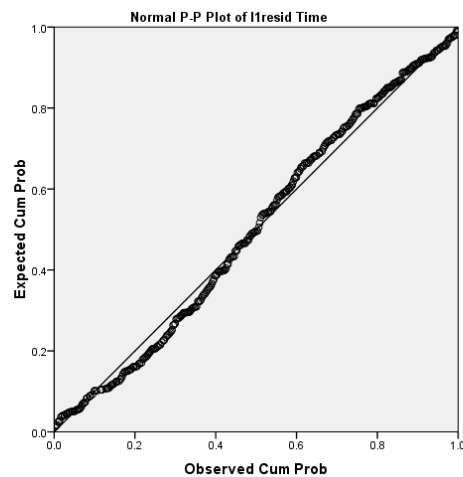


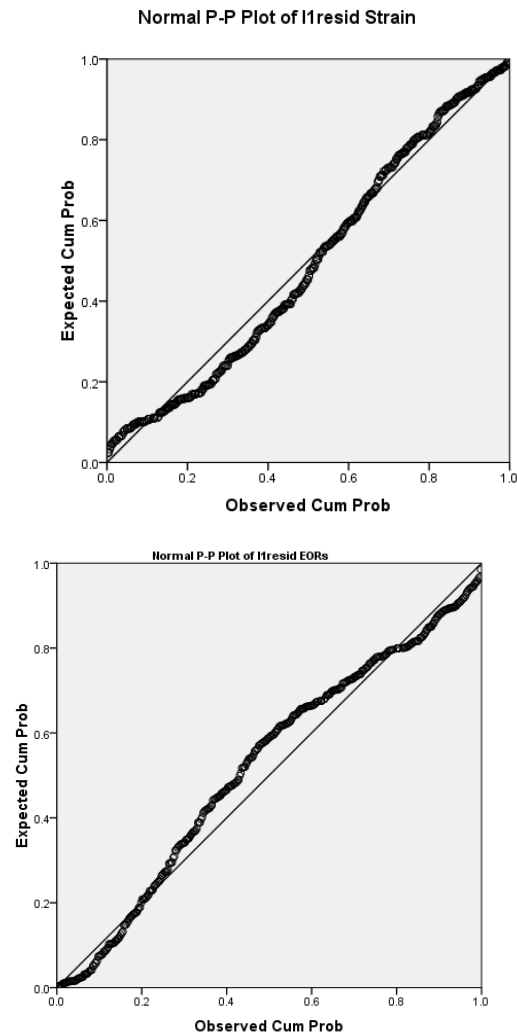
= .245)



(Skewness = -.660; Std. Error of Skewness = .123; Kurtosis = -.118; Std. Error of Kurtosis = .245)

*Figure 4.* Histograms of Residuals from Level-1 Models (Null Models). Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict; EORs = Quality of Employee-Organization Relationships.



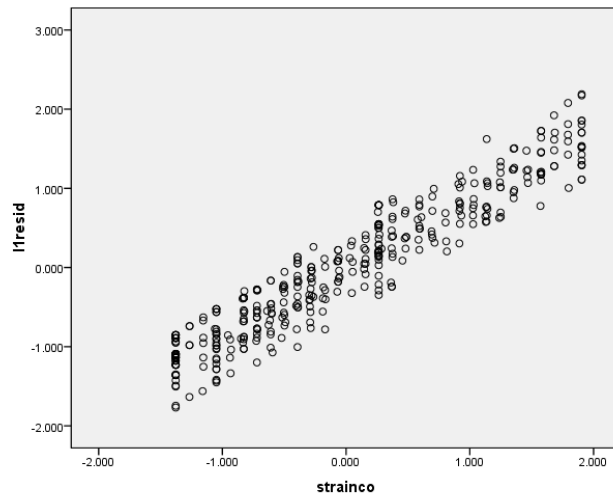
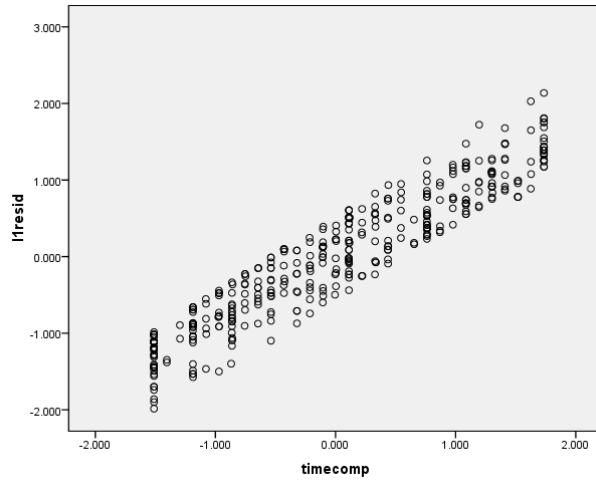


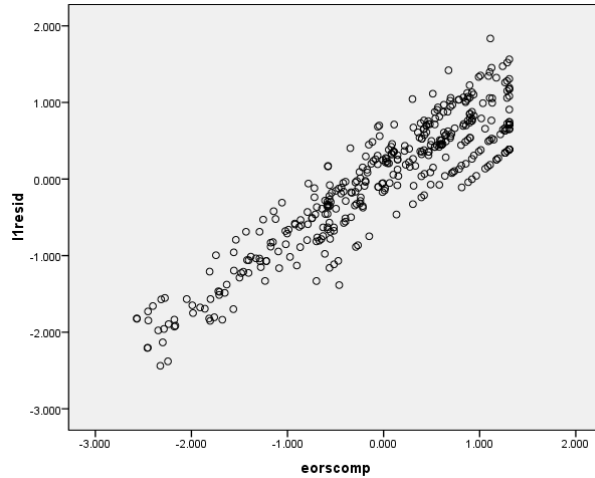
*Figure 5.* Normal Probability Plots of Residuals from Level-1 Models (Null Models).

Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict; EORs = Quality of Employee-Organization Relationships. A 45-degree line would appear when the observed conformed to the normally expected and the assumption of normally distributed error terms was met.

Demonstrated in Figure 4 and Figure 5, the distributions of saved residuals from level-1 models were not perfect in terms of normality, but generally acceptable. The assumption of normally distributed errors was slightly violated. As shown in Figure 6, the residuals from the null models exhibited that the residuals were overall constant and the

assumption of homoscedasticity was satisfied. The finding was consistent with that presented in Table 25, Test of Homogeneity of Level-1 Variance (i.e., three  $p$ -values for  $\chi^2$  tests were all greater than .05).





*Figure 6.* Scatterplots of Residuals by Dependent Values from Level-1 Models (Null Models). Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict; EORs = Quality of Employee-Organization Relationships.

Table 25

*Test of Homogeneity of Level-1 Variance for Null Model Tests*

Dependent Variable	$\chi^2$	df	<i>p</i> -value
Time-Based Work-Life Conflict	28.259	43	= >.500
Strain-Based Work-Life Conflict	37.073	43	= >.500
Quality of Employee-Organization Relationships	53.347	43	.134

*Testing Hypotheses 1, 2, 3, and 6*

The random-coefficient regression model (see Figure 7) for testing the hypotheses was input in HLM 6 as follows:

Level-1:

$$\text{Quality of EORs} = \beta_{0j} + \beta_{1j} (\text{Time}) + \beta_{2j} (\text{Strain}) + \beta_{3j} (\text{II}) + \beta_{4j} (\text{IM}) + \beta_{5j} (\text{IC}) + \beta_{6j} (\text{PJ}) + \beta_{7j} (\text{WLPJ}) + \beta_{8j} (\text{Help1}) + \beta_{9j} (\text{Help2}) + \beta_{10j} (\text{Help3}) + r_{ij}.$$

Level-2:

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

$$\beta_{6j} = \gamma_{60}$$

$$\beta_{7j} = \gamma_{70}$$

$$\beta_{8j} = \gamma_{80}$$

$$\beta_{9j} = \gamma_{90}$$

$$\beta_{10j} = \gamma_{100}$$

Where

$\beta_{0j}$  = mean for Quality of EORs for organization  $j$ ;

$\beta_{1j}, \beta_{2j}, \beta_{3j}, \beta_{4j}, \beta_{5j}, \beta_{6j}, \beta_{7j}, \beta_{8j}, \beta_{9j}$ , and  $\beta_{10j}$  = slopes for organization  $j$ ;

$\gamma_{00}$  = mean of the intercepts across groups;

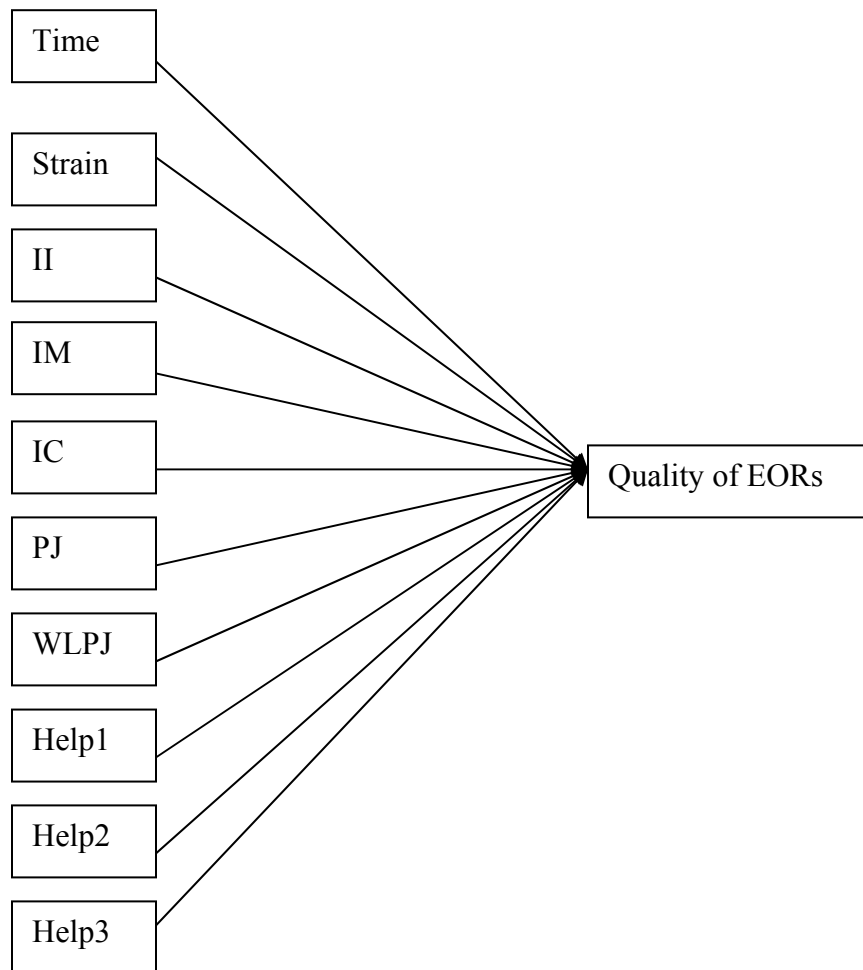
$\gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50}, \gamma_{60}, \gamma_{70}, \gamma_{80}, \gamma_{90}$ , and  $\gamma_{100}$  = means of the slopes across organizations (test hypotheses 1, 2, 3, and 6);

Variance ( $r_{ij}$ ) =  $\sigma^2$  = the level-1 residual variance;

Variance ( $U_{0j}$ ) =  $\tau_{00}$  = variance in intercepts;

Variances in slopes (i.e.,  $U_{1j}, U_{2j}, U_{3j}, U_{4j}, U_{5j}, U_{6j}, U_{7j}, U_{8j}, U_{9j}$ , and  $U_{10j}$ ) =  $\tau_{11}$ ,

$\tau_{22}, \tau_{33}, \tau_{44}, \tau_{55}, \tau_{66}, \tau_{77}, \tau_{88}, \tau_{99}$ , and  $\tau_{1010}$  have been set to zero in analyses.



*Figure 7.* Model to Test Hypotheses 1, 2, 3, and 6: When the Endogenous Construct is Quality of Employee-Organization Relationships. Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict; II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures. Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives.

*Testing H<sub>1</sub>.* Hypothesis 1 predicted that the higher the level of employees'

perceived time-based work-life conflict, the lower the quality of employee-organization relationships. As shown in Table 26, time-based work-life conflict ( $\gamma_{10} = -.122, p < .01$ ) was significantly negatively related to quality of relationships that employees had with their employers. This indicated that when employees felt time committed to work duties made it physically difficult for them to perform activities required by their nonwork roles, they tended to evaluate relationships negatively. When level of time-based work-life conflict was high rather than low, it was more likely for employees to perceive a low degree of confidence they had in relationships with their employing organizations, to acknowledge that the relationships they were involved in were actually not worth spending much energy to cultivate, to feel unsatisfied, and to observe their lack of adequate control over the relationships with their employers. The association between time-based work-life conflict and quality of employee-organization relationships was negative as anticipated. I concluded that Hypothesis 1 was supported.

*Testing H<sub>2</sub>.* Hypothesis 2 anticipated a significant negative association between strain-based work-life conflict and quality of employee-organization relationships. As demonstrated in Table 26, strain-based work-life conflict was not a significant predictor ( $\gamma_{20} = .009, p > .05$ ) for the amount of trust, commitment, satisfaction, and control mutuality that employees had toward relationships with their organizations. It suggested that employees' stressful experiences at work did not seem to influence how they evaluated their relationships with employers greatly. Apart from the small nonsignificant association between the two variables, the direction of the association contradicted the theoretical prediction. In conclusion, Hypothesis 2 was not supported.

*Testing H<sub>3</sub>.* Hypothesis 3 predicted that the more transformational employees'

immediate supervisors, the more apt were employees to perceive high quality of employee-organization relationships. Neither idealized influence (behavior) ( $\gamma_{30} = -.034$ ,  $p > .05$ ) nor inspirational motivation ( $\gamma_{40} = .055$ ,  $p > .05$ ) significantly predicted how employees perceived relationships with their employing organizations. The direction of the association between idealized influence (behavior) and quality of employee-organization relationships was not consistent with what was hypothesized. Whether employees perceived their immediate supervisors as trustworthy, capable to establish a vision, and talented to motivate them to accomplish the vision was not related to the extent to which employees felt committed toward their organizations, evaluated employee-organization relationships as satisfying, had high confidence in their organizations, and enjoyed the amount of control they could exert onto the relationships. In addition, the degree to which direct supervisors could achieve employees' high commitment toward a highly inspiring common vision did not affect the relationships between organizations and their employees. It was individualized consideration ( $\gamma_{50} = .264$ ,  $p < .01$ ) that turned out to be a significant predictor. When immediate supervisors respected their subordinates as individuals with unique characters and needs, and treated them differently but fairly, employees perceived high levels of trust, commitment, satisfaction, and control mutuality. Therefore, Hypothesis 3 was partially supported.

*Testing H<sub>6</sub>.* According to Hypothesis 6, the more just employees perceived organizational decision-making procedures to be, the higher the quality of employee-organization relationships they perceived. Table 26 indicated that both perceived fairness of general decision-making procedures ( $\gamma_{60} = .264$ ,  $p < .01$ ) and perceived fairness of decision-making procedures particularly relevant to work-life policies ( $\gamma_{70} = .179$ ,  $p <$



.01) were positively related to quality of employee-organization relationships significantly. Employees who perceived that they were treated fairly by their organizations developed quality relationships with their employers. On the other hand, this study was successful in identifying fair formal procedures used to make work-life policies and decisions as a significant antecedent leading to high trust, commitment, satisfaction, and control mutuality that employees would perceive. Employees greatly valued those fair decisions that assisted their integration of work and nonwork responsibilities. As a consequence, they valued the relationships with their employers highly positively.  $H_6$  was supported.

*R<sup>2</sup> test and variance ( $U_{0j}$ )*. The result of the  $R^2$  test showed that the combination of participants' perceived time-based work-life conflict, strain-based work-life conflict, idealized influence (behavior), inspirational motivation, individualized consideration, procedural justice in general, procedural justice referencing work-life conflict policies, decisions, and procedures, helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives explained 63.4% of the with-group variance in participants' perceived quality of relationships with their employers. The column for the variance component in Table 26, variance ( $U_{0j}$ ) ( $\tau_{00} = .278, p < .01$ ) indicated that the intercept varied significantly across organizations in terms of quality of employee-organization relationships.

*Summary*. In conclusion, testing the model for Hypotheses 1, 2, 3, and 6 (see Figure 7) generated findings that supported time-based work-life conflict as a significant predictor for quality of employee-organization relationships.  $H_1$  was fully supported. Nevertheless, strain-based work-life conflict was not significantly related to how

employees perceived their relationships with employing organizations. Hence, H<sub>2</sub> was not supported. H<sub>3</sub> was partially supported with individualized consideration revealed as the only significant antecedent variable. Organizational procedural justice was positively associated with employees' trust, commitment, satisfaction, and control mutuality significantly. H<sub>6</sub> was supported. Although some of the predictors were not significant, the group of predictors contributed 63.4% of the total within-group variance in the outcome variable.

Table 26

*Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6*

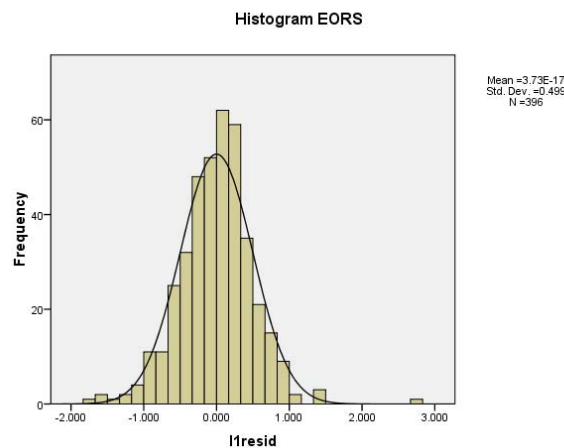
Outcome	$\gamma_{10}$	$\gamma_{20}$	$\gamma_{30}$	$\gamma_{40}$	$\gamma_{50}$	$\gamma_{60}$	$\gamma_{70}$	$U_{0j}$	$R^2$
Variable	(Time)	(Strain)	(II)	(IM)	(IC)	(PJ)	(WLPJ)		
Quality of EORS	-.122**	.009	-.034	.055	.264**	.398**	.179**	.278**	.634

*Note.* \*  $p < .05$  \*\*  $p < .01$ .  $R^2$  for level-1 model =  $(\sigma^2_{\text{null model}} - \sigma^2_{\text{random regression}}) / \sigma^2_{\text{null model}}$ .

Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict; II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Idealized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures.

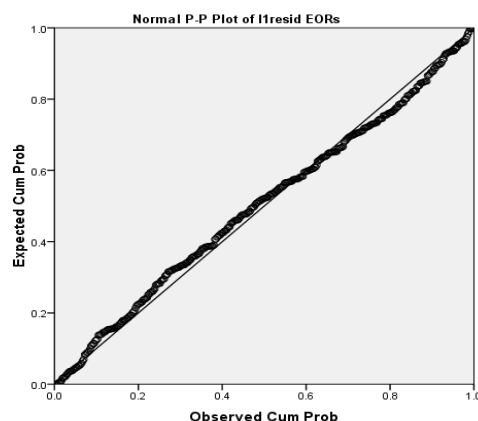
*Testing assumptions of normal distribution of residuals and homogeneity of variance.* As evident in Figure 8 and Figure 9, the normality assumption was satisfied by and large. The ratio of skewness statistic and its standard error, i.e., 1.276 met the stringent (-1.96, 1.96) cut-off criterion. The distribution of residuals in the histogram coincided with the normal curve except for being slightly too peaked. Similarly, a roughly 45-degree line appeared in the normal P-P plot, indicating the observed

cumulative probabilities of occurrence of the residuals conformed to the expected normal probabilities of occurrence. The scatterplot in Figure 10 demonstrated that the assumption of homoscedasticity was largely achieved, although not perfectly satisfied. Shown in Table 27, the  $p$ -value of  $\chi^2$  test ( $> .05$ ) suggested that homogeneity of level-1 variance was supported.

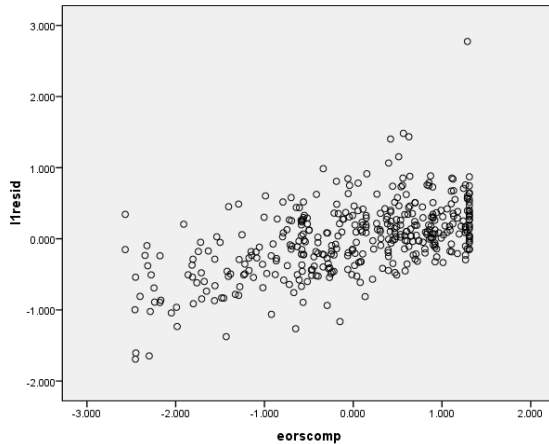


(Skewness = .157; Std. Error of Skewness = .123; Kurtosis = 2.773; Std. Error of Kurtosis = .245)

*Figure 8.* Histogram of Residuals from Level-1 Model (Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6). EORs = Quality of Employee-Organization Relationships.



*Figure 9.* Normal Probability Plot of Residuals from Level-1 Model (Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6). EORs = Quality of Employee-Organization Relationships. A 45-degree line would appear when the observed conformed to the normally expected and the assumption of normally distributed error terms was met.



*Figure 10.* Scatterplot of Residuals by Dependent Values from Level-1 Model (Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6). EORs = Quality of Employee-Organization Relationships.

Table 27

*Test of Homogeneity of Level-1 Variance for Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6*

Dependent Variable	$\chi^2$	df	p-value
Quality of EORS	50.822	43	.193

*Examining Research Question 1 and Testing Hypotheses 4 and 9*

To investigate Research question 1 and test Hypotheses 4 and 9 (see Figure 11), the following random-coefficient regression model was analyzed in HLM 6:

Level-1:

$$\begin{aligned} Time = & \beta_{0j} + \beta_{1j} (II) + \beta_{2j} (IM) + \beta_{3j} (IC) + \beta_{4j} (PJ) + \beta_{5j} (WLPJ) + \beta_{6j} (Help1) + \beta_{7j} \\ & (Help2) + \beta_{8j} (Help3) + r_{ij}. \end{aligned}$$

Level-2:

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

$$\beta_{6j} = \gamma_{60}$$

$$\beta_{7j} = \gamma_{70}$$

$$\beta_{8j} = \gamma_{80}$$

Where

$\beta_{0j}$  = mean for time-based work-life conflict for organization  $j$ ;

$\beta_{1j}, \beta_{2j}, \beta_{3j}, \beta_{4j}, \beta_{5j}, \beta_{6j}, \beta_{7j}$ , and  $\beta_{8j}$  = slopes for organization  $j$ ;

$\gamma_{00}$  = mean of the intercepts across organizations;

$\gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50}, \gamma_{60}, \gamma_{70}$ , and  $\gamma_{80}$  = means of the slopes across organizations

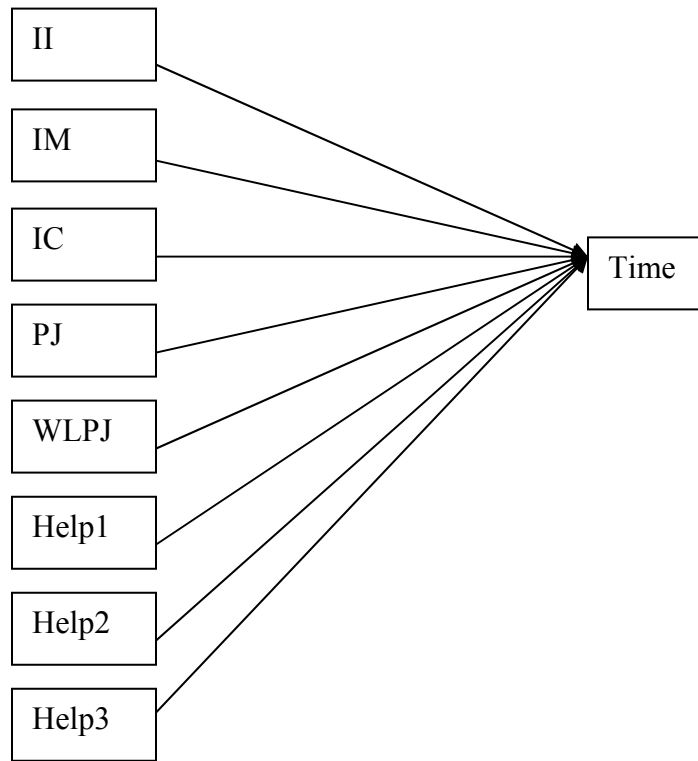
(examine research question 1 and test hypotheses 4 & 9);

Variance ( $r_{ij}$ ) =  $\sigma^2$  = the level-1 residual variance;

Variance ( $U_{0j}$ ) =  $\tau_{00}$  = variance in intercepts;

Variances in slopes (i.e.,  $U_{1j}, U_{2j}, U_{3j}, U_{4j}, U_{5j}, U_{6j}, U_{7j}$ , and  $U_{8j}$ ) =  $\tau_{11}, \tau_{22}, \tau_{33}, \tau_{44},$

$\tau_{55}, \tau_{66}, \tau_{77}$ , and  $\tau_{88}$  have been set to zero in analyses.



*Figure 11.* Model to Examine Research Question 1 and Test Hypotheses 4 and 9: When the Endogenous Construct is Time-Based Work-Life Conflict. II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives; Time = Time-Based Work-Life Conflict.

*Examining  $R_1$ .* Research question 1 investigated whether there was a significant negative relationship between the extent to which employees' immediate supervisors were transformational and the amount of time-based work-life conflict that employees perceived. Table 28 suggested that idealized influence (behavior) (II) ( $\gamma_{10} = .135, p > .05$ ) was not significantly associated with time-based work-life conflict. Inspirational

motivation (IM) ( $\gamma_{20} = -.034, p > .05$ ) did not influence the level of perceived time-based work-life conflict significantly either. Moreover, individualized consideration (IC) ( $\gamma_{30} = -.017, p > .05$ ) was not revealed as a significant predictor.

According to the above findings, direct supervisors who were trustworthy, capable to establish a common vision, and motivated their subordinates to accomplish the vision did not assist their employees very well in dealing with conflicting commitments that their work and nonwork arenas demanded. In addition, the association between time-based work-life conflict and the extent to which immediate supervisors achieved their subordinates' commitment toward a highly inspiring common vision was negative as anticipated, but it was not statistically significant. The amount of employees' perceived time-based work-life conflict was not significantly related to the degree to which direct supervisors treated their subordinates differently but fairly, and acknowledged each individual employee' unique needs and characters. In conclusion, a significant relationship between time-based work-life conflict and transformational leadership behaviors of employees' direct supervisors was not established successfully.

*Testing H<sub>4</sub>.* Hypothesis 4 anticipated that the more just employees perceived their organizations' formal decision-making procedures to be, the lower the level of their perceived time-based work-life conflict. As summarized in Table 28, the association between perceived fairness of general decision-making procedures and the amount of perceived time-based work-life conflict was negative but not statistically significant ( $\gamma_{40} = -.034, p > .05$ ). In contrast, perceived fairness of decision-making procedures concerning work-life policies ( $\gamma_{50} = -.257, p < .01$ ) turned out to be a significant predictor for time-based work-life conflict. Whether employees perceived they were treated fairly

by their organizations in general did not make a difference in terms of how much they perceived time committed to job responsibilities was interfering with their ability to devote time for their nonwork duties. However, whether organizations administered fair procedures for work-life related policies and decisions greatly affected employees' perceptions of the time-based interference between work and nonwork. Therefore, H<sub>4</sub> was partially supported.

*Testing H<sub>9</sub>.* Hypothesis 9 predicted that the more helpful employees perceived their organizations' family-supportive workplace initiatives to be, the lower the level of their perceived time-based work-life conflict. Unfortunately, Table 28 indicated that time-based work-life conflict was not significantly associated with perceived helpfulness of childcare initiatives ( $\gamma_{60} = -.062, p > .05$ ), perceived helpfulness of job flexibilities initiatives ( $\gamma_{70} = .011, p > .05$ ), or perceived helpfulness of personal day initiatives ( $\gamma_{80} = .070, p > .05$ ). It seemed that helpful policies, including organization-sponsored full time centers on/near site, childcare referral services, subsidized childcare costs, flextime, telecommuting, job-sharing, and days off with or without pay other than reasons of sick leave/vacation would not contribute to reduced time-based work-life conflict tremendously.

*R<sup>2</sup> test and variance (U<sub>0j</sub>).* R<sup>2</sup> test indicated that participants' perceived idealized influence (behavior), inspirational motivation, individualized consideration, procedural justice in general, procedural justice referencing work-life conflict policies, decisions, and procedures, helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives jointly accounted for 4.2% of the with-group variance in participants' perceived time-based work-life conflict. The



variance component in Table 28, i.e., variance ( $U_{0j}$ ) ( $\tau_{00} = .184$ ,  $p < .01$ ) demonstrated that the intercept varied significantly across organizations in terms of the amount of perceived time-based work-life conflict.

Table 28

*Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9*

Outcome	$\gamma_{10}$	$\gamma_{20}$	$\gamma_{30}$	$\gamma_{40}$	$\gamma_{50}$	$\gamma_{60}$	$\gamma_{70}$	$\gamma_{80}$	$U_{0j}$	$R^2$
Variable	(II)	(IM)	(IC)	(PJ)	(WLPJ)	(Help1)	(Help2)	(Help3)		
Time	.135	-.034	-.017	-.034	-.257**	-.062	.011	.070	.184**	.042

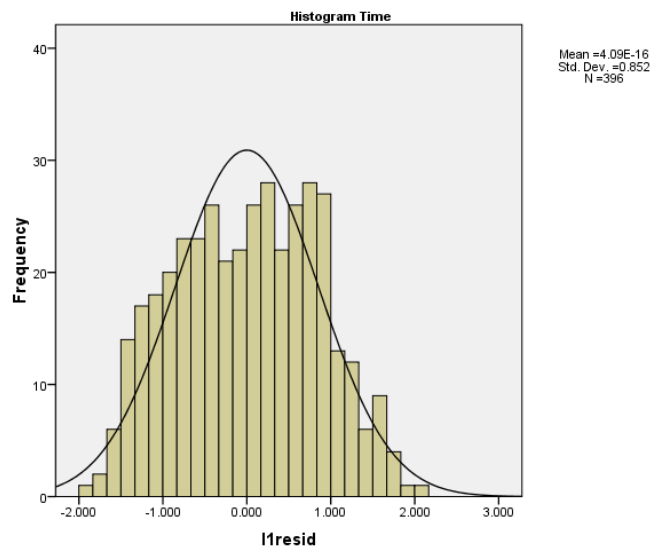
*Note.* \*  $p < .05$  \*\*  $p < .01$ .  $R^2$  for level-1 model =  $(\sigma^2_{\text{null model}} - \sigma^2_{\text{random regression}}) / \sigma^2_{\text{null model}}$ .

Time = Time-Based Work-Life Conflict; II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Idealized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives.

*Summary.* Analysis of the model for Research Question 1 and Hypotheses 4 and 9 (see Figure 11) failed to achieve findings that evidenced a significant negative association between transformational leadership behaviors of employees' immediate supervisors and the amount of time-based work-life conflict that employees perceived. Results identified a significant negative relationship between time-based work-life conflict and perceived fairness of formal procedures referencing work-life policies and decisions. Nevertheless, such a relationship between time-based work-life conflict and perceived general procedural justice was not supported by data. Therefore,  $H_4$  was partially supported.  $H_9$  was not supported. A significant causal linkage between time-based work-life conflict

and perceived helpfulness of family-supportive workplace initiatives was not substantiated.

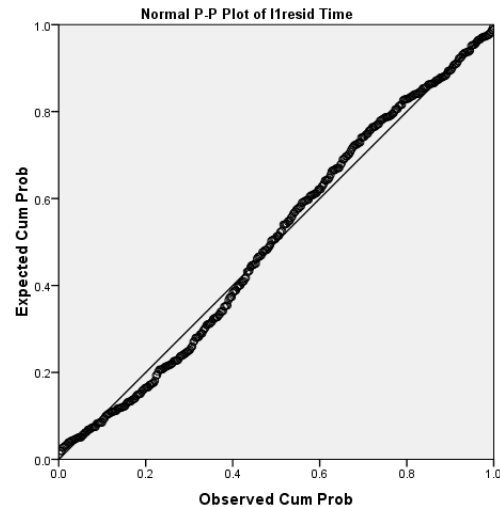
*Testing assumptions of normal distribution of residuals and homogeneity of variance.* As shown in Figure 12 and Figure 13, level-1 residuals from the model (Figure 11) were roughly normally distributed. According the descriptive statistics, the ratio of skewness statistic over its standard error, i.e., .17 fell within the range between -1.96 and 1.96. However, the peakedness was a little lower than what defines a normal distribution. The scatterplot in Figure 14 showed that the homoscedasticity assumption was not violated. It merely suggested that there might be other important predictors closely relevant to the outcome variable but were not included in the current model. Table 29 also indicated that the homoscedasticity assumption was met (i.e., the  $p$ -value of  $\chi^2$  test > .05).



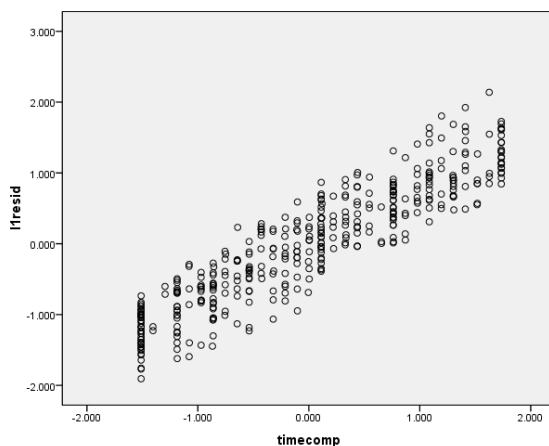
(Skewness = .021; Std. Error of Skewness = .123; Kurtosis = -.817; Std. Error of Kurtosis = .245)

*Figure 12.* Histogram of Residuals from Level-1 Model (Random-Coefficient Regression

Model for Research Question 1 and Hypotheses 4 and 9). Time = Time-Based Work-Life Conflict.



*Figure 13.* Normal Probability Plot of Residuals from Level-1 Model (Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9). Time = Time-Based Work-Life Conflict. A 45-degree line would appear when the observed conformed to the normally expected and the assumption of normally distributed residuals was met.



*Figure 14.* Scatterplot of Residuals by Dependent Values from Level-1 Model (Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9). Time =

Time-Based Work-Life Conflict.

Table 29

*Test of Homogeneity of Level-1 Variance for Random-Coefficient Regression Model  
for Research Question 1 and Hypotheses 4 and 9*

Dependent Variable	$\chi^2$	df	p-value
Time	28.011	43	= >.500

*Examining Research Question 2 and Testing Hypotheses 5 and 10*

To examine Research Question 2 and test Hypotheses 5 and 10 (see Figure 15), the following random-coefficient regression model was computed in HLM 6:

Level-1:

$$\text{Strain} = \beta_{0j} + \beta_{1j} (II) + \beta_{2j} (IM) + \beta_{3j} (IC) + \beta_{4j} (PJ) + \beta_{5j} (WLPJ) + \beta_{6j} (Help1) + \beta_{7j} (Help2) + \beta_{8j} (Help3) + r_{ij}.$$

Level-2:

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

$$\beta_{6j} = \gamma_{60}$$

$$\beta_{7j} = \gamma_{70}$$

$$\beta_{8j} = \gamma_{80}$$

Where

$\beta_{0j}$  = mean for strain-based work-life conflict for organization  $j$ ;

$\beta_{1j}, \beta_{2j}, \beta_{3j}, \beta_{4j}, \beta_{5j}, \beta_{6j}, \beta_{7j}$ , and  $\beta_{8j}$  = slopes for organization  $j$ ;

$\gamma_{00}$  = mean of the intercepts across organizations;

$\gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50}, \gamma_{60}, \gamma_{70}$ , and  $\gamma_{80}$  = means of the slopes across organizations

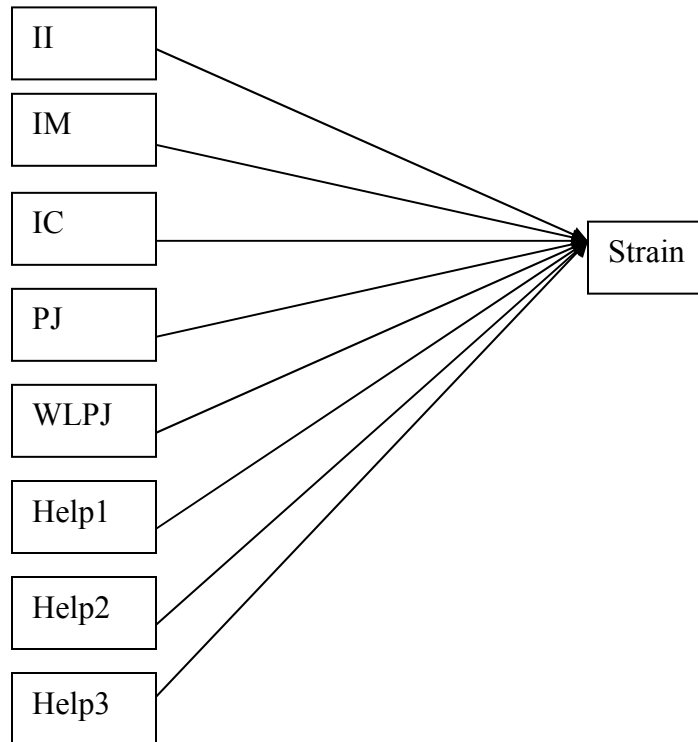
(examine research question 2 and test hypotheses 5 & 10);

Variance ( $r_{ij}$ ) =  $\sigma^2$  = the level-1 residual variance;

Variance ( $U_{0j}$ ) =  $\tau_{00}$  = variance in intercepts;

Variances in slopes (i.e.,  $U_{1j}, U_{2j}, U_{3j}, U_{4j}, U_{5j}, U_{6j}, U_{7j}$ , and  $U_{8j}$ ) =  $\tau_{11}, \tau_{22}, \tau_{33}, \tau_{44}$ ,

$\tau_{55}, \tau_{66}, \tau_{77}$ , and  $\tau_{88}$  have been set to zero in analyses.



*Figure 15.* Model to Examine Research Question 2 and Test Hypotheses 5 and 10: When the Endogenous Construct is Strain-Based Work-Life Conflict. II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Individualized Consideration; PJ =

Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives; Strain = Strain-Based Work-Life Conflict.

*Examine R<sub>2</sub>.* Research Question 2 examined whether there existed a significant negative association between the degree to which employees' immediate supervisors were transformational and the level of strain-based work-life conflict that employees perceived. Table 30 indicated that idealized influence (behavior) (II) ( $\gamma_{10} = .180, p > .05$ ) was not a significant predictor for strain-based work-life conflict. This actually means that whether employees' direct supervisors were trustworthy, capable to establish a common vision, or motivated their subordinates to accomplish the vision was not related to the extent to which employees perceived that stress at work were interfering with their personal lives. The association between inspirational motivation (IM) ( $\gamma_{20} = -.093, p > .05$ ) and strain-based work-life conflict was negative as hypothesized, but it was not statistically significant. The extent to which immediate supervisors achieved their employees' commitment toward a highly inspiring vision did not greatly impact the amount of strain-based work-life conflict that employees perceived. Similarly, individualized consideration (IC) ( $\gamma_{30} = -.116, p > .05$ ) was not a significant antecedent variable for strain-based work-life conflict. Whether immediate supervisors recognized and respected each individual employee's need, potential, and character did not influence employees' perceptions concerning the interference that stress and strain at work created for their nonwork lives. In summary, a significant negative association between strain-based work-life conflict and transformational leadership behaviors of employees'

immediate supervisors was not supported by data collected in this study.

*Testing H<sub>5</sub>.* Hypothesis 5 proposed that the more just employees perceived their organizations' formal decision-making procedures to be, the lower the level of their perceived strain-based work-life conflict. As shown in Table 30, perceived fairness of general decision-making procedures ( $\gamma_{40} = -.164, p < .05$ ) was significantly negatively related to the amount of perceived strain-based work-life conflict as predicted. Perceived fairness of formal procedures concerning work-life policies and decisions ( $\gamma_{50} = -.150, p < .05$ ) turned out to be a significant predictor for strain-based work-life conflict as well. Fair decision-making procedures that organizations practiced significantly influenced the extent to which employees perceived stress at their work place made it difficult for them to concentrate on their commitments from nonwork arenas. H<sub>5</sub> was supported.

*Testing H<sub>10</sub>.* Hypothesis 10 predicted that the more helpful employees perceived their organizations' family-supportive workplace initiatives to be, the lower the level of their perceived strain-based work-life conflict. Table 30 showed that strain-based work-life conflict was not significantly related to perceived helpfulness of childcare initiatives ( $\gamma_{60} = -.028, p > .05$ ), perceived helpfulness of job flexibilities initiatives ( $\gamma_{70} = .028, p > .05$ ), or perceived helpfulness of personal day initiatives ( $\gamma_{80} = .023, p > .05$ ). It seemed that helpful policies, for instance, organization-sponsored full time centers on/near site, childcare referral services, subsidized childcare costs, flextime, telecommuting, job-sharing, and days off with or without pay other than reasons of sick leave or vacation did not necessarily result in low levels of strain-based work-life conflict.

*R<sup>2</sup> test and variance (U<sub>0j</sub>).* As presented in Table 30, the combination of participants' perceived idealized influence (behavior), inspirational motivation, idealized

consideration, procedural justice in general, procedural justice referencing work-life conflict policies, decisions, and procedures, helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives explained 7.1 % of the total with-group variance in participants' perceived strain-based work-life conflict. The variance component in Table 30, i.e., variance ( $U_{0j}$ ) ( $\tau_{00} = .169$ ,  $p < .01$ ) indicated that the intercept varied significantly across organizations in terms of the amount of perceived strain-based work-life conflict.

Table 30

*Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10*

Outcome	$\gamma_{10}$	$\gamma_{20}$	$\gamma_{30}$	$\gamma_{40}$	$\gamma_{50}$	$\gamma_{60}$	$\gamma_{70}$	$\gamma_{80}$	$U_{0j}$	$R^2$
Variable	(II)	(IM)	(IC)	(PJ)	(WLPJ)	(Help1)	(Help2)	(Help3)		
Strain	.180	-.093	-.116	-.164*	-.150*	-.028	.028	.023	.169**	.071

*Note.* \*  $p < .05$  \*\*  $p < .01$ .  $R^2$  for level-1 model =  $(\sigma^2_{\text{null model}} - \sigma^2_{\text{random regression}}) / \sigma^2_{\text{null model}}$ .

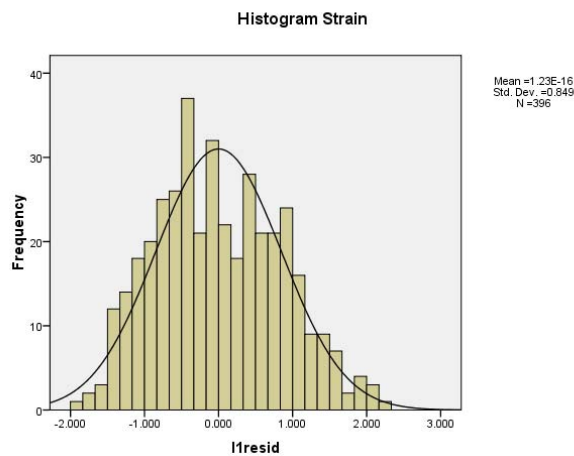
Strain = Strain-Based Work-Life Conflict; II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Idealized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives.

*Summary.* Results of testing the model for Research Question 2 and Hypotheses 5 and 10 (see Figure 15) concluded that a significant negative association between transformational leadership behaviors of employees' immediate supervisors and the amount of strain-based work-life conflict that employees perceived did not exist. However, strain-based work-life conflict was negatively associated with organizational procedural justice significantly.  $H_5$  was supported. A significant causal linkage between



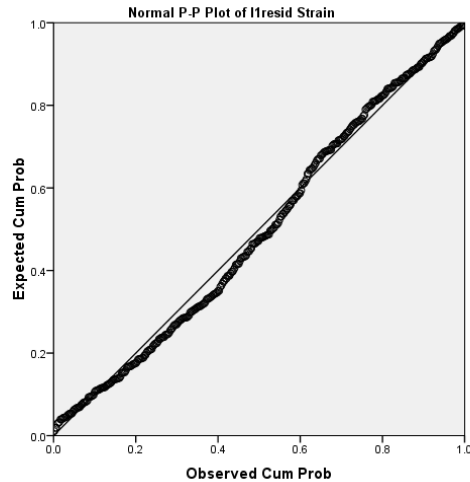
strain-based work-life conflict and perceived helpfulness of family-supportive workplace initiatives was not successfully established.  $H_{10}$  was not supported.

*Testing assumptions of normal distribution of residuals and homogeneity of variance.* As shown in the histogram (Figure 16) and the normal P-P plot (Figure 17), the normality assumption was met by and large. The ratio of skewness statistic over its standard error, i.e., 1.691 satisfied the (-1.96, 1.96) cut-off criterion. The distribution of level-1 residuals in the P-P plot only deviated from the 45-degree line slightly. The scatterplot (Figure 18) manifested that the assumption of homoscedasticity was not violated. This finding was consistent with the result reported in Table 31 (i.e., the  $p$ -value of  $\chi^2$  test was greater than .05).

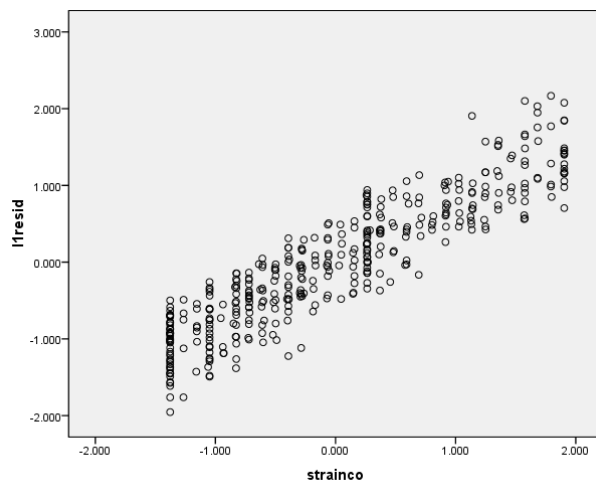


(Skewness = .208; Std. Error of Skewness = .123; Kurtosis = -.613; Std. Error of Kurtosis = .245)

*Figure 16.* Histogram of Residuals from Level-1 Model (Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10). Strain = Strain-Based Work-Life Conflict.



*Figure 17.* Normal Probability Plot of Residuals from Level-1 Model (Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10). Strain = Strain-Based Work-Life Conflict. A 45-degree line would appear when the observed conformed to the normally expected and the assumption of normally distributed residuals was satisfied.



*Figure 18.* Scatterplot of Residuals by Dependent Values from Level-1 Model (Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10). Strain= Strain-Based Work-Life Conflict.

Table 31

*Test of Homogeneity of Level-1 Variance for Random-Coefficient Regression Model  
for Research Question 2 and Hypotheses 5 and 10*

Dependent Variable	$\chi^2$	df	p-value
Strain	35.916	43	= > .500

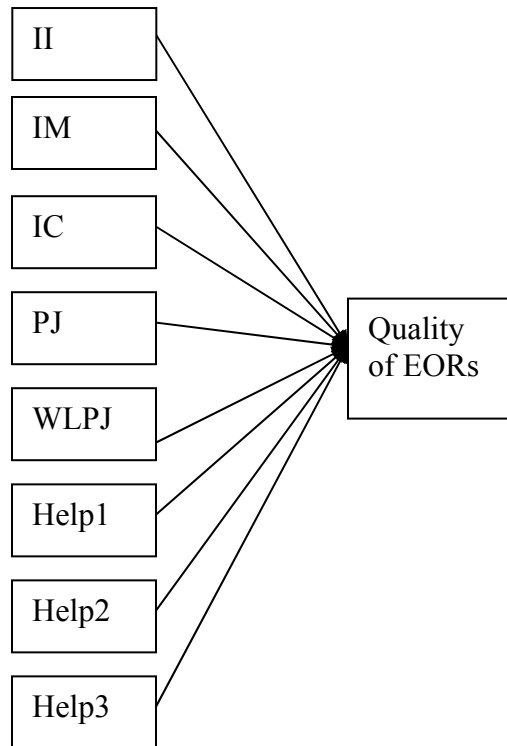
*Mediation Tests: Examining Research Questions 3 & 4 and Testing Hypotheses 7 & 8*

Finally, in terms of mediation tests, I examined the following research questions and hypotheses and tested the theoretical model as a whole:

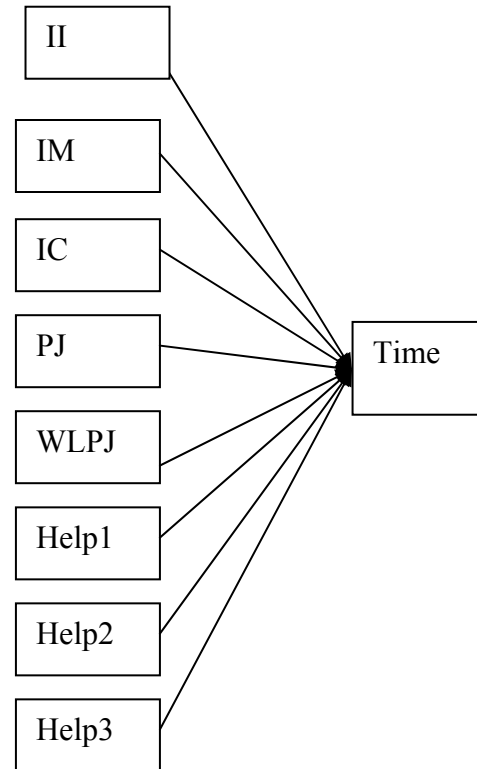
- 1) Research Question 3 (i.e., whether time-based work-life conflict partially mediated the link between transformational leadership and quality of EORs);
- 2) Research Question 4 (i.e., whether strain-based work-life conflict partially mediated the association between transformational leadership and quality of EORs);
- 3) Hypothesis 7 (i.e., time-based work-life conflict partially mediated the relationship between procedural justice and quality of EORs),
- 4) Hypothesis 8 (i.e., strain-based work-life conflict partially mediated the connection between procedural justice and quality of EORs);
- 5) Whether the associations between perceived helpfulness of family-supportive workplace initiatives and quality of EORs were mediated by time- and strain-based work-life conflict.

Figure 19 demonstrated the procedures that I followed to decide the possible mediation effects in this study.

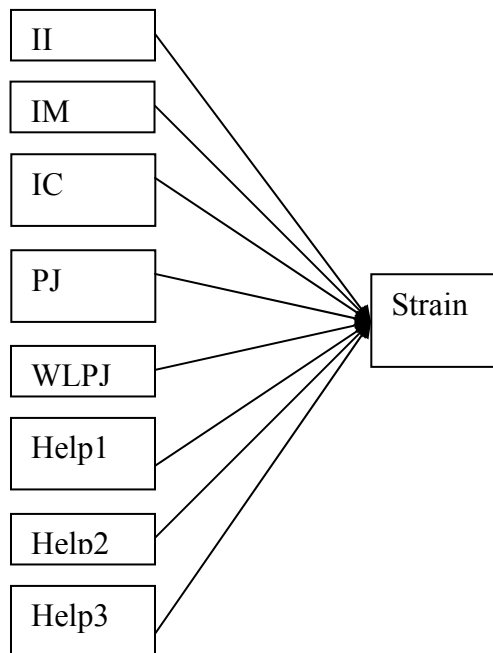
Step 1



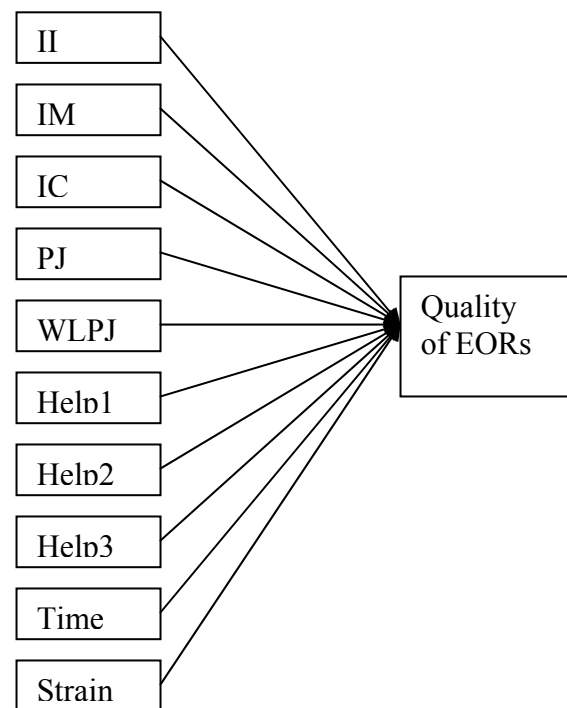
Step 2-1



Step 2-2



Steps 3 & 4



*Figure 19. Steps/Models to Test Mediation.* II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives; Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict; Quality of EORs = Quality of Employee-Organization Relationships.

*Random-coefficient regression models relevant to mediation tests.* The model for step 2-1 (see Figure 19) was already analyzed when examining Research Question 1 and testing Hypotheses 4 and 9. The model for step 2-2 was calculated when investigating Research Question 2 and testing Hypotheses 5 and 10. In addition, the model for steps 3 and 4 was examined when testing Hypotheses 1, 2, 3, and 6. Here I would not discuss the above random-coefficient regression models and the analyses for testing assumptions of normality and homoscedasticity again.

The random-coefficient regression model for step 1 (see Figure 19) was analyzed in HLM 6 as follows:

Level-1:

$$\text{Quality of EORs} = \beta_{0j} + \beta_{1j} (II) + \beta_{2j} (IM) + \beta_{3j} (IC) + \beta_{4j} (PJ) + \beta_{5j} (WLPJ) + \beta_{6j} (Help1) + \beta_{7j} (Help2) + \beta_{8j} (Help3) + r_{ij}.$$

Level-2:

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

$$\beta_{6j} = \gamma_{60}$$

$$\beta_{7j} = \gamma_{70}$$

$$\beta_{8j} = \gamma_{80}$$

Where

$\beta_{0j}$  = mean for quality of EORs for organization  $j$ ;

$\beta_{1j}, \beta_{2j}, \beta_{3j}, \beta_{4j}, \beta_{5j}, \beta_{6j}, \beta_{7j}$ , and  $\beta_{8j}$  = slopes for organization  $j$ ;

$\gamma_{00}$  = mean of the intercepts across organizations;

$\gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50}, \gamma_{60}, \gamma_{70}$ , and  $\gamma_{80}$  = means of the slopes across organizations (test step 1 of mediation);

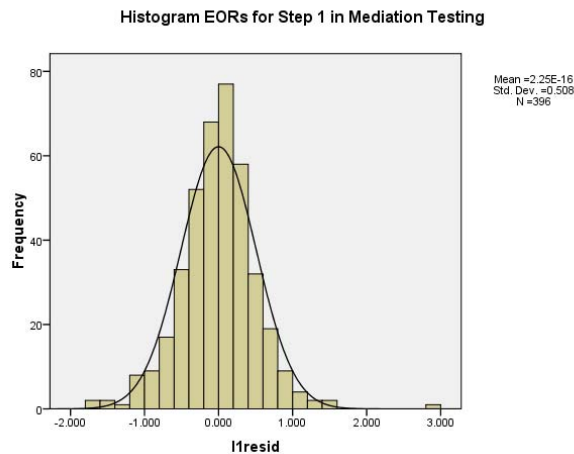
Variance ( $r_{ij}$ ) =  $\sigma^2$  = the level-1 residual variance;

Variance ( $U_{0j}$ ) =  $\tau_{00}$  = variance in intercepts;

Variances in slopes (i.e.,  $U_{1j}, U_{2j}, U_{3j}, U_{4j}, U_{5j}, U_{6j}, U_{7j}$ , and  $U_{8j}$ ) =  $\tau_{11}, \tau_{22}, \tau_{33}, \tau_{44}, \tau_{55}, \tau_{66}, \tau_{77}$ , and  $\tau_{88}$  have been set to zero in analyses.

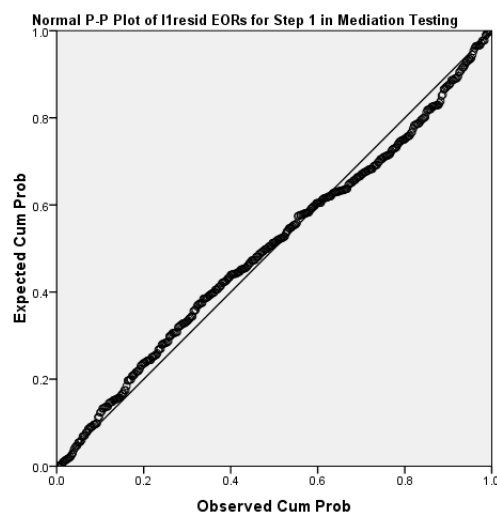
*Testing assumptions of normal distribution of residuals and homogeneity of variance for step 1.* To examine whether the assumptions of normally distributed residuals and homoscedasticity were satisfied, I analyzed descriptives (Figure 20), graphed a histogram (Figure 20), produced a normal P-P plot (Figure 21), and generated a scatterplot (Figure 22). The ratio of skewness statistic over its standard error was 1.976, almost meeting the stringent (-1.96, 1.96) cut-off criterion. The peakedness was slightly higher than what specified a normal distribution, indicating too few cases were in the

tails. Shown in Figure 21, the distribution of residuals only departed from the 45-degree line slightly. The scatterplot in Figure 22 showed that the assumption of homoscedasticity was largely achieved. Table 32 also indicated that the assumption is satisfied ( $\chi^2 = 53.876$ ;  $df = 43$ ;  $p > .05$ )

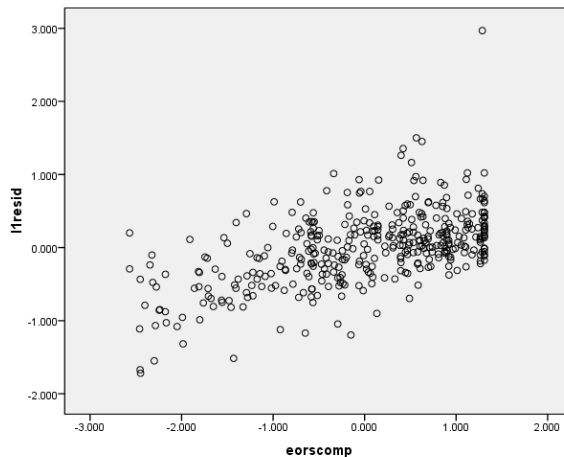


(Skewness = .243; Std. Error of Skewness = .123; Kurtosis = 3.365; Std. Error of Kurtosis = .245)

*Figure 20.* Histogram of Residuals from Level-1 Model (Random-Coefficient Regression Model to Test Step 1 for Mediation Analysis). EORs = Quality of Employee-Organization Relationships.



*Figure 21.* Normal Probability Plot of Residuals from Level-1 Model (Random-Coefficient Regression Model to Test Step 1 for Mediation Analysis). EORs = Quality of Employee-Organization Relationships. A 45-degree line would appear when the observed conformed to the normally expected and the assumption of normally distributed error terms was met.



*Figure 22.* Scatterplot of Residuals by Dependent Values from Level-1 Model (Random-Coefficient Regression Model to Test Step 1 for Mediation Analysis). EORs = Quality of Employee-Organization Relationships.

Table 32

*Test of Homogeneity of Level-1 Variance for Step 1 of Testing Mediation*

Dependent Variable	$\chi^2$	df	<i>p</i> -value
Strain	53.876	43	.124

*Results of mediation tests for R<sub>3</sub>.* Research Question 3 examined whether time-based work-life conflict partially mediated the association between transformational leadership and quality of employee-organization relationships. Results of mediation tests



did not support such a partially mediating role of time-based work-life conflict. The four analytical steps were performed as follows.

Step 1: As shown in Table 33, idealized influence (II) failed to predict variability in quality of employee-organization relationships (quality of EORs) significantly ( $II(\gamma_{10}) = -.049, p > .05$ ); inspirational motivation (IM) did not account for variability in quality of EORs significantly either ( $IM(\gamma_{20}) = .058, p > .05$ ). Nevertheless, individualized consideration (IC) was positively related to quality of EORs significantly ( $IC(\gamma_{30}) = .265, p < .01$ ). To conclude, the first criterion about antecedents ( $Xs$ ) significantly predicting variability in an outcome variable ( $Y$ ) was merely satisfied partially.

Table 33

*Step 1 of Testing Mediation: The Relationships between Antecedent Variables ( $Xs$ ) and Outcome Variable ( $Y$ )*

Outcome Variable	Antecedent Variables							
	II	IM	IC	PJ	WLPJ	Help1	Help2	Help3
	( $\gamma_{10}$ )	( $\gamma_{20}$ )	( $\gamma_{30}$ )	( $\gamma_{40}$ )	( $\gamma_{50}$ )	( $\gamma_{60}$ )	( $\gamma_{70}$ )	( $\gamma_{80}$ )
Quality of EORs	-.049	.058	.265**	.400**	.209**	.048	.037	.046

*Note.* \* $p < .05$ . \*\* $p < .01$ . II = Idealized Influence; IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives; Quality of EORs = Quality of Employee-Organization Relationships.

Step 2: As summarized in Table 34, time-based work-life conflict (Time) was not significantly associated with idealized influence (II) ( $II(\gamma_{10}) = .135, p > .05$ ), inspirational motivation (IM) ( $IM(\gamma_{20}) = -.034, p > .05$ ), or individualized consideration (IC) ( $IC(\gamma_{30}) = -.017, p > .05$ ). Thus, the second criterion concerning antecedent variables ( $Xs$ ) significantly predicting variability in a mediator ( $M$ ) was not satisfied.

Table 34

*Step 2 of Testing Mediation: The Relationships between Antecedent Variables ( $Xs$ ) and Mediators ( $Ms$ )*

Mediators	Antecedent Variables							
	II	IM	IC	PJ	WLPJ	Help1	Help 2	Help3
	( $\gamma_{10}$ )	( $\gamma_{20}$ )	( $\gamma_{30}$ )	( $\gamma_{40}$ )	( $\gamma_{50}$ )	( $\gamma_{60}$ )	( $\gamma_{70}$ )	( $\gamma_{80}$ )
Time	.135	-.034	-.017	-.034	-.257**	-.062	.011	.070
Strain	.180	-.093	-.116	-.164*	-.150*	-.028	.028	.023

*Note.* \* $p < .05$ . \*\* $p < .01$ . II = Idealized Influence; IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives; Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict.

Step 3: Table 35 indicated that time-based work-life conflict (Time) significantly predicted variability in quality of EORs ( $Time(\gamma_{10}) = -.122, p < .01$ ), when controlling for idealized influence (II), inspirational motivation (IM), individualized consideration (IC), procedural justice in general (PJ), procedural justice referencing work-life conflict

policies, decisions, and procedures (WLPJ), helpfulness of childcare initiatives (Help1), helpfulness of job flexibilities initiatives (Help2), helpfulness of personal day initiatives (Help3), and strain-based work-life conflict (Strain). In summary, the third criterion about a mediator ( $M$ ) significantly predicting variability in an outcome variable ( $Y$ ) when controlling for antecedents ( $X$ s) was met.

Table 35

*Step 3 of Testing Mediation: The Relationships between Mediators (Ms) and Outcome Variable (Y)*

Outcome Variable	Mediators	
	Time ( $\gamma_{10}$ )	Strain ( $\gamma_{20}$ )
Quality of EORs	-.122**	.009

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict; Quality of EORs = Quality of Employee-Organization Relationships.

Step 4: Based on the results presented in Table 33 and Table 36, it was obvious that a partial mediation was not successfully set up. First of all, the magnitude of the association between idealized influence (II) and quality of EORs declined when mediators and antecedent variables simultaneously predicted the outcome variable, compared to when antecedents predicted the outcome variable alone. However, neither coefficient was statistically significant,  $II(\gamma_{10}) = -.049, p > .05$  vs.  $II(\gamma_{10}) = -.034, p > .05$ .

Second, the effect of inspirational motivation (IM) upon quality of EORs declined too, but the coefficient when the mediators were absent and the one when they were controlled for were not statistically significant,  $IM(\gamma_{20}) = .058, p > .05$  vs.  $IM(\gamma_{20}) = .055,$

$p > .05$ . Finally, the size of the association between individualized consideration (IC) and quality of EORs only declined slightly, but both coefficients were statistically significant,  $IC(\gamma_{30}) = .265, p < .01$  vs.  $IC(\gamma_{30}) = .264, p < .01$ .

Table 36

*Step 4 of Testing Mediation: The Relationships between Antecedent Variables (Xs) and Outcome Variable (Y) with Mediators (Ms) Controlled for*

Outcome Variable	Antecedent Variables							
	II	IM	IC	PJ	WLPJ	Help1	Help2	Help3
	( $\gamma_{10}$ )	( $\gamma_{20}$ )	( $\gamma_{30}$ )	( $\gamma_{40}$ )	( $\gamma_{50}$ )	( $\gamma_{60}$ )	( $\gamma_{70}$ )	( $\gamma_{80}$ )
Quality of EORs	-.034	.055	.264**	.398**	.179**	.041	.038	.055

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . II = Idealized Influence; IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives. Quality of EORs = Quality of Employee-Organization Relationships.

*Results of mediation tests for R<sub>4</sub>.* Research Question 4 explored whether strain-based work-life conflict partially mediated the link between transformational leadership and quality of EORs. As shown in Table 33, Table 34, Table 35, and Table 36, results of mediation tests did not substantiate the partially mediating role of strain-based work-life conflict. The four steps for testing mediation were anatomized as follows.

Step 1: This step for Research Question 4 was the same as that for Research

Question 3. Table 33 showed that quality of EORs was positively associated with individualized consideration (IC) significantly, but not with idealized influence (II) or inspirational motivation (IM). Therefore, the first criterion about antecedents ( $X$ s) significantly predicting variability in an outcome variable ( $Y$ ) was only partially satisfied for answering the research question.

Step 2: Table 34 suggested that strain-based work-life conflict (Strain) was not significantly related to idealized influence (II) ( $II(\gamma_{10}) = .180, p > .05$ ), inspirational motivation (IM) ( $IM(\gamma_{20}) = -.116, p > .05$ ), or individualized consideration (IC),  $IC(\gamma_{30}) = -.093, p > .05$ . Therefore, the second criterion concerning antecedent variables ( $X$ s) significantly predicting variability in a mediator ( $M$ ) was violated.

Step 3: Table 35 indicated that strain-based work-life conflict (Strain) did not significantly predict variability in quality of EORs,  $Strain(\gamma_{20}) = .009, p > .05$ , when controlling for idealized influence (II), inspirational motivation (IM), individualized consideration (IC), procedural justice in general (PJ), procedural justice referencing work-life conflict policies, decisions, and procedures (WLPJ), helpfulness of childcare initiatives (Help1), helpfulness of job flexibilities initiatives (Help2), helpfulness of personal day initiatives (Help3), and time-based work-life conflict (Time). Hence, the third criterion about a mediator ( $M$ ) significantly predicting variability in an outcome variable ( $Y$ ) when controlling for antecedents ( $X$ s) was not satisfied.

Step 4: This step for testing the mediation role of strain-based work-life conflict was actually equivalent to that for examining the mediating effect of time-based work-life conflict in Research Question 3. Based on the results in Table 33 and Table 36, a partial mediation was not successfully established.

*Results of mediation tests for H<sub>7</sub>.* Hypothesis 7 anticipated that time-based work-life conflict partially mediated the relationship between procedural justice and quality of EORs.

Step 1: Table 33 revealed that procedural justice in general (PJ) significantly predicted variability in quality of EORs,  $PJ(\gamma_{40}) = .400, p < .01$ . Procedural justice referencing work-life policies, decisions, and procedures (WLPJ) was also positively associated with quality of EORs significantly,  $WLPJ(\gamma_{50}) = .209, p < .01$ . Thus, the first criterion about antecedents (*Xs*) significantly predicting variability in an outcome variable (*Y*) was satisfied.

Step 2: Table 34 indicated that procedural justice in general (PJ) did not predict variability in time-based work-life conflict (Time) significantly,  $PJ(\gamma_{40}) = -.034, p > .05$ . However, procedural justice referencing work-life policies, decisions, and procedures (WLPJ) was negatively related to time-based work-life conflict (Time) significantly,  $WLPJ(\gamma_{50}) = -.257, p < .01$ . To conclude, the second criterion concerning antecedent variables (*Xs*) significantly predicting variability in a mediator (*M*) was not met for PJ and Time, but satisfied for WLPJ and Time.

Step 3: Table 35 suggested that time-based work-life conflict (Time) significantly predicted variability in quality of EORs,  $Time(\gamma_{10}) = -.122, p < .01$ , when controlling for II, IM, IC, PJ, WLPJ, Help1, Help2, Help3, and Strain. Therefore, the third criterion about a mediator (*M*) significantly predicting variability in an outcome variable (*Y*) when controlling for antecedents (*Xs*) was fulfilled.

Step 4: Based on the results in Table 33 and Table 36, the magnitude of the relationship between procedural justice in general (PJ) and quality of EORs decreased

slightly when mediators and antecedent variables simultaneously predicted the outcome variable, compared to when antecedents predicted the outcome variable alone. Both coefficients were statistically significant,  $PJ(\gamma_{40}) = .400, p < .01$  vs.  $PJ(\gamma_{40}) = .398, p < .01$ . In addition, the size of the effect of procedural justice referencing work-life policies, decisions, and procedures (WLPJ) on quality of EORs declined significantly, and the coefficients were statistically significant as well,  $WLPJ(\gamma_{50}) = .209, p < .01$  vs.  $WLPJ(\gamma_{50}) = .179, p < .01$ .

Based on the above steps for testing mediation, I concluded that time-based work-life conflict (Time) partially mediated the association between procedural justice referencing work-life policies, decisions, and procedures (WLPJ) and quality of EORs.  $H_7$  was partially supported.

*Results of mediation tests for  $H_8$ .* Hypothesis 8 predicted that strain-based work-life conflict partially mediated the link between procedural justice and quality of EORs.

Step 1: The first step for testing  $H_8$  was identical with that for testing  $H_7$ . The first criterion about antecedents ( $X$ s) significantly predicting variability in an outcome variable ( $Y$ ) was fulfilled. Shown in Table 33, both procedural justice in general, PJ,  $PJ(\gamma_{40}) = .400, p < .01$ , and procedural justice referencing work-life policies, decisions, and procedures, WLPJ,  $WLPJ(\gamma_{50}) = .209, p < .01$ , significantly predicted variability in quality of EORs.

Step 2: Table 34 suggested that procedural justice in general (PJ) was negatively related to strain-based work-life conflict (Strain) significantly,  $PJ(\gamma_{40}) = -.164, p < .01$ . In addition, procedural justice referencing work-life policies, decisions, and procedures (WLPJ) significantly predicted variability in strain-based work-life conflict (Strain),

$WLPJ(\gamma_{50}) = -.150, p < .01$ . In summary, the second criterion concerning antecedent variables ( $X$ s) significantly predicting variability in a mediator ( $M$ ) was satisfied for both PJ and Strain and WLPJ and Strain.

Step 3: Shown in Table 35, strain-based work-life conflict (Strain) was not significantly related to quality of EORs,  $Strain(\gamma_{20}) = .009, p > .05$ , when controlling for II, IM, IC, PJ, WLPJ, Help1, Help2, Help3, and Strain. Consequently, the third criterion about a mediator ( $M$ ) significantly predicting variability in an outcome variable ( $Y$ ) when controlling for antecedents ( $X$ s) was not accomplished.

Step 4: This fourth step was the same as what was conducted to test  $H_7$ . Based on the results in Table 33 and Table 36, the magnitude of the relationship between procedural justice in general (PJ) and quality of EORs declined. Both coefficients were statistically significant,  $PJ(\gamma_{40}) = .400, p < .01$  vs.  $PJ(\gamma_{40}) = .398, p < .01$ . Moreover, the size of the effect of procedural justice referencing work-life policies, decisions, and procedures (WLPJ) on quality of EORs declined as well, and the coefficients were statistically significant,  $WLPJ(\gamma_{50}) = .209, p < .01$  vs.  $WLPJ(\gamma_{50}) = .179, p < .01$ .

To conclude, the above findings supported neither the partially mediating role of strain-based work-life conflict (Strain) for the link between procedural justice in general (PJ) and quality of EORs, nor that of strain-based work-life conflict (Strain) for the relationship between procedural justice referencing work-life policies, decisions, and procedures (WLPJ) and quality of EORs.  $H_8$  was not supported.

*Results of mediation tests: The mediating roles of time and strain for family-supportive workplace initiatives and quality of EORs.* Apart from  $R_3$ ,  $R_4$ ,  $H_7$ , and  $H_8$ , this study needed to test whether time-based work-life conflict and strain-based work-life



conflict mediated the links between quality of EORs and perceived helpfulness of family-supportive workplace initiatives. Results of mediation tests indicated that time-based work-life conflict (Time) and strain-based work-life conflict (Strain) failed to mediate the relationships between perceived helpfulness of childcare initiatives (Help1), perceived helpfulness of job flexibilities initiatives (Help2), and perceived helpfulness of personal day initiatives (Help3) as antecedent variables and quality of EORs as the outcome variable.

Step 1: Table 33 indicated that none of Help1 ( $Help1(\gamma_{60}) = .048, p > .05$ ), Help2,  $Help2(\gamma_{70}) = .037, p > .05$ , and Help3,  $Help3(\gamma_{80}) = .046, p > .05$  significantly predicted variability in quality of EORs. Therefore, the first criterion concerning antecedents ( $Xs$ ) significantly predicting variability in an outcome variable ( $Y$ ) was not accomplished.

Step 2: According to Table 34, time-based work-life conflict (Time) was not significantly associated with Help1,  $Help1(\gamma_{60}) = -.062, p > .05$ ; Help2,  $Help2(\gamma_{70}) = .011, p > .05$ ; or Help3,  $Help3(\gamma_{80}) = .070, p > .05$ . Strain-based work-life conflict (Strain) did not predict variability in Help1,  $Help1(\gamma_{60}) = -.028, p > .05$ ; Help2,  $Help2(\gamma_{70}) = .028, p > .05$ ; or Help3,  $Help3(\gamma_{80}) = .023, p > .05$ . As a consequence, the second criterion that antecedent variables ( $Xs$ ) significantly predicted variability in mediators ( $Ms$ ) was not satisfied for (1) Help1 and Time, (2) Help2 and Time, (3) Help3 and Time, (4) Help1 and Strain, (5) Help2 and Strain, and (6) Help3 and Strain.

Step 3: Shown in Table 35, time-based work-life conflict (Time) was significantly related to quality of EORs,  $Time(\gamma_{10}) = -.122, p < .01$ , when controlling for II, IM, IC, PJ, WLPJ, Help1, Help2, Help3, and Strain. Strain-based work-life conflict (Strain), however, did not predict variability in quality of EORs significantly,  $Strain(\gamma_{20}) = .009, p > .05$ ,

while controlling for II, IM, IC, PJ, WLPJ, Help1, Help2, Help3, and Time. Therefore, the third criterion about mediators (*Ms*) significantly predicting variability in an outcome variable (*Y*) when controlling for antecedents (*Xs*) was fulfilled for Time as a mediator, but not achieved for Strain as a mediator.

Step 4: Based on the results in Table 33 and Table 36, the magnitude of the association between Help1 and quality of EORs decreased when mediators and antecedent variables simultaneously predicted the outcome variable, compared to when antecedents predicted the outcome variable alone. Neither coefficient was statistically significant,  $Help1(\gamma_{60}) = .048, p > .05$  vs.  $Help1(\gamma_{60}) = .041, p > .05$ . The size of the effect of Help2 on quality of EORs did not change as expected, and the coefficients were not significant,  $Help2(\gamma_{70}) = .037, p > .05$  vs.  $Help2(\gamma_{70}) = .038, p > .05$ . In addition, the effect of Help3 upon quality of EORs did not decline as anticipated,  $Help3(\gamma_{80}) = .046, p > .05$  vs.  $Help3(\gamma_{80}) = .055, p > .05$ .

*Summary.* According to the causal steps strategy (i.e., Baron & Kenny, 1986; Judd & Kenny, 1981; Kenny et al., 1998; Preacher & Hayes, 2008), mediating relationships could only be established when all the four criteria were satisfied. In conclusion, time-based work-life conflict (Time) partially mediated the relationship between procedural justice referencing work-life policies, decisions, and procedures (WLPJ) and quality of Employee-Organization Relationships (quality of EORs):

Step 1:  $WLPJ(\gamma_{50}) = .209, p < .01$ ;

Step 2:  $WLPJ(\gamma_{50}) = -.257, p < .01$ ;

Step 3:  $Time(\gamma_{10}) = -.122, p < .01$ ;

Step 4:  $WLPJ(\gamma_{50}) = .209, p < .01$  (without mediators) vs.  $WLPJ(\gamma_{50}) = .179, p$

< .01 (with mediators controlled for).

Results of the Sobel test for the significance of mediation (see Preacher & Hayes, 2008) indicated that Time significantly carried the influence of WLPJ to quality of EORs, which meant that the indirect effect of WLPJ on quality of EORs through Time was significant: Sobel Test Statistic = 2.208 ( $p < .05$ ).

#### Test Hypotheses and Examine Research Questions Using Transformed Data

The tests for key assumptions of level-1 models in hierarchical linear modeling (HLM) revealed that saved level-1 residuals were normally distributed by and large, although not perfectly normally distributed. However, the homoscedasticity assumption, based on the scatterplots and tests of homogeneity of level-1 variance, was not violated in data analyses.

Considering the normality of data is a critical assumption for parametric statistics and it would be interesting to exam whether minor (or moderate) violation of the assumption merely results in little or no effect on substantive conclusions (see Cohen, 1969), I decided to transform data and improve the skewness and kurtosis statistics of the three endogenous variables. Hypotheses were tested and research questions were investigated using transformed data. Results were briefly summarized here.

#### *Transforming Time, Strain, and Quality of EORs*

Results of data transformation were reported in Table 37. Descriptives of the original indicators before transformation were presented in Table 14. The skewness statistics before and after transformation were compared.

#### *Time-Based and Strain-Based Work-Life Conflict*

Using the stringent (-1.96, 1.96) cut-off rule (see Bauer & Fink, 1983; Frey et al.,

Table 37

*Descriptives of the Indicators after Transformation*

Indicators	Skewness		Kurtosis		Indicators	Skewness		Kurtosis	
	S	SE	S	SE		S	SE	S	SE
Time1	-.101	.123	.050	.245	Commit1	.101	.123	.778	.245
Time2	-.035	.123	-.066	.245	Commit2	-.053	.123	1.010	.245
Time3	.065	.123	-.060	.245	Commit3	-.106	.123	.961	.245
Strain1	-.014	.123	-.045	.245	Commit4	-.007	.123	1.073	.245
Strain2	.147	.123	.021	.245	Sa1	.029	.123	.685	.245
Strain3	.161	.123	-.266	.245	Sa2	.089	.123	.937	.245
Trust1	.019	.123	.639	.245	Sa3	-.009	.123	1.330	.245
Trust2	-.099	.123	1.018	.245	Sa4	.005	.123	1.055	.245
Trust3	-.179	.123	1.060	.245	CMtual1	.112	.123	1.794	.245
Trust4	-.053	.123	1.095	.245	CMtual2	-.062	.123	1.004	.245
Trust5	.030	.123	.902	.245	CMtual3	.093	.123	1.661	.245
Trust6	.160	.123	1.279	.245	CMtual4	-.059	.123	1.075	.245

*Note.* S = Statistic; SE = Standard Error; Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict; Commit = Commitment; Sa = Satisfaction; CMtual = Control Mutuality. Please see Appendix A for complete questionnaire items for the listed indicators.

2000), all the three indicators of time-based work-life conflict were submitted to the following formula:

COMPUTE Time-Based Work-Life Conflict\_Transformed

$$= ((\text{original item}-0)**0.3)-((10-\text{original item})*0.3).$$

Different values of  $\lambda$ <sup>29</sup> were tried and 0.3 was finally selected. The non-significant skewness of all the three indicators was successfully accomplished after transformation. All the three indicators of strain-based work-life conflict were subjected to the formula:

$$\begin{aligned} &\text{COMPUTE Strain-Based Work-Life Conflict\_Transformed} \\ &= ((\text{original item}-0)**0.3)-((10-\text{original item})*0.3). \end{aligned}$$

After data were transformed with  $\lambda = 0.3$ , the optimal outcome was achieved. None of the three indicators was significantly skewed any more.

#### *Quality of Employee-Organization Relationships*

As for quality of EORs, all the 18 original indicators (six items for trust, four items for commitment, four items for satisfaction, and four items for control mutuality) were transformed based on the following formula:

$$\begin{aligned} &\text{COMPUTE EORs\_Transformed} \\ &= ((\text{original item}-0)**0.15)-((10-\text{original item})*0.15). \end{aligned}$$

After transformation, none of the 18 indicators was significantly skewed.

#### *Testing Factor Structures of Quality of Employee-Organization Relationships and Work-Life Conflict Using Transformed Data*

Before testing hypotheses and investigating research questions based on transformed data, I conducted multilevel confirmatory factor analyses (CFAs) to test the factor structures of transformed quality of EORs (one factor vs. four factors) and transformed work-life conflict (one factor vs. two factors). In addition, I calculated Coefficient  $H$  and Cronbach's alpha ( $\alpha$ ) to examine the reliability of the scales. I also

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<sup>29</sup> In the formula  $\text{COMPUTE Time-Based Work-Life Conflict\_Transformed} = ((\text{original item}-0)**0.3)-((10-\text{original item})*0.3)$ ,  $\lambda = 0.3$ .

computed the average squared standardized loadings to test construct validity. Findings were summarized in Table 38, Table 39, and Table 40.

According to Table 38, multilevel CFAs did not produce strictly satisfying results supporting either a one-factor,  $\chi^2 (208, N = 396) = 1138.937, p < .01, \chi^2/df = 5.476$ , RMSEA = 0.106, SRMR<sub>within</sub> = 0.053, CFI = 0.882 or a four-factor structure,  $\chi^2 (202, N = 396) = 1104.266, p < .01, \chi^2/df = 5.467$ , RMSEA = 0.106, SRMR<sub>within</sub> = 0.053, CFI = 0.885. Therefore, a more parsimonious model was chosen—quality of EORs as a unidimensional factor. In Table 40, the coefficient  $H$  for the factor of quality of EORs was 0.976. The Cronbach's alpha for the sum of 16 items was 0.981. The average squared standardized factor loading by the 16 indicators was 0.700. The above findings were consistent with those based on untransformed data except for the number of items retained for further analyses.

Shown in Table 39, the fit indices for a two-factor structure (time-based vs. strain-based),  $\chi^2 (16, N = 396) = 34.073, p < .01, \chi^2/df = 2.130$ , RMSEA = 0.053, SRMR<sub>within</sub> = 0.018, CFI = 0.989 were superior to those for the one-factor structure (work-life conflict),  $\chi^2 (18, N = 396) = 539.461, p < .01, \chi^2/df = 29.970$ , RMSEA = 0.270, SRMR<sub>within</sub> = 0.095, CFI = 0.673. Therefore, time-based work-life conflict and strain-based work-life conflict using transformed items were treated as two unidimensional factors in HLM analyses.

As shown in Table 40, the values of coefficient  $H$  for *Time* and *Strain* were 0.971 and 0.947, respectively. The Cronbach's alphas were 0.963 and 0.951. Moreover, the average squared standardized factor loadings for Time and Strain were 0.886 and 0.851. The above findings concerning the factor structures and reliability and validity of measurement were parallel to those achieved using untransformed data.

Table 38

*Results of Multilevel CFAs Using Transformed Data: Quality of Employee-Organization Relationships (One Factor vs. Four Factors),*

*Indicator Loadings, and Measurement Model Indices*

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
One Factor	<i>Quality of Employee-Organization Relationships (EORs)</i>	
	My organization treats people like me fairly and justly.	0.468** (0.801**)
	Whenever my organization makes an important decision, I know it will be concerned about people like me.	0.488** (0.854**)
	My organization can be relied on to keep its promises.	0.502** (0.842**)
	I believe that my organization...into account when making decisions.	0.499** (0.830**)
	I feel very confident about my organization's skills.	0.408** (0.714**)
	My organization has the ability to accomplish what it says it will do.	0.383** (0.725**)
	I feel that my organization is trying to maintain...to people like me.	0.476** (0.828**)
	I can see that my organization wants to maintain...with people like me.	0.495** (0.862**)
	There is a long-lasting bond between my organization and people like me.	0.524** (0.882**)
<i>Note. * <math>p &lt; .05</math>; ** <math>p &lt; .01</math>. U Loadings (S) stands for unstandardized loadings (standardized).</i>		<i>(table continues)</i>

Table 38 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
	Compared to other organizations, I value...with my organization more.	0.497** (0.866**)
	I am happy with my organization.	0.503** (0.862**)
	Both my organization and people like me benefit from the relationship.	0.472** (0.865**)
	Most people like me are happy in their interactions...my organization.	0.482** (0.884**)
	Generally speaking, I am pleased with the relationship...people like me.	0.487** (0.858**)
	My organization and people like me are attentive to what each other say.	0.431** (0.852**)
	My organization believes the opinions of people like me are legitimate.	(Item Dropped)
	In dealing with people like me, my organization...to throw its weight around.	(Item Dropped)
	My organization really listens to what people like me have to say.	0.501** (0.838**)
$\chi^2 (208, N = 396) = 1138.937, p < .01, \chi^2/df = 5.476, RMSEA = 0.106, SRMR_{within} = 0.053, CFI = 0.882.$		
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).		

(table continues)



Table 38 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
Four Factors	<i>Trust</i>	
	My organization treats people like me fairly and justly.	0.463** (0.794**)
	Whenever my organization makes an important decision, I know it will be concerned about people like me.	0.493** (0.861**)
	My organization can be relied on to keep its promises.	0.505** (0.847**)
	I believe that my organization...into account when making decisions.	0.506** (0.840**)
	I feel very confident about my organization's skills.	0.408** (0.714**)
	My organization has the ability to accomplish what it says it will do.	0.384** (0.727**)
	<i>Commitment</i>	
	I feel that my organization is trying to maintain...to people like me.	0.474** (0.825**)
	I can see that my organization wants to maintain...with people like me.	0.490** (0.852**)
	There is a long-lasting bond between my organization and people like me.	0.520** (0.876**)
	Compared to other organizations, I value...with my organization more.	0.495** (0.859**)
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).		(table continues)

Table 38 (continued).

One Factor vs. Four Factors	Variables and Indicators	U Loadings (S)
<i>Satisfaction</i>		
	I am happy with my organization.	0.500** (0.859**)
	Both my organization and people like me benefit from the relationship.	0.475** (0.869**)
	Most people like me are happy in their interactions...my organization.	0.481** (0.883**)
	Generally speaking, I am pleased with the relationship...people like me.	0.485** (0.854**)
<i>Control Mutuality</i>		
	My organization and people like me are attentive to what each other say.	0.422** (0.835**)
	My organization believes the opinions of people like me are legitimate.	(Item Dropped)
	In dealing with people like me, my organization...to throw its weight around.	(Item Dropped)
	My organization really listens to what people like me have to say.	0.502** (0.836**)
$\chi^2 (202, N = 396) = 1104.266, p < .01, \chi^2/df = 5.467, RMSEA = 0.106, SRMR_{within} = 0.053, CFI = 0.885$ . The correlations among the four latent factors are as follows: $r_{commitment, trust} = 1.002, r_{satisfaction, trust} = 0.986, r_{control\ mutuality, trust} = 1.026, r_{commitment, satisfaction} = 1.024, r_{control\ mutuality, commitment} = 1.017$ , and $r_{control\ mutuality, satisfaction} = 1.003$ .		
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (Standardized). Only within-level loadings were		

presented in this Table. The between-level loadings and SRMA<sub>between</sub> were not reported as this dissertation conceptualized all the constructs at the individual level, though data were collected from various organizations. Questionnaire items/indicators were abbreviated. See Appendix A for their complete wording.

Table 39

*Results of Multilevel CFAs Using Transformed Data: Work-Life Conflict (One Factor vs. Four Factors), Indicator Loadings, and*

*Measurement Model Indices*

One Factor vs. Two Factors	Variables and Indicators	U Loadings (S)
One Factor	<i>Work-Life Conflict</i>	
	My work keeps me from my personal...more than I would like.	0.914 (0.920**)
	The time I must devote to my job keeps...non-work responsibilities.	0.973 (0.961**)
	I have to miss my personal non-work activities...responsibilities.	0.938 (0.933**)
	When I get off work I am often too frazzled...non-work activities.	0.762 (0.793)
	I am often so emotionally drained...my personal non-work responsibilities.	0.738 (0.781)
	Due to all the pressures at work, I am sometimes too stressed...off work.	0.796 (0.787)
$\chi^2 (18, N = 396) = 539.461, p < .01, \chi^2/df = 29.970, RMSEA = 0.270, SRMR_{\text{within}} = 0.095, CFI = 0.673.$		
<i>Note.</i> * $p < .05$ ; ** $p < .01$ . U Loadings (S) stands for unstandardized loadings (standardized).		

(table continues)

Table 39 (continued).

One Factor vs.	Variables and Indicators	U Loadings (S)
Two Factors		
Two Factors	<i>Time-Based Work-Life Conflict</i>	
	My work keeps me from my personal...more than I would like.	0.880 (0.919)
	The time I must devote to my job keeps...non-work responsibilities.	0.962 (0.978**)
	I have to miss my personal non-work activities...responsibilities.	0.903 (0.926**)
	<i>Strain-Based Work-Life Conflict</i>	
	When I get off work I am often too frazzled...non-work activities.	0.871 (0.906*)
	I am often so emotionally drained...my personal non-work responsibilities.	0.888 (0.939)
	Due to all the pressures at work, I am sometimes too stressed...off work.	0.933 (0.922**)
$\chi^2 (16, N = 396) = 34.073, p < .01, \chi^2/df = 2.130, RMSEA = 0.053, SRMR_{within} = 0.018, CFI = 0.989$ . The correlation between the two factors was as follows: $r_{time, strain} = 0.781$		

*Note.* Only within-group loadings were presented in this Table. The between-group loadings and SRMA (between-group) were not reported as this dissertation conceptualized all the constructs at the individual level, though data were collected from various organizations. Questionnaire items/indicators were abbreviated. See Appendix A for their complete wording.

Table 40

*Coefficient H, Cronbach's Alpha for the Sum of Measurement Items, and Average Squared Standardized Loadings for Transformed Quality of EORs, Time, and Strain*

Factor	Valid <i>N</i>	Coefficient <i>H</i> (> 0.90)	Cronbach's $\alpha$ (> 0.80)	Average Squared Standardized Loading (> 0.50)	Number of Items
Quality of EORs (Transformed)	396	0.976	0.981	0.700	16 <sup>30</sup>
Time-Based Work-Life Conflict (Transformed)	396	0.971	0.963	0.886	3
Strain-Based Work-Life Conflict (Transformed)	396	0.947	0.951	0.851	3

A principal component analysis (PCA) without rotation was performed on each of the transformed unidimensional factors, quality of EORs, Time, and Strain. The scores of the dominant components with eigenvalue greater than 1 were saved and represented the factors in further HLM analyses.

<sup>30</sup> Two item measuring control mutuality were dropped based on the results of multilevel CFAs.

### *Testing Three Null Models in HLM Analyses Using Transformed Data*

In Table 41, the ICC<sub>between</sub> score of transformed time-based work-life conflict was .140, indicating that 14.0% of the variance in the variable was explained by organizational membership, while the rest 86.0 % of the variance (i.e., the score of ICC<sub>within</sub>) resided in within groups. The ICC scores for transformed strain-based work-life conflict suggested that 16.0% and 84.0% of the variance in this endogenous variable were accounted for by between and within groups respectively. Finally, for transformed quality of EORs, ICC<sub>between</sub> score was .265, indicating that 26.5% of the variance was actually explained by between groups. The rest 73.5% was ascribed to within groups. The values of  $\sigma^2$  were to be used to calculate  $R^2$ 's in the random-coefficient regression models for HLM analyses.

Table 41

#### *Results of Null Model Tests Using Original and Transformed Data*

Dependent Variable	$\tau_{00}$	$\sigma^2$	ICC <sub>between</sub>	ICC <sub>within</sub>
Time-Based Work-Life Conflict (Trans)	.141**	.863	.140	.860
Strain-Based Work-Life Conflict (Trans)	.162**	.848	.160	.840
Quality of EORs (Transformed)	.256**	.709	.265	.735

*Note.* \*\* $p < .01$ .

#### *Testing Hypotheses 1, 2, 3, and 6 Using Transformed Data*

As shown in Table 42, results of testing the hypotheses using transformed data were consistent with those findings achieved through untransformed data. Transformed time-based work-life conflict (Time),  $\gamma_{10} = -.126$ ,  $p < .05$ , was negatively associated with transformed quality of EORs significantly. H<sub>1</sub> was supported. However, transformed

strain-based work-life conflict (Strain) was not a significant predictor for transformed quality of EORs,  $\gamma_{20} = -.033, p > .05$ . Hence, H<sub>2</sub> was not supported. Neither idealized influence (behavior) (II),  $\gamma_{30} = -.002, p > .05$  nor inspirational motivation (IM),  $\gamma_{40} = .067, p > .05$  significantly predicted transformed quality of EORs. Nevertheless, individualized consideration (IC),  $\gamma_{50} = .154, p < .01$  was positively related to transformed quality of EORs significantly. In conclusion, hypothesis 3 was partially supported. Table 42 also showed that both perceived fairness of general decision-making procedures (PJ),  $\gamma_{60} = .331, p < .01$  and perceived fairness of decision-making procedures particularly relevant to work-life policies (WLPJ),  $\gamma_{70} = .168, p < .01$  were positively associated with transformed quality of EORs significantly. Therefore, H<sub>6</sub> was fully supported.

Table 42

*Random-Coefficient Regression Model for Hypotheses 1, 2, 3, and 6 Using Transformed Data*

Outcome	$\gamma_{10}$	$\gamma_{20}$	$\gamma_{30}$	$\gamma_{40}$	$\gamma_{50}$	$\gamma_{60}$	$\gamma_{70}$	$U_{0j}$	$R^2$
Variable	(Time)	(Strain)	(II)	(IM)	(IC)	(PJ)	(WLPJ)		
	(Trans)	(Trans)							
Quality of EORs (Trans)	-.126*	-.033	-.002	.067	.154**	.331**	.168**	.296**	.500

*Note.* \*  $p < .05$  \*\*  $p < .01$ .  $R^2$  for level-1 model =  $(\sigma^2_{\text{null model}} - \sigma^2_{\text{random regression}})$

$/\sigma^2_{\text{null model}}$ . Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life

Conflict; II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC =

Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural

Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures; Quality of



EORs = Quality of Employee-Organization Relationships.

According to the value of  $R^2$ , the combination of transformed time-based work-life conflict (Time), transformed strain-based work-life conflict (Strain), idealized influence (behavior) (II), inspirational motivation (IM), idealized consideration (IC), procedural justice in general (PJ), procedural justice referencing work-life conflict policies, decisions, and procedures (WLPJ), helpfulness of childcare initiatives (Help1), helpfulness of job flexibilities initiatives (Help2), and helpfulness of personal day initiatives (Help3) explained 50.0% of the with-group variance in transformed quality of EORs.

#### *Examining Research Question 1 and*

#### *Testing Hypotheses 4 and 9 Using Transformed Data*

Based on transformed data, the findings of Research Question 1 and Hypotheses 4 and 9 were parallel to those findings accomplished using untransformed data. Table 43 indicated that idealized influence (behavior) (II),  $\gamma_{10} = .130, p > .05$  was not significantly related to transformed time-based work-life conflict. Inspirational motivation (IM),  $\gamma_{20} = -.035, p > .05$  did not influence the level of perceived time-based work-life conflict significantly either. Moreover, individualized consideration (IC),  $\gamma_{30} = .002, p > .05$  was not a significant predictor. In summary, transformational leadership behaviors of employees' immediate supervisors were not significantly associated with the amount of time-based work-life conflict that employees perceived.

As shown in Table 43, the association between perceived fairness of general decision-making procedures (PJ) and transformed time-based work-life conflict was negative but not statistically significant,  $\gamma_{40} = -.036, p > .05$ . Nevertheless, perceived

fairness of decision-making procedures concerning work-life policies (WLPJ),  $\gamma_{50} = -.293, p < .01$  turned out to be a significant predictor for transformed time-based work-life conflict. Thus, H<sub>4</sub> was partially supported.

Table 43 also demonstrated that transformed time-based work-life conflict was not significantly associated with perceived helpfulness of childcare initiatives (Help1),  $\gamma_{60} = -.050, p > .05$ , perceived helpfulness of job flexibilities initiatives (Help2),  $\gamma_{70} = .010, p > .05$ , or perceived helpfulness of personal day initiatives (Help3),  $\gamma_{80} = .064, p > .05$ . H<sub>9</sub> was not supported.

$R^2$  test suggested that participants' perceived II, IM, IC, PJ, WLPJ, Help1, Help2, and Help3 jointly accounted for 4.9% of the with-group variance in transformed time-based work-life conflict.

Table 43

*Random-Coefficient Regression Model for Research Question 1 and Hypotheses 4 and 9 Using Transformed Data*

Outcome	$\gamma_{10}$	$\gamma_{20}$	$\gamma_{30}$	$\gamma_{40}$	$\gamma_{50}$	$\gamma_{60}$	$\gamma_{70}$	$\gamma_{80}$	$U_{0j}$	$R^2$
Variable	II	IM	IC	PJ	WLPJ	Help 1	Help 2	Help 3		
Time (Trans)	.130	-.035	.002	-.036	-.293**	-.050	.010	.064	.147**	.049

*Note.* \*  $p < .05$  \*\*  $p < .01$ .  $R^2$  for level-1 model =  $(\sigma^2_{\text{null model}} - \sigma^2_{\text{random regression}}) / \sigma^2_{\text{null model}}$ .

Time = Time-Based Work-Life Conflict; II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job

Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives.

*Investigating Research Question 2 and*

*Testing Hypotheses 5 and 10 Using Transformed Data*

Table 44 manifested that idealized influence (behavior) (II),  $\gamma_{10} = .169$ ,  $p > .05$  was not a significant predictor for transformed strain-based work-life conflict. The relationship between inspirational motivation (IM),  $\gamma_{20} = -.095$ ,  $p > .05$  and transformed strain-based work-life conflict was negative as hypothesized, but not statistically significant. Individualized consideration (IC),  $\gamma_{30} = -.075$ ,  $p > .05$  was not a significant antecedent variable for transformed strain-based work-life conflict either. To conclude, a significant negative association between transformed strain-based work-life conflict and transformational leadership behaviors of employees' immediate supervisors was not substantiated by data.

As shown in Table 44, perceived fairness of general decision-making procedures (PJ),  $\gamma_{40} = -.134$ ,  $p > .05$  was not significantly related to the amount of perceived strain-based work-life conflict. However, perceived fairness of formal procedures concerning work-life policies and decisions (WLPJ),  $\gamma_{50} = -.184$ ,  $p < .01$  was negatively associated with transformed strain-based work-life conflict significantly. Therefore,  $H_5$  was partially supported based on transformed data.

Table 44 also indicated that transformed strain-based work-life conflict was not significantly related to perceived helpfulness of childcare initiatives (Help1),  $\gamma_{60} = -.018$ ,  $p > .05$ , perceived helpfulness of job flexibilities initiatives (Help 2),  $\gamma_{70} = .001$ ,  $p > .05$ , or perceived helpfulness of personal day initiatives (Help3),  $\gamma_{80} = .028$ ,  $p > .05$ . Thus,  $H_{10}$  was not supported.

According to the value of  $R^2$  in Table 44, the combination of participants' perceived idealized influence (behavior) (II), inspirational motivation (IM), individualized consideration (IC), procedural justice in general (PJ), procedural justice referencing work-life conflict policies, decisions, and procedures (WLPJ), helpfulness of childcare initiatives (Help1), helpfulness of job flexibilities initiatives (Help2), and helpfulness of personal day initiatives (Help3) explained 5.3 % of the total with-group variance in transformed strain-based work-life conflict.

Table 44

*Random-Coefficient Regression Model for Research Question 2 and Hypotheses 5 and 10 Using Transformed Data*

Outcome	$\gamma_{10}$	$\gamma_{20}$	$\gamma_{30}$	$\gamma_{40}$	$\gamma_{50}$	$\gamma_{60}$	$\gamma_{70}$	$\gamma_{80}$	$U_{0j}$	$R^2$
Variable	II	IM	IC	PJ	WLPJ	Help	Help	Help		
						1	2	3		
Strain	.169	-.095	-.075	-.134	-.184**	-.018	.001	.028	.170**	.053
(Trans)										

*Note.* \*  $p < .05$  \*\*  $p < .01$ .  $R^2$  for level-1 model =  $(\sigma^2_{\text{null model}} - \sigma^2_{\text{random regression}}) / \sigma^2_{\text{null model}}$ .

Strain = Strain-Based Work-Life Conflict; II = Idealized Influence (Behavior); IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Conflict Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives.

*Mediation Tests:*

*Examining Research Questions 3 & 4 and*

*Testing Hypotheses 7 & 8 Using Transformed Data*

According to the results outlined in Tables 45, 46, 47, and 48, transformed Time partially mediated the association between WLPJ and transformed quality of EORs:

Step 1:  $WLPJ(\gamma_{50}) = .211, p < .01$ ;

Step 2:  $WLPJ(\gamma_{50}) = -.293, p < .01$ ;

Step 3:  $Time(\gamma_{10}) = -.126, p < .05$ ;

Step 4:  $WLPJ(\gamma_{50}) = .211, p < .01$  (without mediators) vs.  $WLPJ(\gamma_{50}) = .168, p < .01$  (with mediators controlled for).

Therefore,  $H_7$  was partially supported. In addition, results of the Sobel test for the significance of mediation (see Preacher & Hayes, 2008) indicated that the indirect effect of WLPJ on quality of EORs (trans) through Time (trans) was statistically significant: Sobel Test Statistic = 2.087 ( $p < .05$ ). The mediating role of transformed time-based work-life conflict for the association between transformational leadership and transformed quality of EORs was not supported. Neither was the mediating role of transformed Strain. Therefore,  $H_8$  was not supported. Transformed Time and Strain did not mediate the links between family-supportive workplace initiatives and transformed quality of EORs. The above mediating relationships did not work because not all the four criteria that the causal steps strategy (i.e., Baron & Kenny, 1986; Judd & Kenny, 1981; Kenny et al., 1998; Preacher & Hayes, 2008) required were satisfied. Overall, the findings concerning mediation tests based on transformed data were equivalent to what was found using the untransformed data.

Table 45

Step 1 of Testing Mediation Based on Transformed Data: The Relationships between Antecedent Variables (Xs) and Outcome

Variable(Y)	Antecedent Variables						
	Outcome Variable	II ( $\gamma_{10}$ )	IM ( $\gamma_{20}$ )	IC ( $\gamma_{30}$ )	PJ ( $\gamma_{40}$ )	WLPJ( $\gamma_{50}$ )	Help1( $\gamma_{60}$ ) Help2( $\gamma_{70}$ ) Help3( $\gamma_{80}$ )
Quality of EORs		-.024	.075	.156**	.340**	.211**	.037 .025 .025
(Trans)							

Note. \*  $p < .05$ . \*\*  $p < .01$ . II = Idealized Influence; IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives; Quality of EORs = Quality of Employee-Organization Relationships.

Table 46

*Step 2 of Testing Mediation Based on Transformed Data: The Relationships between Antecedent Variables (Xs) and Mediators (Ms)*

	Antecedent Variables							
Mediators	II ( $\gamma_{10}$ )	IM ( $\gamma_{20}$ )	IC ( $\gamma_{30}$ )	PJ ( $\gamma_{40}$ )	WLPJ( $\gamma_{50}$ )	Help1( $\gamma_{60}$ )	Help 2( $\gamma_{70}$ )	Help3( $\gamma_{80}$ )
Time	.130	-.035	.002	-.036	-.293**	-.050	.010	.064
(Trans)								
Strain	.169	-.095	-.075	-.134	-.184**	-.018	.001	.028
(Trans)								

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . II = Idealized Influence; IM = Inspirational Motivation; IC = Individualized Consideration;

PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures;

Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives;

Help3 = Helpfulness of Personal Day Initiatives; Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict.

Table 47

Step 3 of Testing Mediation Based on Transformed Data: The Relationships between Mediators (Ms) and Outcome Variable (Y)

Outcome Variable	Mediators	
	Time (Trans) ( $\gamma_{10}$ )	Strain (Trans) ( $\gamma_{20}$ )
Quality of EORs (Trans)	-.126*	-.033

Note. \*  $p < .05$ . \*\*  $p < .01$ . Time = Time-Based Work-Life Conflict; Strain = Strain-Based Work-Life Conflict;

Quality of EORs = Quality of Employee-Organization Relationships.



Table 48

Step 4 of Testing Mediation Based on Transformed Data: The Relationships between Antecedent Variables (Xs) and Outcome

Variable (Y) with Mediators (Ms) Controlled for

Outcome Variable	Antecedent Variables							
	II ( $\gamma_{10}$ )	IM( $\gamma_{20}$ )	IC( $\gamma_{30}$ )	PJ( $\gamma_{40}$ )	WLPJ( $\gamma_{50}$ )	Help1( $\gamma_{60}$ )	Help2( $\gamma_{70}$ )	Help3( $\gamma_{80}$ )
Quality of EORs (Trans)	-.002	.067	.154**	.331**	.168**	.030	.026	.034

Note. \*  $p < .05$ . \*\*  $p < .01$ . II = Idealized Influence; IM = Inspirational Motivation; IC = Individualized Consideration; PJ = Procedural Justice in General; WLPJ = Procedural Justice Referencing Work-Life Policies, Decisions, and Procedures; Help1 = Helpfulness of Childcare Initiatives; Help2 = Helpfulness of Job Flexibilities Initiatives; Help3 = Helpfulness of Personal Day Initiatives. Quality of EORs = Quality of Employee-Organization Relationships.

## Summary of the Results

Overall, the finding achieved using transformed and untransformed data were consistent. The only exception was  $PJ(\gamma_{40}) = -.134, p > .05$  (transformed) vs.  $PJ(\gamma_{40}) = -.164, p < .01$  (untransformed) for  $H_5$ . Actually, the  $\gamma_{40}$  based on transformed data was not significant, but the significance value  $p$  was very close to .05.

### $H_1$

$H_1$  was supported,  $Time(\gamma_{10}) = -.126, p < .05$  based on transformed data;  $Time(\gamma_{10}) = -.122, p < .01$  based on untransformed data.

### $H_2$

$H_2$  was not supported,  $Strain(\gamma_{20}) = -.033, p > .05$  based on transformed data;  $Strain(\gamma_{20}) = .009, p > .05$  based on untransformed data.

### $R_1$

Statistical analyses showed that such as significant negative relationship was not substantiated by data,  $II(\gamma_{10}) = .130, p > .05$ ;  $IM(\gamma_{20}) = -.035, p > .05$ ;  $IC(\gamma_{30}) = .002, p > .05$  based on transformed data;  $II(\gamma_{10}) = .135, p > .05$ ;  $IM(\gamma_{20}) = -.034, p > .05$ ;  $IC(\gamma_{30}) = -.017, p > .05$  based on untransformed data.

### $R_2$

The relationship was not validated by data collected in the formal study ( $II(\gamma_{10}) = .169, p > .05$ ;  $IM(\gamma_{20}) = -.095, p > .05$ ;  $IC(\gamma_{30}) = -.075, p > .05$  based on transformed data;  $II(\gamma_{10}) = .180, p > .05$ ;  $IM(\gamma_{20}) = -.093, p > .05$ ;  $IC(\gamma_{30}) = -.116, p > .05$  based on untransformed data).

### $H_3$

$H_3$  was partially supported,  $II(\gamma_{10}) = -.002, p > .05$ ;  $IM(\gamma_{20}) = .067, p > .05$ ;  $IC(\gamma_{30})$

$= .154, p < .01$  based on transformed data;  $II(\gamma_{10}) = -.034, p > .05$ ;  $IM(\gamma_{20}) = .055, p > .05$ ;  
 $IC(\gamma_{30}) = .264, p < .01$  based on untransformed data.

$R_3$

Time-based work-life conflict did not partially mediate the above association between transformational leadership and quality of EORs because not all the four criteria were satisfied.

Based on transformed data:

Step 1:  $II(\gamma_{10}) = -.024, p > .05$ ;  $IM(\gamma_{20}) = .075, p > .05$ ;  $IC(\gamma_{30}) = .156, p < .01$ ;

Step 2:  $II(\gamma_{10}) = .130, p > .05$ ;  $IM(\gamma_{20}) = -.035, p > .05$ ;  $IC(\gamma_{30}) = .002, p > .05$ ;

Step 3:  $Time(\gamma_{10}) = -.126, p < .05$ ;

Step 4:

$II(\gamma_{10}) = -.024, p > .05$  vs.  $II(\gamma_{10}) = -.002, p > .05$ ;

$IM(\gamma_{20}) = .075, p > .05$  vs.  $IM(\gamma_{20}) = .067, p > .05$ ;

$IC(\gamma_{30}) = .156, p < .01$  vs.  $IC(\gamma_{30}) = .154, p < .01$ .

Based on untransformed data:

Step 1:  $II(\gamma_{10}) = -.049, p > .05$ ;  $IM(\gamma_{20}) = .058, p > .05$ ;  $IC(\gamma_{30}) = .265, p < .01$ ;

Step 2:  $II(\gamma_{10}) = .135, p > .05$ ;  $IM(\gamma_{20}) = -.034, p > .05$ ;  $IC(\gamma_{30}) = -.017, p > .05$ ;

Step 3:  $Time(\gamma_{10}) = -.122, p < .01$ ;

Step 4:

$II(\gamma_{10}) = -.049, p > .05$  vs.  $II(\gamma_{10}) = -.034, p > .05$ ;

$IM(\gamma_{20}) = .058, p > .05$  vs.  $IM(\gamma_{20}) = .055, p > .05$ ;

$IC(\gamma_{30}) = .265, p < .01$  vs.  $IC(\gamma_{30}) = .264, p < .01$ .

$R_4$

The partial mediating effect of strain-based work-life conflict was not verified due to the fact that not all the four criteria for testing mediation were met.

Based on transformed data:

Step 1:  $II(\gamma_{10}) = -.024, p > .05$ ;  $IM(\gamma_{20}) = .075, p > .05$ ;  $IC(\gamma_{30}) = .156, p < .01$ ;

Step 2:  $II(\gamma_{10}) = .169, p > .05$ ;  $IM(\gamma_{20}) = -.095, p > .05$ ;  $IC(\gamma_{30}) = -.075, p > .05$ ;

Step 3:  $Strain(\gamma_{20}) = -.033, p > .05$ ;

Step 4:

$II(\gamma_{10}) = -.024, p > .05$  vs.  $II(\gamma_{10}) = -.002, p > .05$ ;

$IM(\gamma_{20}) = .075, p > .05$  vs.  $IM(\gamma_{20}) = .067, p > .05$ ;

$IC(\gamma_{30}) = .156, p < .01$  vs.  $IC(\gamma_{30}) = .154, p < .01$ .

Based on untransformed data:

Step 1:  $II(\gamma_{10}) = -.049, p > .05$ ;  $IM(\gamma_{20}) = .058, p > .05$ ;  $IC(\gamma_{30}) = .265, p < .01$ ;

Step 2:  $II(\gamma_{10}) = .180, p > .05$ ;  $IM(\gamma_{20}) = -.093, p > .05$ ;  $IC(\gamma_{30}) = -.116, p > .05$ ;

Step 3:  $Strain(\gamma_{20}) = .009, p > .05$ ;

Step 4:

$II(\gamma_{10}) = -.049, p > .05$  vs.  $II(\gamma_{10}) = -.034, p > .05$ ;

$IM(\gamma_{20}) = .058, p > .05$  vs.  $IM(\gamma_{20}) = .055, p > .05$ ;

$IC(\gamma_{30}) = .265, p < .01$  vs.  $IC(\gamma_{30}) = .264, p < .01$ .

$H_4$

$H_4$  was partially supported,  $PJ(\gamma_{40}) = -.036, p > .05$ ;  $WLPJ(\gamma_{50}) = -.293, p < .01$  based on transformed data;  $PJ(\gamma_{40}) = -.034, p > .05$ ;  $WLPJ(\gamma_{50}) = -.257, p < .01$  based on untransformed data.

*H<sub>5</sub>*

H<sub>5</sub> was partially supported, ( $PJ(\gamma_{40}) = -.134, p > .05$ ;  $WLPJ(\gamma_{50}) = -.184, p < .01$  based on transformed data;  $PJ(\gamma_{40}) = -.164, p < .01$ ;  $WLPJ(\gamma_{50}) = -.150, p < .05$  based on untransformed data.

*H<sub>6</sub>*

H<sub>6</sub> was supported,  $PJ(\gamma_{40}) = .331, p < .01$ ;  $WLPJ(\gamma_{50}) = .168, p < .01$  based on transformed data;  $PJ(\gamma_{40}) = .398, p < .01$ ;  $WLPJ(\gamma_{50}) = .179, p < .01$  based on untransformed data.

*H<sub>7</sub>*

H<sub>7</sub> was partially supported. Time-based work-life conflict partially mediated the link between procedural justice referencing work-life policies, decisions, and procedures (WLPJ) and quality of EORs:

Based on transformed data,

Step 1:  $WLPJ(\gamma_{50}) = .211, p < .01$ ;

Step 2:  $WLPJ(\gamma_{50}) = -.293, p < .01$ ;

Step 3:  $Time(\gamma_{10}) = -.126, p < .05$ ;

Step 4:  $WLPJ(\gamma_{50}) = .211, p < .01$  vs.  $WLPJ(\gamma_{50}) = .168, p < .01$ .

Based on untransformed data,

Step 1:  $WLPJ(\gamma_{50}) = .209, p < .01$ ;

Step 2:  $WLPJ(\gamma_{50}) = -.257, p < .01$ ;

Step 3:  $Time(\gamma_{10}) = -.122, p < .01$ ;

Step 4:  $WLPJ(\gamma_{50}) = .209, p < .01$  vs.  $WLPJ(\gamma_{50}) = .179, p < .01$ .

However, time-based work-life conflict did not partially mediate the relationship between

procedural justice in general (PJ) and quality of EORs:

Based on transformed data,

Step 1:  $PJ(\gamma_{40}) = .340, p < .01$ ;

Step 2:  $PJ(\gamma_{40}) = -.036, p > .05$ ;

Step 3:  $Time(\gamma_{10}) = -.126, p < .05$ ;

Step 4:  $PJ(\gamma_{40}) = .340, p < .01$  vs.  $PJ(\gamma_{40}) = .331, p < .01$ .

Based on untransformed data,

Step 1:  $PJ(\gamma_{40}) = .400, p < .01$ ;

Step 2:  $PJ(\gamma_{40}) = -.034, p > .01$ ;

Step 3:  $Time(\gamma_{10}) = -.122, p < .01$ ;

Step 4:  $PJ(\gamma_{40}) = .400, p < .01$  vs.  $PJ(\gamma_{40}) = .398, p < .01$ .

$H_8$

H8 was not supported. Strain-based work-life conflict did not partially mediate the relationship between procedural justice in general (PJ) and quality of EORs:

Based on transformed data,

Step 1:  $PJ(\gamma_{40}) = .340, p < .01$ ;

Step 2:  $PJ(\gamma_{40}) = -.134, p > .05$ ;

Step 3:  $Strain(\gamma_{20}) = -.033, p > .05$ ;

Step 4:  $PJ(\gamma_{40}) = .340, p < .01$  vs.  $PJ(\gamma_{40}) = .331, p < .01$ .

Based on untransformed data,

Step 1:  $PJ(\gamma_{40}) = .400, p < .01$ ;

Step 2:  $PJ(\gamma_{40}) = -.164, p < .05$ ;

Step 3:  $Strain(\gamma_{20}) = .009, p > .05$ ;

Step 4:  $PJ(\gamma_{40}) = .400, p < .01$  vs.  $PJ(\gamma_{40}) = .398, p < .01$ .

Strain-based work-life conflict did not mediate the link between procedural justice referencing work-life policies, decisions, and procedures (WLPJ) and quality of EORs either:

Based on transformed data,

Step 1:  $WLPJ(\gamma_{50}) = .211, p < .01$ ;

Step 2:  $WLPJ(\gamma_{50}) = -.184, p < .01$ ;

Step 3:  $Strain(\gamma_{20}) = -.033, p > .05$ ;

Step 4:  $WLPJ(\gamma_{50}) = .211, p < .01$  vs.  $WLPJ(\gamma_{50}) = .168, p < .01$ .

Based on untransformed data,

Step 1:  $WLPJ(\gamma_{50}) = .209, p < .01$ ;

Step 2:  $WLPJ(\gamma_{50}) = -.150, p < .05$ ;

Step 3:  $Strain(\gamma_{20}) = .009, p > .05$ ;

Step 4:  $WLPJ(\gamma_{50}) = .209, p < .01$  vs.  $WLPJ(\gamma_{50}) = .179, p < .01$ .

$H_9$

$H_9$  was not supported,  $Help1(\gamma_{60}) = -.050, p > .05$ ;  $Help2(\gamma_{70}) = .010, p > .05$ ;

$Help3(\gamma_{80}) = .064, p > .05$  based on transformed data;  $Help1(\gamma_{60}) = -.062, p > .05$ ;

$Help2(\gamma_{70}) = .011, p > .05$ ;  $Help3(\gamma_{80}) = .070, p > .05$  based on untransformed data.

$H_{10}$

$H_{10}$  was not supported,  $Help1(\gamma_{60}) = -.018, p > .05$ ;  $Help2(\gamma_{70}) = .001, p > .05$ ;

$Help3(\gamma_{80}) = .028, p > .05$  based on transformed data;  $Help1(\gamma_{60}) = -.028, p > .05$ ;

$Help2(\gamma_{70}) = .028, p > .05$ ;  $Help3(\gamma_{80}) = .023, p > .05$  based on untransformed data.

### *Other Mediation Tests*

Finally, the mediating roles of Time and Strain for family-supportive workplace initiatives and quality of EORs were not supported.

Based on transformed data,

Step 1:  $Help1(\gamma_{60}) = .037, p > .05$ ;  $Help2(\gamma_{70}) = .025, p > .05$ ;  $Help3(\gamma_{80}) = .025, p > .05$ .

Step 2:

Time as the mediator:

$Help1(\gamma_{60}) = -.050, p > .05$ ;  $Help2(\gamma_{70}) = .010, p > .05$ ;  $Help3(\gamma_{80}) = .064, p > .05$ .

Strain as the mediator:

$Help1(\gamma_{60}) = -.018, p > .05$ ;  $Help2(\gamma_{70}) = .001, p > .05$ ;  $Help3(\gamma_{80}) = .028, p > .05$ .

Step 3:

$Time(\gamma_{10}) = -.126, p < .05$ ;  $Strain(\gamma_{20}) = -.033, p > .05$ .

Step 4:

$Help1(\gamma_{60}) = .037, p > .05$  vs.  $Help1(\gamma_{60}) = .030, p > .05$ ;

$Help2(\gamma_{70}) = .025, p > .05$  vs.  $Help2(\gamma_{70}) = .026, p > .05$ ;

$Help3(\gamma_{80}) = .025, p > .05$  vs.  $Help3(\gamma_{80}) = .034, p > .05$ .

Based on untransformed data,

Step 1:  $Help1(\gamma_{60}) = .048, p > .05$ ;  $Help2(\gamma_{70}) = .037, p > .05$ ;  $Help3(\gamma_{80}) = .046, p > .05$ .

Step 2:

Time as the mediator:

$Help1(\gamma_{60}) = -.062, p > .05$ ;  $Help2(\gamma_{70}) = .011, p > .05$ ;  $Help3(\gamma_{80}) = .070, p > .05$ .



Strain as the mediator:

$Help1(\gamma_{60}) = -.028, p > .05$ ;  $Help2(\gamma_{70}) = .028, p > .05$ ;  $Help3(\gamma_{80}) = .023, p > .05$ .

Step 3:

$Time(\gamma_{10}) = -.122, p < .01$ ;  $Strain(\gamma_{20}) = .009, p > .05$ .

Step 4:

$Help1(\gamma_{60}) = .048, p > .05$  vs.  $Help1(\gamma_{60}) = .041, p > .05$ ;

$Help2(\gamma_{70}) = .037, p > .05$  vs.  $Help2(\gamma_{70}) = .038, p > .05$ ;

$Help3(\gamma_{80}) = .046, p > .05$  vs.  $Help3(\gamma_{80}) = .055, p > .05$ .

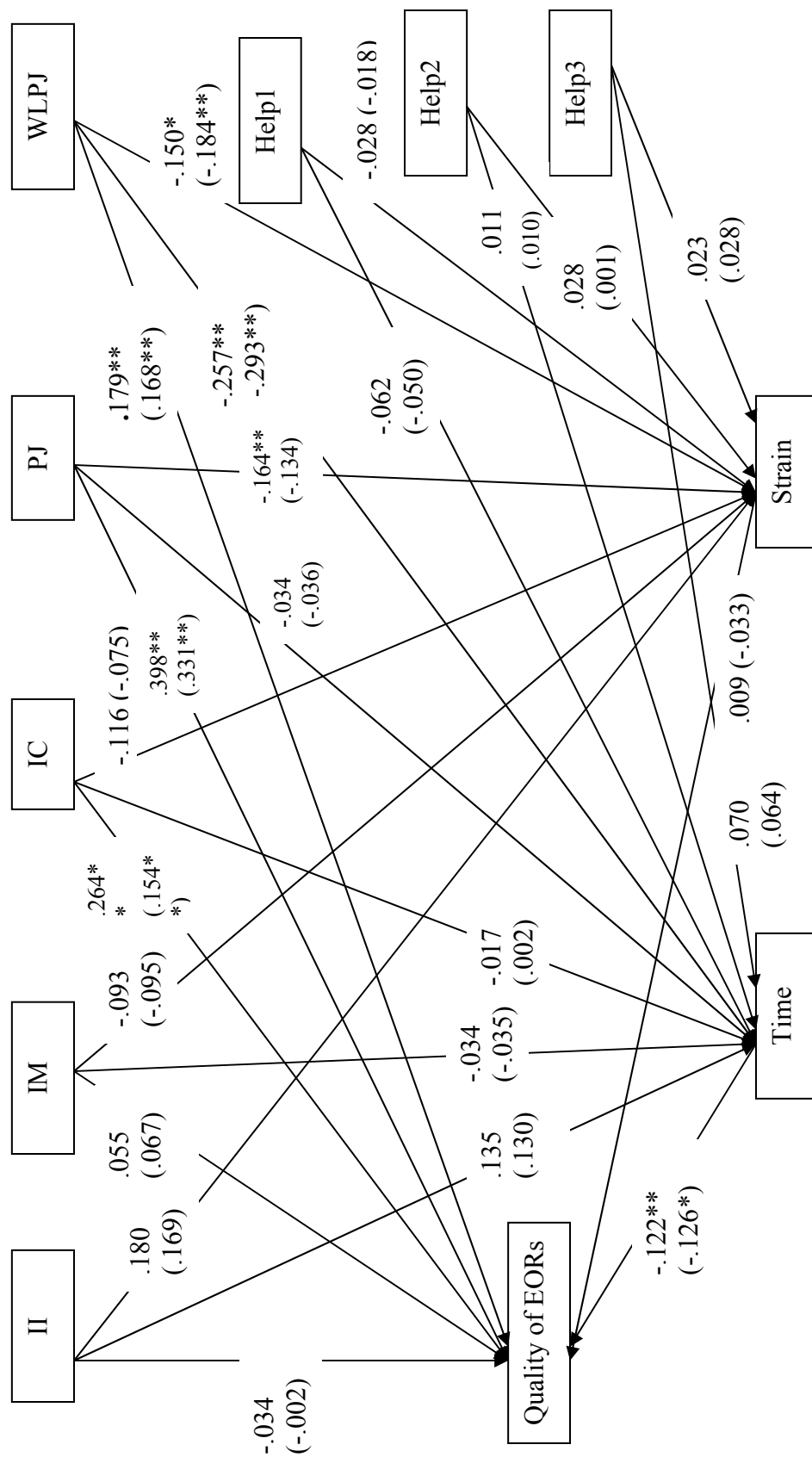


Figure 23. The final model illustrating the tested model with each path as supported or not supported in this study. \*  $p < .05$  \*\*  $p < .01$ ; the coefficients were shown as figures based on untransformed (transformed) data.

## Chapter 5: Discussion

This dissertation built and tested a model of employee-organization relationships (EORs). It investigated the links between quality of EORs and time-based and strain-based work-life conflict. It also explored whether transformational leadership behaviors of employees' immediate supervisors significantly predicted the amount of work-life conflict and the quality of relationships that employees perceived. In addition, this dissertation was interested to examine whether fair general decision-making procedures and fair procedures concerning work-life issues-related policies and decisions influenced the quality of EORs and the levels of time-based and strain-based work-life conflict. Lastly, it tested the links between time-based and strain-based work-life conflict and helpful family-supportive workplace initiatives.

### Summary of Findings

#### *H1 & H2: The Links between Time- and Strain-Based Work-Life Conflict and Quality of EORs*

Time-based work-life conflict was found to be significantly negatively related to quality of relationships that employees had with their employers. When employees perceived that the amount of time they committed to job responsibilities made it difficult for them to perform activities that their nonwork roles demanded, (1) they had a low degree of confidence in relationships with their employing organizations; (2) they acknowledged that the employee-organization relationships were not worth spending much energy to cultivate; (3) they felt unsatisfied; and (4) they observed their lack of adequate control over the relationships with their employers. Nevertheless, strain-based work-life conflict was not a significant predictor for the amount of trust, commitment,

satisfaction, and control mutuality that employees had toward relationships with their organizations. It seemed that employees' stressful work experiences did not greatly influence how they evaluated their relationships with employers.

*R1 and R2: Transformational Leadership and Time- and Strain-Based Work-Life Conflict*

Inconsistent with the hypothesized relationships, idealized influence (behavior) (II), inspirational motivation (IM), and individualized consideration (IC) were not found to be significantly associated with time- and strain-based work-life conflict. Specifically, direct supervisors who were trustworthy, who were capable to establish a common vision, and who motivated their subordinates to accomplish the vision did not help their employees with handling those conflicting commitments that employees' work and nonwork arenas demanded. Moreover, the association between work-life conflict and the extent to which immediate supervisors achieved their subordinates' commitment toward a highly inspiring common vision was not statistically significant. The amount of employees' perceived work-life conflict was not significantly related to the degree to which direct supervisors treated their subordinates differently but fairly, and acknowledged each individual employee' unique needs and characters.

*H3: Transformational Leadership and Quality of EORs*

Individualized consideration (IC) was found to be significantly associated with quality of employee-organization relationships. In contrast to individualized consideration (IC), idealized influence (behavior) (II) and inspirational motivation (IM) did not relate to employee-organization relationship outcomes significantly. That is to say, (1) the degree to which employees perceived their immediate supervisors as trustworthy, capable to establish a vision, and talented to motivate them to accomplish

the vision and 2) the degree to which they thought direct supervisors could achieve their high commitment toward a highly inspiring common vision did not significantly predict the extent to which employees felt committed toward their organizations, evaluated employee-organization relationships as satisfying, had high confidence in their organizations, and enjoyed the amount of control they could exert on the relationships.

#### *H4 & H5: The Links between Procedural Justice and Time- and Strain-Based Work-Life Conflict*

The fairness of the policies and procedures that organizations used to make decisions concerning work-life issues (WLPJ) was a significant predictor for the amount of time-based and strain-based work-life conflict that employees perceived. Nevertheless, the fairness of general decision-making procedures (PJ) did not seem to matter a lot to work-life conflict that employees experienced.

#### *H6: Procedural Justice and Quality of EORs*

Consistent with previous literature, both the fairness of general decision-making procedures (PJ) and the fairness of the policies and procedures that organizations used to make decisions concerning work-life issues (WLPJ) turned out to be positively linked to quality of employee-organization relationships. It seemed that fair decision-making procedures were essential to achieve employees' overall satisfaction with their organizations. Since the practice of fair decision-making procedures manifested the respect that an organization had toward the rights and dignity of its employees, employees tended to perceive a high level of confidence in the integrity, dependability, and competence of the organization. Moreover, when employees felt being fairly treated, it was more likely for them to become highly committed to the relationships they had

with their organizations. Finally, as the findings indicated, fairness perceptions that employees had could influence control mutuality such that employees would perceive more control over the relationships they had with their organizations when the decision-making procedures were fair.

*H9 & H10: Helpful Family-Supportive Workplace Initiatives and Time- and Strain-Based Work-Life Conflict*

Perceived helpfulness of family-supportive workplace initiatives was not found to be significantly associated with the amount of time-based and strain-based work-life conflict that employees perceived.

*R3 & R4: Mediation Tests*

The partially mediating roles of time-based work-life conflict and strain-based work-life conflict did not work basically because the second and third criteria for testing the significance of mediation (i.e., X significantly predicts variability in M; M significantly predicts variability in Y when controlling for X) were not satisfied.

*H7 & H8: Mediation Tests*

The partially mediating roles of time-based work-life conflict and strain-based work-life conflict did not work (except for the partial mediation role of time for WLPJ and Quality of EORs) again mostly because the second and third criteria (i.e., X significantly predicts variability in M; M significantly predicts variability in Y when controlling for X) were not successfully accomplished.

*Mediation Tests Concerning Work-Life Conflict and Helpful Workplace Initiatives*

The mediating effects of time and strain for the relationship between helpfulness of family-supportive workplace initiatives and quality of EORs were missing, due to the

fact that the four criteria for testing significant mediation were not satisfied.

### Theoretical Concepts in this Study

#### *Quality of Employee-Organization Relationships (Quality of EORs)*

Good relationship with employees is the building block of the strategic management of communication between an organization and its external and internal publics. It makes employees more likely to support and less likely to interfere with the achievement of organizational goals (Hon & J. Grunig, 1999). However, the process of developing and maintaining relationships with employee publics has not been extensively investigated in relationships studies. This study filled this gap by testing a model of employee-organization relationships (EORs) that examined the links between quality of EORs and work-life conflict, between quality of EORs and transformational leadership behaviors of employees' immediate supervisors, and between quality of EORs and procedural justice (both general fair decision-making procedures and procedural justice referencing work-life policies, decisions, and procedures). The concept of quality of EORs is elaborated and extended in relation to those variables. More specifically, this study concludes that when the amount of time-based and strain-based work-life conflict that employees perceive is low; when employees' immediate supervisors are transformational; and when the procedures used to make decisions are fair, a quality relationship with employee publics is more likely to be built, developed, and maintained.

#### *Work-Life Conflict*

This study focuses on two types of work/life conflict: (1) time-based work-life conflict and (2) strain-based work-life conflict, which have not been widely examined in public relations literature. Time-based and strain-based work-life conflict is mainly

studied in relation to quality of employee-organization relationships.

This study suggests that when employees have to work long hours, they are incapable to invest enough time to their family and social activities. Therefore, employees may attribute their experiences of high time-based work-life conflict and the subsequent deleterious outcomes to their organizations and complain that their organizations have failed to facilitate their integration of work and nonwork responsibilities (Allen et al., 2000; Aryee et al., 2005; Brough et al., 2005; Casper et al., 2002; Grandey et al., 2005; Herscovitch & Topolnytsky, 2002; Lapierre et al., 2008; Lu et al., 2008; Meyer et al., 2005; Netemeyer et al., 1996; Rhoades & Eisenberger, 2002; Sinclair et al., 1995). Moreover, when employees perceive that they have lost or lacked time as a critical resource indispensable for their survival and success in their personal life, they will feel negatively toward the organizational setting that has deprived them of time that is needed for somewhere else (Grandey & Cropanzano, 1999; Hobfoll, 1989, 2002).

This study concludes that strain-based work-life conflict has a much weaker (nonsignificant) effect upon quality of EORs. One potential explanation is the attribution theory that Brockner and Wiesenfeld (1996) discussed in relation to work-life conflict. Attribution theory suggests that employees may view their behaviors as either internally driven or externally motivated. When employees perceive their jobs as challenging but ultimately rewarding (e.g., they want to work hard to earn promotions; they enjoy the sense of achievement after getting their challenging jobs done; or they hope to work hard to keep their jobs when a financial crisis lingers), they will devote great efforts to their jobs (i.e., their behaviors are largely internally driven), and therefore can easily feel



stressed out when the amount of work is great and the job requirements are demanding. Nevertheless, facing such an unfavorable outcome and subsequently a great strain-based interference between work and nonwork, employees may hold themselves rather than their organizations responsible (Folger & Cropanzano, 1998). If this is the case with the participants in this study, the weak effect of strain-based work-life conflict on quality of EORs seems to make sense.

Another possible interpretation is that time-based work-life conflict is relatively a more tangible measure in terms of whether an organization has taken too much out of its employees' personal life. When employees perceive a high level of strain-based work-life conflict, it does not necessarily mean that employees have insufficient time to spend on their commitments in nonwork domains. Employees may believe that they should be able to integrate their work and personal life well, if they can successfully manage their stress and strain internally. As a consequence, they will not associate their experiences of strain-based work-life conflict with quality of relationships as closely as they do with time-based work-life conflict.

### *Transformational Leadership*

This study is one of few endeavors that have integrated leadership scholarship into public relations research. First, it examines the links among idealized influence (behavior) (II), inspirational motivation (IM), individualized consideration (IC), and work-life conflict.

Incompatible with theoretically hypothesized relationships, II, IM, and IC are not significantly associated with time- and strain-based work-life conflict. One possible interpretation is the role that employees play in interaction with their transformational

direct supervisors.

Transformational direct supervisors can support their employees by offering advice, providing tangible resources, offering assistance in problem evaluations, and providing concern and empathy (Allen, 2001; Frone et al., 1995; Friedman et al., 1998; Grzywacz & Marks, 2000; Lapierre & Allen, 2006; Nielson et al., 2001; Noor, 2003). Transformational supervisors are capable to provide suggestions and advice on how to compromise the conflicting demands from work and nonwork lives. Transformational supervisors can experiment with alternative ways in which work can be done, leaving time and energy for employees' personal pursuits. Practicing individualized consideration, transformational supervisors are expected to show genuine concern, understanding, and empathy toward employees' juggling both work and nonwork roles, and thus are capable of addressing job requirements and personal agendas simultaneously (Aycan & Eskin, 2005; Behson, 2002; Rousseau et al., 2006).

Nevertheless, it seems that employees play a critical role in the process. Scholars argued that when employees report their frustration in integrating work and nonwork commitments, it is likely for transformational supervisors to discuss nonwork related problems and help their employees accommodate those competing responsibilities from different arenas (Allen, 2001; Frye & Breaugh, 2004; Judge & Colquitt, 2004). Once employees reach out to their immediate supervisors to negotiate "idiosyncratic deals" ("i-deals") (Hornung et al., 2008), their transformational leaders may grant to them special employment conditions that may not otherwise be available through the organization's standard practices or policies. If employees do not initiate such a negotiation or the interactions between employees and their immediate supervisors do not work well,

transformational supervisors may not contribute to attenuating serious work-life issues that their subordinates are confronted with. Future research may investigate the potential linkage between work-life conflict and the interactions between employees and their immediate supervisors.

Although the significant paths between transformational leadership (II, IM, and IC) and work-life conflict are not supported, the transformational leadership behaviors of supervisors as a potentially important variable are examined in the organizational setting for good management of relationships with strategic employee publics. It may be because of the sample that fails to uncover the significant effects of the behaviors of immediate supervisors. Another explanation is the high intercorrelations among three transformational leadership variables (i.e., II, IM, and IC). The existence of multicollinearity may have made the variables rule out one another's significant explanatory power in the model.

Second, this dissertation studies how II, IM, and IC as three dimensions of transformational leadership are related to quality of EORs. Transformational supervisors who pay individualized attention to their subordinates tend to accommodate their individual abilities and aspirations, and therefore, promote employees' confidence in job performance. As a consequence, employees work hard to meet expectations and accomplish long-term goals, which may result in their high levels of job satisfaction (Bono & Judge, 2003; Walumbwa & Lawler, 2003; Walumbwa et al., 2005), and hence high levels of satisfaction toward relationships with their organizations. Employees stay with their organizations partly because they evaluate their work as interesting and meaningful and they can perform their jobs well. Consequently, they feel highly

committed to the relationships with their employers (Mills, 2008). In addition, as supervisors who really care about their subordinates' well-being and self-worth, transformational leaders build a climate of openness and trust, and therefore bring about high levels of trust that employees have toward employee-organization relationships. It also makes sense that transformational leadership highlighting individualized consideration allows employees to perceive a desirable amount of control over the relationships with not only their direct supervisors but also with the whole organization they work for (Blase & Anderson, 1995).

In contrast to individualized consideration (IC), idealized influence (behavior) (II) and inspirational motivation (IM) do not relate to employee-organization relationship outcomes significantly. That is to say, 1) the degree to which employees perceive their immediate supervisors as trustworthy, capable to establish a vision, and talented to motivate them to accomplish the vision and 2) the degree to which employees think that their direct supervisors can achieve their high commitment toward a highly inspiring common vision do not significantly predict the extent to which employees feel committed toward their organizations, evaluate employee-organization relationships as satisfying, have high confidence in their organizations, and enjoy the amount of control they can exert upon the relationships.

One interpretation for the differential predictions of II and IM is the relative interpretability of the different transformational leadership dimensions (see Lind & Van den Bos, 2002; Van den Bos, Lind, Vermunt, & Wilke, 1997). The “substitutability effect” that the researchers originally developed for fairness perceptions may be applied to explain employees' perceptions of transformational leadership. Compared to

interpreting the ability of their supervisors to motivate them to accomplish a common vision and get committed to it, it may be easier and more direct for employees to perceive how much their immediate supervisors care about their individual needs and attend to their differential potentials and aspirations. Therefore, individualized consideration (IC) may have a much stronger effect due to the fact that it is probably more interpretable. That is to say, the more interpretable form of transformational leadership, IC may “substitute” for the less interpretable forms, II and IM when creating global transformational leadership perceptions.

### *Procedural Justice*

This study investigates how procedural justice is related to the amount of work-life conflict that employees perceive and how it is associated with quality of the relationships between organizations and their employees. It extends the concept of procedural justice by examining (1) procedural justice in general, i.e., the procedures that organizations use to make general decisions, and (2) the procedures that organizations use to make decisions concerning work-life issues, i.e., procedural justice referencing work-life policies, decisions, and procedures.

This study supports a significant negative relationship between procedural justice referencing work-life policies, decisions, and procedures (WLPJ) and work-life conflict. Consistent with Leventhal’s (1980) model of procedural justice, fair decision making related to employees’ work-life issues consists of (1) selecting decision-making agents properly (i.e., decisions are made to address the concerns from those affected parties), (2) setting generalizable procedural rules (i.e., the rules are free of bias and applied consistently), (3) gathering necessary information (i.e., the rules, procedures, or policies

are established based on accurate information collected from those affected parties), and (4) setting routines for appeals (i.e., employees can appeal the decisions that are made based on the organizational policies) (Judge & Colquitt, 2004). It is reasonable to believe that when the above steps are accomplished, employees will conclude that organizations are working hard to help them balance between the competing demands from their work and those from their nonwork arenas and hereby perceive a relatively low amount of work-life conflict.

In addition, this study identifies a significant association between procedural justice and quality of employee-organization relationships. The more just organizations' general decision-making procedures and the procedures and policies used to make decisions related to employees' work-life conflict issues are, the more likely is it for employees to perceive high levels of trust, satisfaction, commitment, and control mutuality toward the relationships with their organizations (e.g., Aryee et al., 2002; Cohen-Charash & Spector, 2001; Colquitt & Greenberg, 2003; Colquitt et al., 2001; Kim, 2005, 2007; Masterson et al., 2000; Viswesvaren & Ones, 2002).

#### *Perceived Helpfulness of Family-Supportive Workplace Initiatives*

This study focuses on three categories of family-supportive workplace initiatives: (1) childcare, (2) job flexibility, and (3) personal day (as one type of personal leave). Perceived helpfulness of family-supportive workplace initiatives is not found to be significantly associated with the amount of time-based and strain-based work-life conflict that employees perceive. Previous literature on the availability of employee-oriented assistance programs and employees' management of work-life conflict has provided a plausible explanation for the nonsignificant paths (see Adolf, 1988; Auerbach, 1988;

Christensen & Staines, 1990; Dalton & Mesch, 1990; Ewing, 2002; Goff et al., 1990; Kirby, 2000; Kirby & Krone, 2002; Kopelman, Prottsas, Thompson, & Jahn, 2006; Thompson et al., 1999; Toth & L. Grunig, 2003; Wooldridge, 2000).

Kossek (1990) suggested that family-supportive workplace initiatives may not be adequately tailored to meet employees' varied and complex needs. A variety of employee background variables, including gender, managerial positions, the availability of familial care arrangements, household employment configuration, and care profiles of employees' dependents may explain the precariousness of the relationship between helpful family-supportive workplace initiatives and levels of time-based and strain-based work-life conflict (Dalton & Mesch, 1990; Konrad & Mangel, 2000). According to Siegel et al. (2005), even if workplace initiatives are helpful in terms of helping employees integrate their work and nonwork responsibilities, it may not contribute a significant portion of variance in reduced work-life conflict. There are many other non-content-based and intangible contextual variables in organizational settings that may make a huge difference for employees' work-life experiences. This study extends the understanding of the concept of helpful family-supportive workplace initiatives by identifying the importance of studying them in relation to organizational contextual variables.

### Theories Applied in this Study

#### *Conservation of Resources Theory (COR)*

Conservation of resources theory (COR) (Hobfoll, 1988, 1989) is a comprehensive theory of stress. According to COR theory, people always strive to obtain and protect the resources that they highly value, for instance, time, energies, and social support. Psychological stress occurs when people perceive that these resources are lost,

threatened with loss, or if people fail to replenish resources after they are significantly consumed (Brough et al., 2005; Grandey & Cropanzano, 1999; Hobfoll, 1988, 1989, 2001; Karatepe & Kilica, 2007). Hobfoll (1989, 2001) proposed two important tenets of COR theory. The first tenet is that “resource loss is disproportionately more salient than resource gain” (Hobfoll, 2001, p 343). The second major tenet of COR emphasizes the importance of resource replenishment. Hobfoll (2001) argued that “people must invest resources in order to protect against resource loss, recover from losses, and gain resources” (p. 349). In addition, people with access to greater resources are more likely to gain resources and those with limited access are usually more susceptible to resource loss (Hobfoll, 2001).

Based on Brough et al. (2005), Grandey and Cropanzano (1999), and Karatepe and Kilica (2007), this study applies the COR model to the relationship between work-life conflict and quality of EORs and the relationship between transformational leadership and quality of EORs. Employees rely on important life-sustaining resources in order to survive and prosper in their work and nonwork domains, for example, time, energies, and managerial and organizational support. Facing the risk of losing such critical resources due to the great interference that job responsibilities create for employees’ off-work activities, employees may perform their jobs ineffectively, receive negative appraisals from both supervisors and coworkers, display feelings of disappointment and guilt concerning lack of fulfillment of their nonwork commitments, and ultimately perceive the relationships with their employing organizations negatively. The statistically significant negative linkage between time-based work-life conflict and quality of employee-organization relationships has supported the use of COR theory in



the model of EORs that this study tests. Nevertheless, how COR theory can better explain the link between strain-based work-life conflict and quality of EORs and that between employees' immediate supervisors' transformational leadership behaviors (as one type of managerial support) and quality of EORs needs to be explored further in future research.

More importantly, the COR theory as a stress-based theory has been extensively examined in stress literature. Important avenues for future public relations research include (1) how the stress component that theory describes can be elaborated and tested in relationship studies; (2) how the two theoretical principles can be applied in future research on work-life conflict and employee-organization relationships in public relations.

#### *Social Exchange Theory*

Social exchange theory focuses on a process of exchanges between parties involved in relationships, a process negotiated through analyzing costs and benefits, and comparing alternatives (Blau, 1964). The basic tenet of social exchange theory is the principle of reciprocity: People respond to a positive (negative) action with another positive (negative) action (Gouldner, 1960). As a consequence, people tend to reciprocate or return commensurately what they have received or what they have not received from their relational parties (Blau, 1964; Gouldner, 1960). In the context of work-life conflict and quality of employee-organization relationships, this study proposes that when employees perceive that the costs of being in relationships with their employers outweigh the benefits, they may perceive the relationships negatively.

The significant negative relationship between time-based work-life conflict and quality of EORs has elaborated and supported social exchange theory. When an employee has to work long hours, he or she is incapable to invest sufficient time in his or

her family and social activities. Under this situation, it is very likely for employees to impute their experiences of high time-based work-life conflict and subsequent negative outcomes to their organizations. According to the principle of reciprocity, employees choose to reciprocate low satisfaction with the source of the interference, i.e., their employing organizations. In a similar vein, when experiencing a high level of time-based work-life conflict, employees may attribute their frustration to lack of care and concern for well-being from their employing organizations, and thus choose not to reciprocate with high commitment. Due to lack of time, the valued “self-relevant roles” (Grandey et al., 2005, p. 306) of employees, for instance, a caring parent and a committed member of a social club may be compromised or jeopardized. As a result, employees may perceive their organization as the source of the threat in a negative manner. The level of trust with their organizations may be countermined. Finally, according to the principles of social exchange theory, employees and their organizations are engaged in an exchange of control and power over the relationships between them. Therefore, when employees are facing a high level of job interference with their personal life, they may feel being deprived of the adequate amount of control over the relationship that they otherwise deserve.

In this study, social exchange theory is only applied to provide a theoretical explanation for the relationship between work-life conflict and quality of EORs. The significant negative association between time-based work-life conflict and quality of EORs has provided evidence elaborating and supporting the use of the theory in building and testing the model of EORs. However, future research needs to further explore why social exchange theory fails to support the link between strain-based work-life conflict

and quality of EORs. More significantly, scholars need to contemplate (1) how social exchange theory can be extended in terms of substantiating other links in the model that this study examines and (2) how social exchange theory can be drawn upon in future relationship model testing research in public relations.

### *Stakeholder Theory*

Public relations scholars have defined stakeholders as groups of people whose behaviors have consequences on certain target organizations (J. Grunig, 1992a). Publics, however, form out of stakeholders when stakeholders recognize the consequences of an organization's behaviors as problems and are able to organize to do something about those consequences (J. Grunig, 1992a). Furthermore, publics can create "issues" out of the problems that they have identified, which is known as "issues management" (J. Grunig, 1992a). In addition, J. Grunig and his colleagues have used the following three variables: problem recognition<sup>31</sup>, constraint recognition<sup>32</sup>, and level of involvement<sup>33</sup> to classify different publics groups, including active publics, aware/active publics, active (reinforcing) publics, latent publics, aware/active publics, latent/aware publics, none/latent publics, and none publics (Grunig & Hunt, 1984); all-issue publics, apathetic publics, single-issue publics, and hot-issue publics (J. Grunig, 1997).

In this study, quality of employee-organization relationships as the focal construct in the model rests on the premise that good relationship management between

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<sup>31</sup> "Problem recognition—people detect that something should be done about a situation and stop to think about what to do" (J. Grunig, 1997, p. 10).

<sup>32</sup> "Constraint recognition—people perceive that there are obstacles in a situation that limit their ability to do anything about the situation" (J. Grunig, 1997, p. 10).

<sup>33</sup> "Level of involvement—the extent to which people connect themselves with a situation" (J. Grunig, 1997, p. 10).

organizations and their strategic employee publics contributes to organizational effectiveness. Employees as internal publics are defined as people whose behaviors can positively or negatively influence the achievement of organizational mission. Therefore, the definition of “employees” in this model of EORs is consistent with the category of stakeholders in public relations scholarship. The concept of “employees” in “employee-organizational relationship” can be extended in future research that conceptualizes employees as different types of publics.

### Implications of Findings for Public Relations

#### *Theoretical Contributions*

This dissertation makes several contributions to public relations theory. First, it contributes to employee relationship scholarship by developing and testing a new model of EORs incorporating concrete antecedent and predictor variables in organizational settings. As Rhee (2004) argued, the relationships between organizations and their strategic employee publics are the critical building blocks of strategic management of communication between organizations and their external publics. Positive attitudes of employees in good relationships with their employers can assist the development of desirable relationships with external publics. I believe this dissertation sheds light on the issue of how to cultivate quality relationships with employees as an integral part of the strategic planning of organizations. Scholars have suggested that when employees have good relationships with their organizations, it will be more likely for them to support and less likely for them to interfere with the accomplishment of organizational goals. Good management of employee relationships will also potentially benefit an organization’s issues management and crisis management (Holtzhausen, 2002; Hon & J. Grunig, 1999).

In addition, this dissertation examines employee-organization relationships through employees' perceptions. Karlberg (1996) criticized that the extant public relations literature has emphasized the perspectives of organizations rather than those of publics. Thus, this dissertation fills the gap by providing an employee perspective in terms of relationship management.

Second, current work-life research in public relations has largely drawn upon organizational communication theories to critique the way public relations professionals interpreted work-life conflict issues and integrated their career and life goals (Aldoory et al., 2008; L. Grunig, 2006). This dissertation extends this body of knowledge by introducing work-life conflict as an important predictor in the organizational context leading to employees' perceived quality of EORs. Through revealing work-life conflict as a critical variable influencing the well-being of employees in real organizational settings and thereby impacting the relationships between organizations and their employees, this dissertation elaborates existing organization-public relationship models by adding an important organizational contextual variable that deserves further research to support it.

Third, there has been few research endeavors to examine the nature and function of relationship antecedents from the perspective of employees (Kim, 2005). This dissertation fills the gap by empirically testing the potential effects of three employee-organization relationship antecedent dimensions/variables: 1) transformational leadership behaviors of employees' direct supervisors, 2) procedural justice, and 3) helpfulness of family-supportive workplace initiatives upon employee-organization relationship outcomes.

Prior organizational justice research in public relations has disclosed the

compatibility between two-way symmetrical communication and procedural justice and called for more research in this direction (J. Grunig & White, 1992; Kim, 2007). This dissertation contributes to the body of knowledge by introducing procedural justice into relationship management theory and by examining how organizational procedural justice can be related to time-based and strain-based work-life conflict as well as to quality of employee-organization relationships. Specifically, I investigated the direct and indirect influences of procedural justice on quality of employee-organization relationships using time-based and strain-based work-life conflict as mediators. The fairness of the policies and procedures that organizations used to make decisions concerning work-life issues (WLPJ) was revealed as a significant predictor for time-based and strain-based work-life conflict. Time-based work-life conflict, in fact, partially mediated the relationship between WLPJ and quality of employee-organization relationships. This shows that high procedural justice contributes to building quality relationships when it is combined with a low level of time-based work-life conflict. This interdisciplinary effort has a great implication for employee relationship studies. It demonstrates how important it is for employers to establish fair decision-making procedures in general as well as fair procedures and policies used to make work-life issues-related decisions when building quality relationships with employees.

#### *Practical Implications for Public Relations*

This dissertation sheds light on the issue of how to build good relationships between organizations and their employees in real organizational settings and contributes to public relations from a practical perspective. It suggests that transformational leadership and organizational procedural justice should be used to build positive

employee-organization relationships and reduce the amount of time-based and strain-based work-life conflict that employees perceive. Therefore, public relations practitioners and senior management should start building quality employee-organization relationships by encouraging transformational leadership behaviors of supervisors at different hierarchical levels within organizations and by implementing fair decision-making procedures, not only general fair procedures but also fair procedures and policies used to make just decisions related to employees' work-life conflict concerns. If the dominant coalitions and public relations practitioners do not acknowledge such important organizational contextual variables as transformational leadership and procedural justice, public relations efforts will be in vain.

#### *Implications for Public Relations Research Methodology*

This dissertation also has implications for public relations research methodology. Kim (2005) argued, "many public relations studies, especially the ones that deal with internal organizational relationships, cannot avoid being the subject of multilevel analyses" (p. 245). Nevertheless, not many studies in public relations have conducted multilevel analyses using HLM tests. As an example of multilevel analysis, this dissertation gathered individual-level data from numerous organizations and examined the influence of organizational membership upon the relationships among individual-level theoretical constructs. It has extended the scope of methodological approaches that the extant public relations scholarship can adopt.

#### *Limitations*

This dissertation yields findings that contributes to public relations research and theory, but it has a few methodological limitations that should be addressed in future

research in this area.

First, data collection took place during the summer when many employees chose to take their vocational leave, which has potentially impacted the sample size that I could achieve. While I adopted a set of rigid criteria in selecting 396 participants out of my recruited sample, it would be meaningful to see how the results would be different if more data were collected.

Second, future research needs to minimize the effects of single-source bias by measuring all the exogenous and endogenous variables from different employees/managers within the same organizations (see P. Podsakoff, MacKenzie, Lee, & N. Podsakoff, 2003).

Third, three antecedent variables—helpfulness of childcare initiatives, helpfulness of job flexibilities initiatives, and helpfulness of personal day initiatives—were measured by one item in the questionnaire. Although this was done for the sake of brevity in questionnaire completion, it has created some potential measurement reliability issues. In future research, more items should be added and other categories of family-supportive workplace initiatives can be examined.

Secondary confirmatory factor analysis (CFA) indicated that idealized influence (behavior) (II), Inspirational Motivation (IM), Intellectual Stimulation (IS), and Individualized Consideration (IC) loaded on a higher-level latent factor Transformational Leadership (TL):  $\chi^2(4, N = 396) = 22.349, p < .01, \chi^2/df = 5.587, RMSEA = 0.108, SRMR_{within} = 0.017, CFI = 0.979$ . Future research would allow for the factor structure to be examined further and the relationships among the variables to be explored more.

In addition, under-specification of models (i.e., the omission of one or more



important level-1 predictors in the random-coefficient regression models) that this dissertation identifies has appeared to be an important issue that future research needs to address. More antecedent and predictor variables in real organizational settings can be examined in relation to employee relationship model building and testing.

Finally, the model of EORs this dissertation studies rests upon the premise that good relationship management between organizations and their strategic employee publics contributes to organizational effectiveness. As discussed in chapter 2, previous literature has provided a theoretical rationale supporting the causal linkages among the variables. Based on collected data, HLM tests have identified the supported and not supported links. Alternative models might have been examined, for example, those models in Figures 24, 25, and 26.

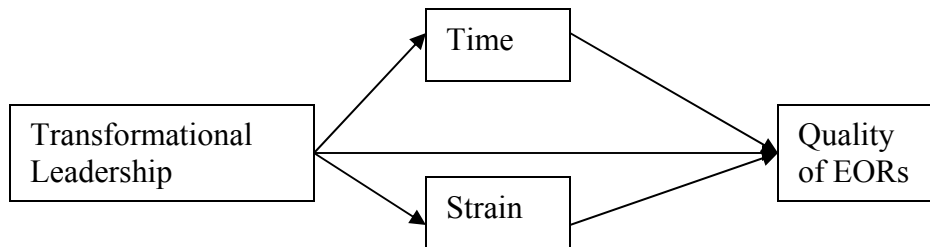


Figure 24. Alternative model 1.

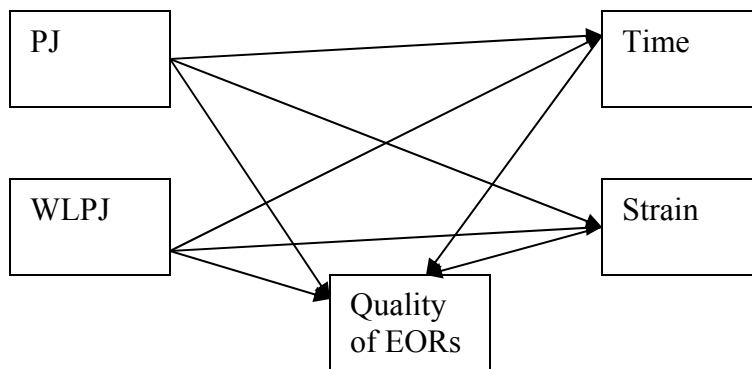
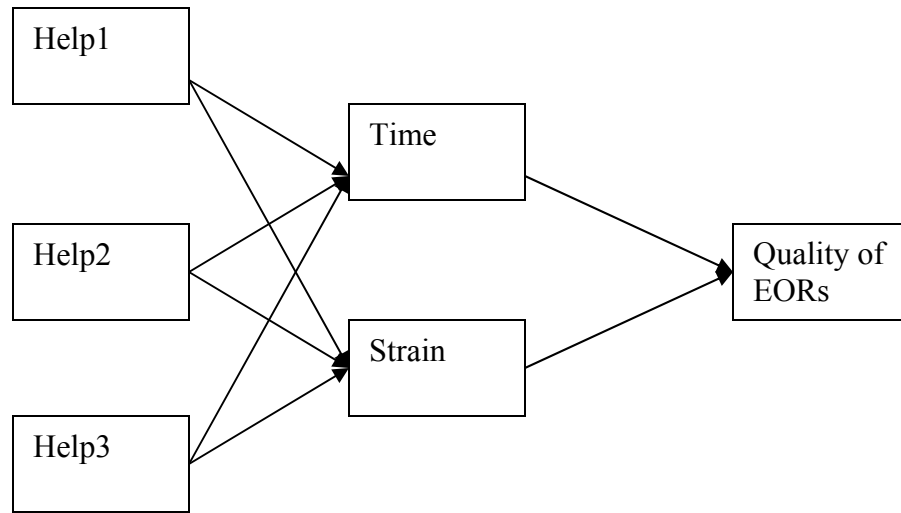


Figure 25. Alternative model 2.



*Figure 26.* Alternative model 3.

However, the model of EORs that this dissertation tests is potentially the most feasible based on literature, as shown in chapter 2. It is the most comprehensive model with quality of EORs and time-based and strain-based work-life conflict as the central concepts that investigates two categories of organizational contextual variables as antecedents and predictors for work-life conflict and quality of EORs: (1) non-content-based and intangible (transformational leadership and organizational procedural justice); and (2) content-based and tangible (family-supportive workplace initiatives). HLM tests also suggest that the model of EORs (Figure 23) is the best supported, compared to models in Figures 24, 25, and 26.

### Conclusion

In summary, this dissertation built and tested a new model of employee-organization relationships (EORs) by incorporating time-based and strain-based work-life conflict as two predictor variables leading to EOR outcomes, and by investigating the possible effects of three antecedents, i.e., transformational leadership, organizational

procedural justice, and family-supportive workplace initiatives upon employees' perceived work-life conflict and relationships with their employing organizations. All the theoretical constructs were conceptualized at the individual level, but data were collected by conducting a survey of 396 employees working in 44 U.S. organizations. The multilevel structure of gathered data was addressed by using hierarchical linear modeling (HLM) as the major analytical approach.

Results of the random-coefficient regression models in HLM suggest that the amount of time-based work-life conflict employees perceive significantly predicts their perceived quality of EORs. When employees' immediate supervisors respect their subordinates as individuals with unique characters and needs and treat them differently but fairly, employees perceive high levels of trust, commitment, satisfaction, and control mutuality. Moreover, employees when perceiving that they are treated fairly by their organizations develop quality relationships with their employers. This dissertation also identifies fair formal procedures and policies used to make work-life decisions as a significant antecedent leading to high trust, commitment, satisfaction, and control mutuality that employees perceive. In addition, organizations' fair formal procedures and policies used to make work-life decisions greatly affect employees' perceptions of time-based and strain-based work-life conflict. Finally, this dissertation concludes that time-based work-life conflict partially mediates the association between quality of EORs and fair formal procedures and policies used to make work-life decisions. These findings can contribute significantly to theory, methodology, and practice in public relations today.

## Appendix A: Survey Questionnaire

Please answer the following questions by clicking a button on the 11-point scale ranging from "Strongly Disagree" to "Strongly Agree".

1. The procedures used to make decisions have been applied consistently in my organization. **[Procedural Justice]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

2. The procedures for decision making have been free of bias in my organization. **[Procedural Justice]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

3. The procedures used to make decisions have been based on accurate information in my organization. **[Procedural Justice]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

4. I have been able to appeal the decisions arrived at by those decision-making procedures in my organization. **[Procedural Justice]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

5. Decision making procedures that my organization uses have upheld ethical and moral standards. **[Procedural Justice]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

6. Does your organization have childcare policies for you to use (for example, organization-sponsored full time centers on/near site, childcare referral services, subsidized child care costs, or other policies related to childcare)?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

\_\_\_\_\_ Not Sure/Unknown

7. If your answer is "Yes", please answer the following question by clicking a button on the 11-point scale ranging from "Not Helpful At All" to "Extremely Helpful":

How much do those childcare policies help you in balancing between your work and your personal life?

Not Helpful At All   0   1   2   3   4   5   6   7   8   9   10   Extremely  
Helpful

8. If your answer is "No" or "Not Sure/Unknown", please answer the following question by clicking a button on the 11-point scale ranging from "Not Helpful At All" to "Extremely Helpful":

Assuming your organization had such childcare policies, how much do you imagine they would help you in balancing your work and your personal life?

Not Helpful At All   0   1   2   3   4   5   6   7   8   9   10   Extremely  
Helpful

9. Does your organization have job flexibility policies for you to use (for example, access to flextime, access to telecommuting, access to job-sharing, or other policies related to flexibility)?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

\_\_\_\_\_ Not Sure/Unknown

10. If your answer is "Yes", please answer the following question by clicking a button on the 11-point scale ranging from "Not Helpful At All" to "Extremely Helpful":

How much do those job flexibility policies help you in balancing your work and personal life?

Not Helpful At All   0   1   2   3   4   5   6   7   8   9   10   Extremely  
Helpful

11. If your answer is "No" or "Not Sure/Unknown", please answer the following question by clicking a button on the 11-point scale ranging from "Not Helpful At All" to "Extremely Helpful":

Assuming your organization had such job flexibility policies, how much do you imagine they would help you in balancing your work and personal life?

Not Helpful At All   0   1   2   3   4   5   6   7   8   9   10   Extremely  
Helpful

12. Does your organization have personal day policies for you to use (for example, days off with or without pay other than reasons of sick leave/vacation)?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

\_\_\_\_\_ Not Sure/Unknown

13. If your answer is "Yes", please answer the following question by clicking a button on the 11-point scale ranging from "Not Helpful At All" to "Extremely Helpful":

How much do such personal day policies help you in balancing between your work and personal life?

Not Helpful At All   0   1   2   3   4   5   6   7   8   9   10   Extremely  
Helpful

14. If your answer is "No" or "Not Sure/Unknown", please answer the following question

by clicking a button on the 11-point scale ranging from "Not Helpful At All" to "Extremely Helpful".

Assuming your organization had such personal day policies, how much do you imagine they would help you in balancing between your work and personal life?

Not Helpful At All   0   1   2   3   4   5   6   7   8   9   10   Extremely Helpful

Please answer the following questions about family friendly policies (for example, childcare policies, job flexibility policies, and personal day policies) by clicking a button on the 11-point scale ranging from "Strongly Disagree" to "Strongly Agree".

15. My organization's family friendly policies have been applied consistently.

**[Procedural Justice]**

Strongly disagree   0   1   2   3   4   5   6   7   8   9   10   Strongly agree

16. My organization's family friendly policies have been free of bias. **[Procedural Justice]**

Strongly disagree   0   1   2   3   4   5   6   7   8   9   10   Strongly agree

17. My organization's family friendly policies have been based on accurate information.

**[Procedural Justice]**

Strongly disagree   0   1   2   3   4   5   6   7   8   9   10   Strongly agree

18. I believe I can appeal the decisions that are made based on family friendly policies in my organization. **[Procedural Justice]**

Strongly disagree   0   1   2   3   4   5   6   7   8   9   10   Strongly agree

19. My organization's family friendly policies have upheld ethical and moral standard. **[Procedural Justice]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

Please answer the following questions about your direct supervisor by clicking a button on the 11-point scale ranging from "Strongly Disagree" to "Strongly Agree".

My direct supervisor \_\_\_\_\_

20. Talks about his/her most important values and beliefs. **[Idealized Influence Behavior]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

21. Specifies the importance of having a strong sense of purpose. **[Idealized Influence Behavior]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

22. Considers the moral and ethical consequences of decisions. **[Idealized Influence Behavior]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

23. Emphasizes the importance of having a collective sense of mission. **[Idealized Influence Behavior]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

My direct supervisor \_\_\_\_\_

24. Talks optimistically about the future. **[Inspirational Motivation]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

25. Talks enthusiastically about what needs to be accomplished. **[Inspirational Motivation]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

26. Articulates a compelling vision of the future. **[Inspirational Motivation]**



Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

27. Expresses confidence that goals will be achieved. **[Inspirational Motivation]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

My direct supervisor \_\_\_\_\_

28. Re-examines critical assumptions to question whether they are appropriate.

**[Intellectual Stimulation]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

29. Seeks differing perspectives when solving problems. **[Intellectual Stimulation]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

30. Gets me to look at problems from many different angles. **[Intellectual Stimulation]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

31. Suggests new ways of looking at how to complete assignments. **[Intellectual**

**Stimulation]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

My direct supervisor \_\_\_\_\_

32. Spends time teaching and coaching. **[Individual Consideration]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

33. Treats me as an individual rather than just as a member of a group. **[Individual**

**Consideration]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

34. Considers me as having different needs, abilities, and aspirations from others.

**[Individual Consideration]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

35. Helps me to develop my strengths. **[Individual Consideration]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

Please answer the following questions by clicking a button on the 11-point scale ranging from "Strongly Disagree" to "Strongly Agree".

Note: Non-work activities/responsibilities include activities/responsibilities in our family and social lives.

36. My work keeps me from my personal non-work activities more than I would like.

**[Time-Based Work-Life Conflict]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

37. The time I must devote to my job keeps me from participating in my personal non-work responsibilities. **[Time-Based Work-Life Conflict]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

38. I have to miss my personal non-work activities due to the amount of time I must spend on work responsibilities. **[Time-Based Work-Life Conflict]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

39. When I get off work I am often too frazzled to participate in my personal non-work activities. **[Strain-Based Work-Life Conflict]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

40. I am often so emotionally drained when I get off work that it prevents me from contributing to my personal non-work responsibilities. **[Strain-Based Work-Life Conflict]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

41. Due to all the pressures at work, I am sometimes too stressed to do the things I enjoy when I get off work. **[Strain-Based Work-Life Conflict]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

The following questions are about the organization you currently work for:

Trust

Dimensions: Integrity, competence, dependability

42. This organization treats people like me fairly and justly. **[Integrity]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

43. Whenever this organization makes an important decision, I know it will be concerned about people like me. **[Integrity]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

44. This organization can be relied on to keep its promises. **[Dependability]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

45. I believe that this organization takes the opinions of people like me into account when making decisions. **[Dependability]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

46. I feel very confident about this organization's skills. **[Competence]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

47. This organization has the ability to accomplish what it says it will do. **[Competence]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

48. I am happy with this organization. **[Satisfaction]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

49. Both the organization and people like me benefit from the relationship. **[Satisfaction]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

50. Most people like me are happy in their interactions with this organization.

**[Satisfaction]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

51. Generally speaking, I am pleased with the relationship this organization has established with people like me. **[Satisfaction]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

52. I feel that this organization is trying to maintain a long-term commitment to people like me. **[Commitment]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

53. I can see that this organization wants to maintain a relationship with people like me.

**[Commitment]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

54. There is a long-lasting bond between this organization and people like me.

**[Commitment]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

55. Compared to other organizations, I value my relationship with this organization more.

**[Commitment]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

56. This organization and people like me are attentive to what each other say. **[Control Mutuality]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

57. This organization believes the opinions of people like me are legitimate. **[Control]**

**Mutuality]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

58. In dealing with people like me, this organization has a tendency to throw its weight around. **[Control Mutuality]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

59. This organization really listens to what people like me have to say. **[Control Mutuality]**

Strongly disagree 0 1 2 3 4 5 6 7 8 9 10 Strongly agree

60. Are you a male or female?

\_\_\_\_\_ Male

\_\_\_\_\_ Female

61. How old are you? (Please give a number. For example, "30" means 30 years of age.)

\_\_\_\_\_.

62. Please check one that applies to your marital status:

\_\_\_\_\_ married;

\_\_\_\_\_ divorced;

\_\_\_\_\_ widowed;

\_\_\_\_\_ separated;

\_\_\_\_\_ never been married;

\_\_\_\_\_ a member of an unmarried couple.

63. Please specify your job title: \_\_\_\_\_.

64. How many employees does your organization have? \_\_\_\_\_.

65. How many employees/subordinates are you directly or indirectly supervising?

\_\_\_\_\_.

66. How many hours do you work per week?

\_\_\_\_\_ Less than 20 hours.

\_\_\_\_\_ 20 hours.

\_\_\_\_\_ Between 20 and 40 hours.

\_\_\_\_\_ 40 Hours.

\_\_\_\_\_ More than 40 hours.

67. If you have a spouse or partner, how many hours does she or he work per week?

\_\_\_\_\_ Less than 20 hours.

\_\_\_\_\_ 20 hours.

\_\_\_\_\_ Between 20 and 40 hours.

\_\_\_\_\_ 40 Hours.

\_\_\_\_\_ More than 40 hours.

68. How many hours per week do you spend in taking care of children and doing other

household things not solely for your own individual needs (for example, clean house,  
wash and iron clothes, repair appliances, or make other repairs in the house)?

\_\_\_\_\_.

69. Years of Employment

For example: If you have worked for your current employer organization for 1 year and 4  
months, please enter "1" under "Years" and "4" under "Months".

How long have you been working for your current employer organization? \_\_\_\_\_

Years \_\_\_\_\_ Months.

70. Please indicate your ethnicity:

\_\_\_Caucasian      \_\_\_African American    \_\_\_Latin American

\_\_\_Native American    \_\_\_Pacific Islanders    \_\_\_Asian

\_\_\_Middle Eastern    \_\_\_Other please specify: \_\_\_\_\_

71. What is the highest level of school you completed?

\_\_\_\_\_High School Graduate;

\_\_\_\_\_Bachelor

\_\_\_\_\_Master's

\_\_\_\_\_Doctorate

Other please specify: \_\_\_\_\_

## Appendix B: IRB Initial Application

Page 1 of 3  
Initials \_\_\_\_\_  
Date \_\_\_\_\_

### **CONSENT FORM**

<b>Project Title</b>	Work/Life Conflict, Indicators of Quality Employee-Organization Relationships (EORs), and Behavioral Intentions: The Moderating Roles of Leadership and Justice
<b>Why is this research being done?</b>	This is a Ph.D. dissertation research project being conducted by Dr. Linda Aldoory and Ms. Hua Jiang at the University of Maryland, College Park. We are inviting you to participate in this research project because you are at least 18 years of age and employed by your employer organization. The purpose of this research project is to investigate the role of perceived work/life conflict in building employee-organization relationships.
<b>What will I be asked to do?</b>	The procedures involve filling out a questionnaire on line, which will take approximately 30 minutes. Please complete the survey in a private location since you will be asked questions about your employer. Your participation is voluntary, and you may withdraw from participation at any time without penalty. Some of the questionnaire items will be “There is a long-lasting bond between this organization and people like me” “When I am at home or attend activities in my social life, I always think about work-related problems.”



<p><b>What about confidentiality?</b></p>	<p>We will do our best to keep your personal information confidential. You will be given a URL link to access the online survey. The information you enter on the online survey will be the only data we will use for the study. To further help protect your confidentiality, the information that you provide will be grouped with data others provide for reporting and presentation and that your name and the name of your organization will not be used. The student investigator will delete all information in the data file that is related to your IP address. The electronic data will be kept in the student investigator's password protected and encrypted laptop. The data will be deleted permanently after five years. If ever the electronic data are printed out, the hard copies will be kept in the student investigator's locked cabinet in her office on campus for five years, and will be shredded thereafter. The investigators will not utilize the Survey Monkey features that are provided for research subject management. All identifying information is being retained and secured on campus. You and any other participant (or anyone using your, his or her password) cannot access the results of the survey once the survey has been completed. You will need to close the browser once the online survey has been completed. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p>
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<b>Project Title</b>	Work/Life Conflict, Indicators of Quality Employee-Organization Relationships (EORs), and Behavioral Intentions: The Moderating Roles of Leadership and Justice
<b>What are the risks of this research?</b>	There are no known risks associated with participating in this research project. All participation will be voluntary. Your information will remain confidential. You have the right to ask questions and can decline to answer specific questions or end your participation at any time without penalty.
<b>What are the benefits of this research?</b>	This research is not designed to help you personally, but the results may help the investigators learn more about the role of direct supervisors' leadership behaviors and organizational justice in the relation between work/life conflict and employee-organization relationships and the way the relationships impact employees' behavioral intentions. We hope that, in the future, other people may benefit from this study through improved understanding in this regard.
<b>Do I have to be in this research? May I stop participating at any time?</b>	Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.
<b>What if I have questions?</b>	<p>This research is being conducted by Dr. Linda Aldoory in the Department of Communication at the University of Maryland, College Park. If you have any questions about the research study itself, please contact Dr. Aldoory at: Department of Communication, University of Maryland, 2124 Skinner Building, College Park, MD, 20742; phone: 301-405-6528; e-mail: laldoory@umd.edu.</p> <p>If you have questions about your rights as a research subject or wish to report a research-related injury, please contact:  <b>Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) <a href="mailto:irb@deans.umd.edu">irb@deans.umd.edu</a>; (telephone) 301-405-0678</b></p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>

<b>Project Title</b>	Work/Life Conflict, Indicators of Quality Employee-Organization Relationships (EORs), and Behavioral Intentions: The Moderating Roles of Leadership and Justice	
<b>Statement of Age of Participant and Consent</b>	<p>You cannot actually sign the consent form if it is online. If you agree to participate in this study, please click the radio button “Enter”. Clicking enter indicates:</p> <p>You are at least 18 years of age; the research has been explained to you; your questions have been fully answered; and you freely and voluntarily choose to participate in this research project.</p>	
<b>Signature and Date</b>	<b>NAME OF PARTICIPANT</b>	
	<b>SIGNATURE OF PARTICIPANT</b>	
	<b>DATE</b>	

## Appendix C: IRB Addendum

Page 1 of 2

Initials \_\_\_\_\_ Date \_\_\_\_\_

### CONSENT FORM

<b>Project Title</b>	<i>Work-Life Conflict and Indicators of Quality Employee-Organization Relationships (EORs): The Roles of Leadership, Justice, and Perceived Organizational Support</i>
<b>Why is this research being done?</b>	<i>This is a Ph.D. dissertation research project being conducted by Dr. Linda Aldoory and Ms. Hua Jiang at the University of Maryland, College Park. We are inviting you to participate in this research project because you are at least 18 years of age and employed by your employer organization. The purpose of this research project is to investigate the role of perceived work/life conflict in building employee-organization relationships.</i>
<b>What will I be asked to do?</b>	<i>The procedures involve filling out a questionnaire on line, which will take approximately 30 minutes. Please complete the survey in a private location since you will be asked questions about your employer. Your participation is voluntary, and you may withdraw from participation at any time without penalty. Some of the questionnaire items will be “There is a long-lasting bond between this organization and people like me” “When I am at home or attend activities in my social life, I always think about work-related problems.”</i>
<b>What about confidentiality?</b>	<i>We will do our best to keep your personal information confidential. You will be given a URL link to access the online survey. The information you enter on the online survey will be the only data we will use for the study. To further help protect your confidentiality, the information that you provide will be grouped with data others provide for reporting and presentation and that your name and the name of your organization will not be used. The student investigator will delete all information in the data file that is related to your IP address. The electronic data will be kept in the student investigator’s password protected and encrypted laptop. The data will be deleted permanently after five years. If ever the electronic data are printed out, the hard copies will be kept in the student investigator’s locked cabinet in her office on campus for five years, and will be shredded thereafter. The investigators will not utilize the</i>

	<i>Survey Monkey features that are provided for research subject management. All identifying information is being retained and secured on campus. You and any other participant (or anyone using your, his or her password) cannot access the results of the survey once the survey has been completed. You will need to close the browser once the online survey has been completed. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i>
<b>What are the risks of this research?</b>	<i>There are no known risks associated with participating in this research project. All participation will be voluntary. Your information will remain confidential. You have the right to ask questions and can decline to answer specific questions or end your participation at any time without penalty.</i>

Initials \_\_\_\_\_ Date \_\_\_\_\_

<b>Project Title</b>	<i>Work-Life Conflict and Indicators of Quality Employee-Organization Relationships (EORs): The Roles of Leadership, Justice, and Perceived Organizational Support</i>	
<b>What are the benefits of this research?</b>	<i>This research is not designed to help you personally, but the results may help the investigators learn more about how employees' perceived work-life conflict and their perceived employee-organization relationships (EORs) are influenced by their perceived transformational leadership behaviors of direct supervisors, perceived organizational justice, and their perceived organizational support. We hope that, in the future, other people may benefit from this study through improved understanding in this regard.</i>	
<b>Do I have to be in this research? May I stop participating at any time?</b>	<i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</i>	
<b>Statement of Age of Participant and Consent</b>	<i>Your signature indicates that:</i> <ul style="list-style-type: none"> <li><input type="checkbox"/> <i>you are at least 18 years of age;</i></li> <li><input type="checkbox"/> <i>the research has been explained to you;</i></li> <li><input type="checkbox"/> <i>your questions have been fully answered; and</i></li> <li><input type="checkbox"/> <i>you freely and voluntarily choose to participate in this research project.</i></li> </ul>	
<b>Signature and Date</b>	<b>NAME OF SUBJECT</b>	
	<b>SIGNATURE OF SUBJECT</b>	
	<b>DATE</b>	

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