

Cultural Applicability of Leadership Training in the Field of Pathology and Laboratory
Medicine

Lotte Mulder

A Dissertation Submitted to the Faculty of
The Chicago School of Professional Psychology
In Partial Fulfillment of the Requirements
For the Degree of Doctor of Philosophy in Organizational Leadership

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2020

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Dedication

This dissertation is dedicated to the exploration of others and ourselves. It is through a continuous and lifelong sense of curiosity, respect, and learning that we can truly understand, appreciate, and empower one another.

Abstract

The purpose of this multiple case study was to analyze the cultural applicability of leadership courses in the field of pathology and laboratory medicine within three distinct cultures: the United States of America, the United Arab Emirates, and the United Republic of Tanzania. Currently, there is a shortage of physician-leaders in the subspecialty practice of pathology and laboratory medicine. Increased leadership development in pathology and laboratory medicine fosters high-quality patient care, increased efficiency, and enhanced outcomes. The researcher analyzed the cultural applicability of leadership training through three cultural lenses, national culture, organizational culture, and leadership culture, using both quantitative and qualitative data from four medical laboratories in the three countries. The data collected and analyzed in this study indicate that there is a strong professional culture of pathology and laboratory medicine that crosses national, organizational, and leadership cultural boundaries. Specifically, the results of this study revealed that professional, national, organizational and leadership culture influence the applicability of leadership courses. This finding suggests that culturally inclusive training creates the space for diversity of thought, experience, and culture to develop effective leadership skills.

Table of Contents

List of Tables	xiv
List of Figures.....	xix
Chapter 1: Nature of the Study	1
Background.....	1
What is Pathology and Laboratory Medicine?.....	3
Pathology and Laboratory Medicine in the United States of America	5
Pathology and Laboratory Medicine in the United Arab Emirates.....	6
Pathology and Laboratory Medicine in the United Republic of Tanzania.....	7
American Society for Clinical Pathology (ASCP) Leadership Institute Certificate Program	12
Problem Statement.....	13
Purpose of the Study	15
Research Questions and Propositions	15
Conceptual Frameworks	17
Scope of the Study	20
Definition of Key Terms.....	20
Significance of the Study	21
Summary	22
Chapter 2: Literature Review	24
Introduction.....	24
Research Strategy	25
Leadership.....	25
Introduction	25

What is Leadership?	26
Leadership Training and Self-Awareness	28
The Life Styles Inventory (LSI)	30
Leadership Need in Medicine	35
Leadership Need in Pathology and Laboratory Medicine.....	43
Cultural Applicability	50
Introduction	50
What is Culture?.....	50
Cultural Applicability and Leadership	55
Introduction	58
What is National Culture?	58
Models of National Culture.....	60
Hofstede's Dimensions of National Culture	62
National Culture and Leadership	65
National Culture Comparisons	66
Organizational Culture.....	71
Introduction	72
What is Organizational Culture?	72
The Organizational Culture Inventory (OCI).....	73
Gaps in Literature	78
Summary	79
Propositions	80
Proposition 1	81

Proposition 2	83
Proposition 3	85
Proposition 4	87
Chapter Overview	89
Research Statement and Questions	89
Alignment Between Research Questions and Propositions	92
Research Design	92
Case Study Method	93
Case Selection	94
Case Descriptions.....	97
Instrumentation	104
The Life Styles Inventory (LSI).....	104
The Organizational Culture Inventory (OCI).....	108
The Values Survey Module.....	113
Leadership Course Descriptions	115
Data Collection/Field Procedures	117
Assessments	121
Observations.....	122
Data Analysis/Triangulation	125
Coding Process	128
First Cycle Coding	129
Second Cycle Coding.....	130
Theoretical Coding.....	131

Validity	133
Credibility	133
Dependability and Transferability.....	134
Researcher Bias	134
Assumptions	135
Limitations	136
Participant Risks and Mitigations	137
Ethical Assurances	138
Summary	140
Chapter 4: Results.....	141
Introduction.....	141
Coding Definitions	141
Propositions.....	150
National Culture.....	150
Values Survey Module Results	151
Proposition Results Related to National Culture	152
Macro-Coding Results	156
Leadership Courses Completion Results	161
Survey Results.....	163
Laboratory Organizational Culture	166
Proposition Results Related to Organizational Culture	182
Macro-Coding Results	186
Leadership Courses Completion Results	193

Laboratory Leadership Culture	195
50th Percentile of the Life Styles Inventory (LSI)	196
Proposition Results Related to Leadership Culture	210
Macro-Coding Results	214
Leadership Courses Completion Results	219
Comparison of Organizational and Leadership Culture	225
No Interrelationship Between Organizational and Leadership Culture	225
Propositions Results Related to Leadership and Organizational Culture	231
Professional Culture	237
Macro-Coding Results	237
Leadership Courses Completion Results	248
Survey Results	250
Summary	251
Chapter 5: Discussion	254
Introduction	254
Discussion	254
Propositions	254
Additional Results Consistent With the Literature	256
Additional Results Consistent With the Literature: National Culture	256
Additional Results Consistent With the Literature: Organizational Culture	258
Additional Results Consistent With the Literature: Leadership Culture	259
Additional Results that Add to the Literature	260
Additional Results that Add to the Literature: National Culture	261

Additional Results that Add to the Literature: Organizational Culture	261
Additional Results that Add to the Literature: Leadership Culture	264
Additional Results that Add to the Literature: Professional Culture	265
Limitations	271
Implications for the Field of Pathology and Laboratory Medicine	273
Implications for the Field of Leadership and Leadership Training.....	274
Implications for Scholarship	276
Implications for Practitioners	277
Recommendations.....	277
Summary	280
References	282
Appendix A: Additional Information about Pathology and Laboratory Medicine Need in Sub-	
Saharan Africa	302
Appendix B: ASCP Leadership Institute Certificate Program Syllabus and the Course	
Objectives	303
Appendix C: Additional Information about the Life Styles Inventory and Organizational	
Culture Inventory Circumplexes	311
Appendix D: Recruitment Flyer	314
Appendix E: Informed Consent Form	316
Appendix F: Consent from Human Synergistics International	322
Appendix G: Checklist for Observation	323
Appendix H: Interview Questions	325
Appendix I: Focus Group Questions	327

Appendix J: Survey Questions	329
Appendix E: Initial Coding Tree 2.23.19	334
Appendix L: Final Coding Tree	339
Appendix M: Additional National Culture Data	342
Appendix N: Additional Macro-Data	345
Appendix O: Life Styles Inventory Results.....	366
Appendix P: Organizational Culture Inventory Results	370

List of Tables

Table 1. <i>Definitions of Leadership</i>	27
Table 2. <i>US-4 Case Description and Data Collected</i>	99
Table 3. <i>US-14 Case Description and Data Collected</i>	100
Table 4. <i>UA-18 Case Description and Data Collected</i>	101
Table. <i>TZ-13 Case Description and Data Collected</i>	102
Table 6. <i>Timeline of Data Collected US-4</i>	118
Table 7. <i>Timeline of Data Collected US-14</i>	119
Table 8. <i>Timeline of Data Collected UA-18</i>	120
Table 9. <i>Timeline of Data Collected TZ-13</i>	121
Table 10. <i>Survey Completion Data</i>	125
Table 11. <i>Multimethod Multitrait Triangulation of National Culture</i>	126
Table 12. <i>Multimethod Multitrait Triangulation of Organizational Culture</i>	127
Table 13. <i>Multimethod Multitrait Triangulation of Leadership Culture</i>	128
Table 14. <i>Coding Definitions Accountability Through Collaboration</i>	142
Table 15. <i>Coding Definitions Collegial through Development</i>	143
Table 16. <i>Coding Definitions Difficulty Explaining Own Culture through Hierarchy</i>	144
Table 17. <i>Coding Definitions Homogenous through Leadership Role</i>	145
Table 18. <i>Coding Definitions Liaison through Patient-Centered</i>	146
Table 19. <i>Coding Definitions Physical Description of Country Through Religion</i>	147
Table 20. <i>Coding Definitions Research through Typical Day</i>	148
Table 21. <i>Coding Definitions Understaffed Through Work Relationships</i>	149
Table 22. <i>National Culture Data (Hofstede, 2001)</i>	152

Table 23. <i>Proposition 1</i>	153
Table 24. <i>Proposition 1a</i>	154
Table 25. <i>Proposition 1b</i>	155
Table 26. <i>Proposition 1c</i>	155
Table 27. <i>Proposition 1d</i>	156
Table 28. <i>Coding Data on References to Safe Country</i>	157
Table 29. <i>Coding Data on References to Country of Opportunity</i>	158
Table 30. <i>Coding Data on References to Freedom and Individual</i>	158
Table 31. <i>Coding Data on References to Equality</i>	159
Table 32. <i>Coding Data on References to Respect and Open-Mindedness</i>	160
Table 33. <i>Coding Data on References to Homogeneity</i>	161
Table 34. <i>National Culture Data Leadership Courses</i>	162
Table 35. <i>Courses Strengthened Leadership Skills Data</i>	164
Table 36. <i>Survey Completion Time</i>	166
Table 37. <i>OCI Primary and Secondary Styles Per Site</i>	167
Table 38. <i>OCI Results: Achievement</i>	168
Table 39. <i>OCI Results: Self-Actualizing</i>	169
Table 40. <i>OCI Results: Humanistic-Encouraging</i>	170
Table 41. <i>OCI Results: Affiliative</i>	172
Table 42. <i>OCI Results: Approval</i>	174
Table 43. <i>OCI Results: Conventional</i>	175
Table 44. <i>OCI Results: Dependent</i>	176
Table 45. <i>OCI Results: Avoidance</i>	177

Table 46. <i>OCI Results: Oppositional</i>	178
Table 47. <i>OCI Results: Competitive</i>	179
Table 48. <i>OCI Results: Power</i>	180
Table 49. <i>OCI Results: Perfectionistic</i>	181
Table 50. <i>Proposition 2</i>	183
Table 51. <i>Proposition 2a</i>	184
Table 52. <i>Proposition 2b</i>	185
Table 53. <i>Proposition 2c</i>	186
Table 54. <i>Coding Data on References to Accountability</i>	187
Table 55. <i>Coding Data on References to Blame Free</i>	188
Table 56. <i>Coding Data on References to Asking Questions</i>	189
Table 57. <i>Coding Data on References to Advocating</i>	190
Table 58. <i>Coding Data on References to Work-Life Balance</i>	191
Table 59. <i>Coding Data on References to Leadership Education</i>	192
Table 60. <i>Coding Data on References to Laboratory Safety</i>	193
Table 61. <i>Completion of Leadership Courses</i>	194
Table 62. <i>Which Courses Are Not Applicable to Current Job</i>	195
Table 63. <i>LSI Primary and Secondary Styles Per Site</i>	197
Table 64. <i>LSI Results: Achievement</i>	198
Table 65. <i>LSI Results: Self-Actualizing</i>	199
Table 66. <i>LSI Results: Humanistic-Encouraging</i>	200
Table 67. <i>LSI Results: Affiliative</i>	201
Table 68. <i>LSI Results: Approval</i>	202

Table 69. <i>LSI Results: Conventional</i>	203
Table 70. <i>LSI Results: Dependent</i>	204
Table 71. <i>LSI Results: Avoidance</i>	205
Table 72. <i>LSI Results: Oppositional</i>	206
Table 73. <i>LSI Results: Competitive</i>	207
Table 74. <i>LSI Results: Power</i>	208
Table 75. <i>LSI Results: Perfectionistic</i>	209
Table 76. <i>Proposition 3</i>	211
Table 77. <i>Proposition 3a</i>	211
Table 78. <i>Proposition 3b</i>	212
Table 79. <i>Proposition 3c</i>	213
Table 80. <i>Coding Data on References to Follow Rules</i>	214
Table 81. <i>Coding Data on References to Mentor</i>	215
Table 82. <i>Coding Data on References to Liaison</i>	216
Table 83. <i>Coding Data on References to Mentor</i>	217
Table 84. <i>Coding Data on References to Training</i>	218
Table 85. <i>Coding Data on References to Recognition</i>	219
Table 86. <i>Total Courses Completed Before the Deadlines Per Site</i>	220
Table 87. <i>Leadership Culture Data on Leadership Courses Completion Rates of Participants</i>	220
Table 88. <i>People Versus Task Orientation Per Site Per Assessment</i>	226
Table 89. <i>OCI and LSI Primary and Secondary Styles Per Site</i>	227
Table 90. <i>Proposition 4</i>	232

Table 91. <i>Proposition 4a</i>	232
Table 92. <i>Proposition 4b</i>	233
Table 93. <i>Proposition 4c</i>	233
Table 94. <i>Proposition 4d</i>	234
Table 95. <i>Proposition 4e</i>	235
Table 96. <i>Proposition 4f</i>	235
Table 97. <i>Proposition 4g</i>	236
Table 98. <i>Proposition 4h</i>	236
Table 99. <i>Coding Data on References to Accuracy</i>	237
Table 100. <i>Coding Data on References to Leadership</i>	238
Table 101. <i>Coding Data on References to Work Relationships</i>	239
Table 102. <i>Coding Data on References to Collegial</i>	240
Table 103. <i>Coding Data on References to Development</i>	241
Table 104. <i>Coding Data on References to Patient-Centered</i>	242
Table 105. <i>Coding Data on References to Work Environment</i>	242
Table 106. <i>Coding Data on References to Lack of Pathologists and Laboratory Professionals</i>	244
Table 107. <i>Coding Data on References to Typical and No Typical Day</i>	245
Table 108. <i>Coding Data on References to Communication Skills</i>	246
Table 109. <i>Coding Data on References to Collaboration and Community</i>	247
Table 110. <i>Leadership Courses Completion Rate</i>	249
Table 111. <i>Professional Culture Survey Data</i>	251

List of Figures

Figure 1. Conceptual framework.....	19
Figure 2. Life Styles Inventory (LSI) circumplex.....	32
Figure 3. Ideal Organizational Culture Inventory (OCI) profiles of international clusters	78
Figure 4. Life Styles Inventory (LSI) circumplex with colors.....	105
Figure 5. Average courses completed per person per month.....	163
Figure 6. Data on the application of MBTI course from survey.....	165
Figure 7. Average course completion per person per month per site.....	222
Figure 8. USA data on course application.....	223
Figure 9. UAE data on course application.....	224
Figure 10. UAE data on course application.....	225
Figure 11. US-4 Life Styles Inventory (LSI; left) and Organizational Culture Inventory (OCI; right) results.....	228
Figure 12. US-14 Life Styles Inventory (LSI; left) and Organizational Culture Inventory (OCI; right) results.....	229
Figure 13. UA-18 Life Styles Inventory (LSI; left) and Organizational Culture Inventory (OCI; right) results.....	230
Figure 14. TZ-13 Life Styles Inventory (LSI; left) and Organizational Culture Inventory (OCI; right) results.....	231
Figure 15. Ideal Organizational Culture Inventory (OCI) profiles of international clusters.....	262
Figure 16. Near Eastern cluster compared to Organizational Culture Inventory (OCI) profile from UA-18.....	263

Figure 17. Anglo cluster compared to Organizational Culture Inventory (OCI) profiles

from US-4 and US-14264

Chapter 1: Nature of the Study

As a concept, leadership has been seen throughout the ages as critical to human dynamics. It is, therefore, essential to study leadership and leadership components because they shape the human experience. The purpose of this chapter is to describe this leadership study, including the background, the scope of the study, the problem statement and purpose, and the propositions and research questions. This chapter also discusses the conceptual frameworks, defines the key terms, and explains the significance of this study to the field of leadership, pathology and laboratory medicine, and patient care.

Background

Leadership centers on human interaction and problem solving, and as a result, the concept of leadership is culture-bound and situational (Nicholson, 2013; Perruci, 2011; Perruci & McManus, 2013; Yukl, 2013). In the field of medicine, effective leadership leads to better patient outcomes, improved patient satisfaction, higher health care quality, and an optimized health system (Blumenthal, Bernard, Bohnen, & Bohmer, 2012; Doughty, Williams, Brigham, & Seashore, 2010; Frich, Brewster, Cherlin, & Bradley, 2014; Gunderman & Kanter, 2009). Unfortunately, there is a significant leadership gap in medicine and physician leaders are underdeveloped (Ackerly et al., 2011; Brimhall, Wright, McGregor, & Hernandez, 2007; Frich et al., 2014; Gunderman & Kanter, 2009; Lobas, 2006; Majmudar, Jain, Chaudry, & Schwartz, 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Stoller, 2008). Specifically, the subspecialty field of pathology and laboratory medicine has a shortage of leaders and lacks leadership training (Brimhall et al., 2007; Caldwell, 2014; Fleming et al., 2017; Horowitz, 2006; Sheikh & Kowalski, 2012; Weiss et al., 2014). Competency in leadership in pathology and laboratory

medicine will foster optimal efficiency, quality, and patient-driven outcomes (Branda et al., 2014; Brimhall et al., 2007; Fleming et al., 2017; Graves, 2007; Horowitz, 2006; Isouard, 2013).

An understanding of culture in professional life is essential because it affects leadership and human behavior (Ayman & Korabik, 2010; Hofstede, 1980; Javidan, Dorfman, Sully de Luque, & House, 2006) In other words, the specific leadership behaviors that are applicable in one culture do not necessarily translate to another (Javidan et al., 2006). Self-aware leaders who are able to adapt their behavior to a specific situation are the most effective (Butler et al., 2014; Caldwell & Hayes, 2016; Gallagher et al., 2012; Gill et al., 2015; Ramthun & Matkin, 2012; S. N. Taylor, 2010; S. N. Taylor et al., 2012). In addition, leaders who ignore culture create challenges for the leadership pipeline (Ayman & Korabik, 2010). Therefore, it is essential to create culturally appropriate leadership training in pathology and laboratory medicine.

This chapter explains what the field of pathology and laboratory medicine is, followed by a description of the current state of pathology and laboratory medicine in the United States of America, the United Arab Emirates, and the United Republic of Tanzania. The next section describes the ASCP Leadership Institute Certificate program. Subsequently, the researcher outlines the problem statement and the purpose of this study. This is followed by the research questions, a summary of the propositions, and the conceptual frameworks used in this study. Finally, the scope of the study and the key terms are defined, followed by a description of the significance of the study. The next chapter explores the literature review related to the topic of this research.

What is Pathology and Laboratory Medicine?

Medicine is a diverse field of disciplines and areas of expertise. Pathology and laboratory medicine is a specialty of medicine referring to the study of disease and the underlying causes of patient's symptoms (Fleming et al., 2017; Graves, 2007). It provides diagnostics, prognostics, and the monitoring of specific disease states (Fleming et al., 2017) and is also tasked with creating and managing personalized treatment plans (Fleming et al., 2017). Diagnostics is essential to the delivery of health care, namely because clinician physicians are unable to treat patients without a specific diagnosis (Fleming et al., 2017; Graves, 2007; Isouard, 2013). Importantly, pathology and laboratory medicine must also implement quality control and quality assurance measures for the entire health care diagnostics system, particularly related to appropriate orders and the quality of testing (Fleming et al., 2017). Without accurate pathology and laboratory medicine systems, health care systems would fail and economic and personal loss would ensue (Fleming et al., 2017; Graves, 2007; Isouard, 2013). Pathology and laboratory medicine consist of three tiers of professional practitioners: pathologists, clinical scientists, and technologists/technicians, the latter often referred to as non-physician laboratory professionals (Fleming et al., 2017).

Diagnostics is the foundation of all medicine; without a diagnosis, it is impossible to treat a symptom or a disease. Ironically, there was no clear moment in history when pathology and laboratory medicine originated (Van Den Tweel & Taylor, 2010).

Pathology and laboratory medicine practices emerged as a separate field at the end of the fifteenth century when autopsies were conducted to understand the causes of diseases (Van Den Tweel & Taylor, 2010). The root of pathology and laboratory medicine stems

from the Greek word “pathos,” meaning pain, suffering, and sadness (Wissler, 1978). Pathology and laboratory medicine focuses on the causes of physical suffering in the body (Fleming et al., 2017; Graves, 2007; Van Den Tweel & Taylor, 2010; Wissler, 1978). The first known book that classified symptoms and diseases, *Medicina*, written by the French physician, astronomer, and mathematician Jean Francois Fernel and was published in 1554, had a singular section, *Pathologiae Libri* (Van Den Tweel & Taylor, 2010), that discussed pathology and laboratory medicine. After the invention of the microscope, however, the field of pathology and laboratory medicine became more widely available and the field quickly advanced (Van Den Tweel & Taylor, 2010). In the nineteenth century, pathology and laboratory medicine began to focus on tissue analyses, which created the pathway for cellular analysis (Van Den Tweel & Taylor, 2010). A century later, diagnostics ultimately lead to advances in the analyses of gene-based diseases and diagnostic molecular pathways (Van Den Tweel & Taylor, 2010).

There are two general disciplines within pathology and laboratory medicine: anatomic and clinical pathology (Fleming et al., 2017; Howell, Lipscomb Lyons, Thor, & Dandar, 2015). Clinical pathology (CP) is responsible for blood and fluid analysis; anatomic pathology (AP) involves analyses of tissues and cells (Conjoint Task Force on Clinical Pathology Residency Training Writing Committee, 1995; Fleming et al., 2017). Pathologists-in-training generally study and become either an AP or CP pathologist, a joint AP/CP pathologist, or a specialized pathologist in one or more of 35 specialized areas, such as cytopathology (cancer diagnostics), hematology (blood-based disorders) or molecular pathology (genetic diseases; Fleming et al., 2017; Robboy et al., 2013). Non-physician laboratory professionals train as generalists, often with a subspecialty in either

cytology, histology, blood banking, hematology, clinical chemistry, microbiology, or molecular pathology.

Pathology and Laboratory Medicine in the United States of America

As of January 2018, there are 327 million people in the United States (United States Census Bureau, 2018a). The Human Development Index (HDI), an international measure used to assess the development of a country, measures the achievement average in the three essential dimensions of development, namely a sufficient standard of living, knowledgeable population, and a healthy long life (United Nations Development Programme, 2018b). The HDI for the United States is 0.92 and is ranked as number 10 in the world, indicating the U.S. is a very high humanly developed country (United Nations Development Programme, 2018b).

The United States of America (U.S.A.) is a federation of 50 states, 48 of which are within the continental U.S. (Weisberger et al., 2020). It is bordered by Canada on the north and Mexico on the south; Hawaii is an island in the Pacific Ocean and Alaska is bordered by Canada to the east (Weisberger et al., 2020). The U.S. became independent in 1776 and the capital is Washington D.C. (Weisberger et al., 2020). The United States is one of the most diverse countries in the world (Weisberger et al., 2020). Corporate employers provide two-thirds of the citizens within the U.S. with health care, while the government provides healthcare for individuals within the armed services (and their families), those over 65 (Medicare) and the very poor (Medicaid; Weisberger et al., 2020).

The three highest causes of death in the U.S. are heart disease, cancer, and chronic lower respiratory diseases (Centers for Disease Control and Prevention, n.d.-a).

Currently, 633,842 people die from heart disease each year, 595,930 from cancer, and 155,041 from lower respiratory diseases such as bronchitis, asthma, and emphysema (Centers for Disease Control and Prevention, n.d.-a). Both heart disease and cancer are diagnosed by practitioners within pathology and laboratory medicine. According to the American Medical Association (AMA), there are 22,105 pathologists in the United States (AMA, 2017). The ratio of pathologists to citizens is 1:14,793. However, the AMA data has significant limitations because the data does not account accurately for deceased practitioners, retired individuals, and those who fail to respond to the surveys. The number of active/practicing pathologists might be significantly lower (Robboy et al., 2013). Additionally, there is an expected pathologist shortage due to a significant retirement cliff as well as insufficient recruitment (Bennett et al., 2014; Robboy et al., 2013, 2015). The federal Clinical Laboratory Improvement Amendments (CLIA) program accredits around 254,000 laboratories and is focused on ensuring quality laboratory testing through standard regulations (Centers for Medicare & Medicaid Services, n.d.-c).

Pathology and Laboratory Medicine in the United Arab Emirates

As of January 2018, there are 6.2 million people in the United Arab Emirates (U.A.E.) (United States Census Bureau, 2018b). The HDI for the U.A.E. is 0.84 and it is ranked as number 42 in the world, indicating that the U.A.E. is a high humanly developed country (United Nations Development Programme, 2018c). The top four public health priorities are cardiovascular disease, injuries, cancer, and respiratory disorders (Loney et al., 2013). Similar to the United States, cardiovascular disease and cancer are diagnosed within the field of pathology and laboratory medicine. In the U.A.E., there were 1,500

pathologists in 2015 (ASCP, personal communication of market research, 2015). The ratio of pathologist to citizens is 1:4133.

The United Arab Emirates is a federation of seven emirates: Abu Dhabi, Ajman, Dubai, Fujairah, Ras Al Khaimah, Sharjah, and Umm Al Quwain (Peterson & Crystal, 2020). It is surrounded by Oman in the northeast and Saudi Arabia to the south (Peterson & Crystal, 2020). The largest emirate is Abu Dhabi, which is also the center of the U.A.E's oil industry and emirate Dubai has the most commercial and financial centers (Peterson & Crystal, 2020). The U.A.E became independent after WWII and subsequently, the capital became the city of Abu Dhabi (Peterson & Crystal, 2020). The official language is Arabic, but English is widely spoken (Peterson & Crystal, 2020). The U.A.E has a large population of foreign workers —only about one out of six of the population is Emirati (Peterson & Crystal, 2020). Health care and education are free for Emirati (Peterson & Crystal, 2020). There are no data available on the status of laboratories in the U.A.E.

Pathology and Laboratory Medicine in the United Republic of Tanzania

As of January 2018, there are 55.5 million people in Tanzania (United States Census Bureau, 2018c). The HDI for Tanzania is 0.531 and it is ranked at number 151 in the world (United Nations Development Programme, 2018a), ranking its human development as low (Tumino et al., 2017; United Nations Development Programme, 2018a). The top four causes of death are HIV, lower respiratory infections, malaria, and diarrheal diseases (Centers for Disease Control and Prevention, n.d.-b). In Tanzania, cancer is rated as the sixth cause of death, along with tuberculosis, although specific data is unknown due to the lack of reporting of cancer-related deaths (Centers for Disease

Control and Prevention, n.d.-b). All these diseases are diagnosed by individuals within pathology and laboratory medicine. In 2013, there were a total of 23 pathologists in Tanzania (Adesina et al., 2013). This puts the ratio of pathologists to citizens at roughly 1:2.4 million, which is a slight increase from 2010 when the ratio was 1 pathologist per 2.5 million citizens (Rambau, 2011). There is no data available on the specific number of laboratories in Tanzania.

The United Republic of Tanzania is located within East Africa and is surrounded by Kenya to the north, Uganda, Rwanda, and Burundi to the northwest, Zambia and Malawi to the southwest, Mozambique to the south, and the Indian Ocean to the east (Bryceson, Ingham, Chiteji, & Mascarenhas, n.d.). In 1964, Tanzania became a sovereign state, including the islands of Mafia, Zanzibar, and Pemba (Bryceson et al., n.d.). Both English and Swahili are the official languages. Swahili is the language of instruction during the first seven years of education, whereas English is the medium of instruction thereafter and is also the language most commonly used within the government (Bryceson et al., n.d.). The capital of Tanzania is Dodoma; however, Dar es Salaam, the largest city in Tanzania, houses the majority of government administration (Bryceson et al., n.d.). When Tanzania became independent, health care was provided free of charge (Rambau, 2011). However, in 1995 citizens were expected to contribute to their health care, with the exception of pregnant women, children under the age of five, the elderly, and chronically ill patients (Rambau, 2011).

In Tanzania, there are multiple tiers of laboratories across the country to provide better access for its citizens. At the first level are dispensary laboratories, which focus on minimal outpatient services for about 6,000 – 10,000 people (Massambu & Mwangi,

2009; Mboera et al., 2015). At the second level are health centers, which serve more than 50,000 individuals and have in- and out-patient capabilities (Massambu & Mwangi, 2009; Mboera et al., 2015). Next are district hospitals, which serve as referral laboratories for the health centers (Massambu & Mwangi, 2009; Mboera et al., 2015). Lastly, there are regional laboratories, referral laboratories, and national public health and reference laboratories (Massambu & Mwangi, 2009; Mboera et al., 2015). The higher the level of laboratory, the higher the level of services provided and the more personalized diagnostics and treatments are available (Massambu & Mwangi, 2009; Mboera et al., 2015). As a result of the more complex laboratory diagnostics required, the majority of pathologists work in national reference laboratories (Rambau, 2011). Unfortunately, because there are only 23 pathologists within Tanzania, they cannot effectively serve the entire population (Fleming et al., 2017; Kaschula, 2013; Rambau, 2011; Tumino et al., 2017).

It is clear there is a deficit of pathologists in Tanzania (Adesina et al., 2013; Benediktsson, Whitelaw, & Roy, 2009; Kaschula, 2013; Massambu & Mwangi, 2009; Mmbuji et al., 2011; Mosha, Oundo, Mukanga, Njenga, & Nsubuga, 2011; Rambau, 2011; Tumino et al., 2017). The deficit of pathology and laboratory medicine in Sub-Saharan Africa is overall due to a lack of available practitioners, laboratory infrastructure, equipment, and supplies (Adesina et al., 2013; Benediktsson et al., 2009; Kaschula, 2013; Massambu & Mwangi, 2009; Mosha et al., 2011; Nakanjako et al., 2015; Rambau, 2011; Tumino et al., 2017). Furthermore, there is a lack of understanding and awareness of pathology and laboratory medicine in the region, which, in turn, creates scenarios where many clinicians treat patients without diagnostic information (Adesina et al., 2013;

African Strategies for Advancing Pathology Group Members, 2015; Andiric & Massambu, 2015; Kaschula, 2013; Mosha et al., 2011; Rambau, 2011; Sloomweg, 2012).

Recruitment and training are paramount to address to establish effective pathology and laboratory medicine practices across the country (Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Andiric & Massambu, 2015; Fleming et al., 2017; Kaschula, 2013; Mmbuji et al., 2011; Mosha et al., 2011; Nakanjako et al., 2015; Rambau, 2011; Tumino et al., 2017). Without adequate access to pathology and laboratory medicine, patients have an increased wait time to get their laboratory results, a higher probability of misdiagnosis, and a decrease in access to therapeutic intervention strategies (Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Andiric & Massambu, 2015; Kaschula, 2013; Rambau, 2011; Sloomweg, 2012). Lastly, the economic impact is devastating for the family, the community, and the country (Fleming et al., 2017).

There are many proposed short- and long-term solutions increasing the access to and effectiveness of pathology and laboratory medicine services in low-income countries within Sub-Saharan Africa. The short-term solutions focus primarily on increasing funding, training of personnel, quality of testing, and awareness building of pathology and laboratory medicine (Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Andiric & Massambu, 2015; Fleming et al., 2017; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015; Tumino et al., 2017). Long-term solutions include more effective recruitment and leadership (Adesina et al., 2013; Andiric & Massambu, 2015; Fleming et al., 2017; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015; Tumino et al., 2017). It is essential not only to increase awareness

of pathology and laboratory medicine in patients, clinicians, and governments but also to develop a better understanding of its essential role in patient care (Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Andiric & Massambu, 2015; Kaschula, 2013; Mosha et al., 2011). Awareness of the profession will hopefully allow for the necessary funding needed to build capacity throughout the continent (Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Fleming et al., 2017; Kaschula, 2013; Mosha et al., 2011; Tumino et al., 2017). Better funding will also allow for continuing medical education in addition to other training opportunities (Adesina et al., 2013; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015). Improving the quality of tests is critical, as misdiagnoses cause untreated or wrongly treated diseases and it decreases trust in pathology from clinicians and patients (Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Andiric & Massambu, 2015; Fleming et al., 2017; Kaschula, 2013; Mosha et al., 2011; Tumino et al., 2017).

Recruitment of professionals is a long-term solution because it will take years to meet fill the current gap in laboratory professionals in Sub-Saharan Africa (Adesina et al., 2013; Fleming et al., 2017; Kaschula, 2013). Regardless, recruiting, training, retaining new pathologists in Sub-Saharan Africa is essential to improve laboratory services sustainably (Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Benediktsson et al., 2009; Fleming et al., 2017; Kaschula, 2013; Mmbuji et al., 2011; Mosha et al., 2011; Rambau, 2011). Sustainable advancement in pathology can only be made if pathology is represented at key meetings about decisions related to health care (Mosha et al., 2011). Thus, there is thus a critical need for

leadership skills in pathology in Sub-Saharan Africa (Andiric & Massambu, 2015; Fleming et al., 2017; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015; Tumino et al., 2017). Overall, it is clear that strengthening the field of pathology in Sub-Saharan Africa is important for the future of its patients and the field of medicine (Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Andiric & Massambu, 2015; Benediktsson et al., 2009; Fleming et al., 2017; Kaschula, 2013; Mmbuji et al., 2011; Mosha et al., 2011; Nakanjako et al., 2015; Rambau, 2011; Slootweg, 2012; Tumino et al., 2017).

American Society for Clinical Pathology (ASCP) Leadership Institute Certificate Program

ASCP is a large international medical nonprofit organization. With more than 100,000 members, ASCP focuses on education, certification, and advocacy for pathologists and laboratory professionals. In 2015, ASCP answered the need for leadership education in the field and created the ASCP Leadership Institute, which was launched in July of 2017 after a successful pilot program. The Leadership Institute consists of four segments: an online certificate program, conference facilitation, on-site facilitation, and personal coaching (ASCP, 2017). The purpose of the Leadership Institute is to increase leadership proficiency at every level of an organization by teaching which behaviors and skills are more situationally effective in a certain context (ASCP, 2017). The courses do not focus specifically on the medical laboratory field or on cultural applicability. The focus of this research is on the certificate program.

The ASCP Leadership Institute Certificate program consists of 10 leadership courses that are all conducted online through pre-recorded webinars (ASCP, 2017). Eight out of the 10 courses begin with a self-assessment, in which participants learn about their

own leadership strengths and development areas (ASCP, 2017). Followed by a webinar, all courses end with a test and a course evaluation (ASCP, 2017). All courses offer Continuing Medical Education (CME), Continuing Medical Laboratory Education (CMLE), and Self-Assessment Modules (SAMs) credits, which are used for Maintenance of Certificate (MOC) for both pathologists and laboratory professionals (ASCP, 2017).

The courses included in the Leadership Institute Certificate program are:

1. *Conflict Prevention & Resolution*
2. *DeCoding American Generations*
3. *Everything DiSC Workplace*
4. *Groupthink and the Abilene Paradox*
5. *Listening with a Purpose*
6. *MBTI*
7. *Organizational Savvy*
8. *Reacting to Change*
9. *Team Dynamics*
10. *Time Mastery* (ASCP, 2017).

The objectives of each course are related to the application of the course material and to increase self-awareness and awareness of others. Appendix B contains the ASCP Leadership Institute Certificate program syllabus and course objectives.

Problem Statement

There is a critical need within the field of pathology and laboratory medicine: a shortage of laboratory leaders and leadership (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Brimhall et al., 2007; Caldwell, 2014; Dobie, 2007;

Fleming et al., 2017; Frich et al., 2014; Gunderman & Kanter, 2009; Horowitz, 2006; Itani et al., 2004; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Sheikh & Kowalski, 2012; Stoller, 2008, 2009; Weiss et al., 2014). This problem impacts pathology and laboratory medicine as a whole because lack of leadership in pathology decreases integration of pathology services into the overall health care system (Adesina et al., 2013; Andiric & Massambu, 2015; Fleming et al., 2017; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015; Tumino et al., 2017).

Moreover, lack of leadership and leadership training substantially impacts countries such as the United Republic of Tanzania in Sub-Saharan Africa as well as the United Arab Emirates in the Middle East because most leadership theories are based on Western models (Scandura & Dorfman, 2004). Furthermore, there is a shortage of pathology and laboratory medicine services in Tanzania, which leadership training could help improve in the long term (Adesina et al., 2013; Andiric & Massambu, 2015; Benediktsson et al., 2009; Fleming et al., 2017; Kaschula, 2013; Massambu & Mwangi, 2009; Mmbuji et al., 2011; Mosha et al., 2011; Nakanjako et al., 2015; Rambau, 2011; Tumino et al., 2017).

Since pathology is essential to high-quality health care, a shortage of laboratory leaders and leadership training, insufficient recruitment, and lack of visibility have tremendous implications for health care globally (Ackerly et al., 2011; Adesina et al., 2013; African Strategies for Advancing Pathology Group Members, 2015; Andiric & Massambu, 2015; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Brimhall et al., 2007; Caldwell, 2014; Dobie, 2007; Fleming et al., 2017; Frich et al., 2014; Graves, 2007; Gunderman & Kanter, 2009; Horowitz, 2006; Isouard, 2013; Itani et al., 2004; Kaschula, 2013; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Mosha et al., 2011; Nakanjako et al.,

2015; Schwartz & Pogge, 2000; Sheikh & Kowalski, 2012; Stoller, 2008, 2009; Tumino et al., 2017; Weiss et al., 2014).

This study contributes to the body of knowledge needed to address this problem by examining if leadership education is equally applicable in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

Purpose of the Study

The purpose of this multiple case study was to analyze the cultural applicability of leadership courses in the field of pathology and laboratory medicine within three distinct cultures, namely in the United States of America, the United Arab Emirates, and the United Republic of Tanzania. The objective is to make recommendations for improving leadership training in the three countries in order to further the field of pathology and laboratory medicine and improve patient care.

The purpose of this research was not to stigmatize the people, cultures, or courses researched, nor to analyze the reasons behind the differences in the cultural applicability.

Research Questions and Propositions

The overall question guiding this study was: What is the cultural applicability of leadership training in the field of pathology and laboratory medicine in the United States of America, the United Arab Emirates, and the United Republic of Tanzania? The study was further grounded by the following sub-questions:

1. What is the national culture of the United States of America, the United Arab Emirates, and the United Republic of Tanzania?

2. What is the current organizational culture of each medical laboratory participating in the study in the United States of America, the United Arab Emirates, and the United Republic of Tanzania?
3. What is the leadership style of the medical laboratory of each of the laboratories participating in the study in the United States of America, the United Arab Emirates, and the United Republic of Tanzania?
4. Is there a relationship between national culture and organizational culture?
5. Is there a relationship between organizational culture and leadership style?
6. Is there a relationship between national culture and leadership style?
7. What is the cultural applicability of each of the 10 leadership courses in the ASCP Leadership Institute Certificate program in the United States of America, the United Arab Emirates, and the United Republic of Tanzania?
8. Is there a relationship between the organizational culture of a medical laboratory and the cultural applicability of leadership courses?
9. Is there a relationship between national culture and the cultural applicability of leadership courses?
10. Is there a relationship between leadership style and the cultural applicability of leadership courses?

This research has four main propositions, which are worked out in more detail in the Methodology chapter. The propositions are:

P1: National culture influences the cultural applicability of leadership courses in the United States, the United Arab Emirates, and the United Republic of Tanzania.

P2: Organizational culture influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

P3: The leadership style of the laboratory director influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

P4: The national culture of the country, the organizational culture of the laboratory, and the leadership style of the laboratory director influence the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

Conceptual Frameworks

In this study, the researcher used three conceptual frameworks to analyze the cultural applicability of leadership courses in pathology and laboratory medicine in the United States of America, the United Arab Emirates, and the United Republic of Tanzania. The first framework was national culture. National culture is the shared mentality of people within the boundaries of a nation (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal, Malvezzi, Tanure, & Vinken, 2010; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Scandura & Dorfman, 2004). National culture refers to this collective mentality and cannot be used to assess an individual's behavior, values, or norms (de Mooij, 2013; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Venaik & Brewer, 2016). The researcher used Hofstede's (2001) framework of national culture, namely the six cultural dimensions of *Power Distance*, *Individualism*, *Masculinity*, *Uncertainty Avoidance*, *Long-Term Orientation*,

and *Indulgence* (Ayman & Korabik, 2010; Blanton, 2005; Hofstede, 1980, 2001, 2013a; Hofstede et al., 2010; Hofstede & Minkov, 2013; Malone et al., 2013; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Rarick, Winter, Nickerson, Falk, & Asea, 2013; Scandura & Dorfman, 2004). Awareness of the national culture provides leaders with information on which behaviors, values, communication styles, and norms are most effective in a specific country (Ayman & Korabik, 2010; Hofstede, 1980).

The second framework was organizational culture. Organizational culture refers to the behavior that employees believe is necessary in order to belong in the organization (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Martin, 2002; Rovithis et al., 2016; Schein, 2017). Aspects of organizational culture are the dress, language, values, assumptions, hierarchy, and traditions (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Kwantes & Boglarsky, 2004; Martin, 2002; Rovithis et al., 2017, 2016; Schein, 2017; Scott et al., 2001). The researcher used the organizational framework of the Organizational Culture Inventory (OCI), which has 12 behavioral and thinking styles: *Achievement, Self-Actualizing, Humanistic-Encouraging, Affiliative, Approval, Conventional, Dependent, Avoidance, Oppositional, Competitive, Power, and Perfectionistic* (Cooke & Rousseau, 1983; Cooke, Rousseau, & Lafferty, 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005).

The third framework of this study was leadership style and culture. Leadership style and culture refer to the behavior and thinking patterns that are most natural to a leader (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). This study used the leadership style through the Life Styles Inventory (LSI), an assessment that measures leadership behavior along the same

12 styles as the OCI: *Achievement, Self-Actualizing, Humanistic-Encouraging, Affiliative, Approval, Conventional, Dependent, Avoidance, Oppositional, Competitive, Power, and Perfectionistic* (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005).

Figure 1 indicates the relationship between the three conceptual frameworks and how they relate to the cultural applicability of leadership courses.



Figure 1. Conceptual framework.

Scope of the Study

Four medical laboratories participated in this study: two laboratories in the United States of America, one laboratory in the United Arab Emirates, and one laboratory in the United Republic of Tanzania. In each laboratory, six to seven pathologists and laboratory professionals participated in the research. There were six to seven participants per site and six to 13 participants per country, creating a total of 26 participants across the four case studies. The main reason for the number of participants per laboratory is that the validity of both the OCI and the LSI depend on a minimum of five and three participants respectively. Furthermore, there is a shortage of pathologists in the United Republic of Tanzania, therefore reducing the number of potential participants in this study (Adesina et al., 2013; Benediktsson et al., 2009; Kaschula, 2013; Massambu & Mwangi, 2009; Mmbuji et al., 2011; Mosha et al., 2011; Rambau, 2011; Tumino et al., 2017). Participants were also willing and able to complete the 10 ASCP Leadership Institute Certificate program courses within six months. The researcher ensured that there is a mix of male and female participants and that they are of adult age.

Definition of Key Terms

The key terms used in this study are defined as follows:

Culture. “Culture is the collective programming of the mind that distinguishes the members of one group or category of people from others” (Hofstede, 2001, p.9).

Cultural leadership. Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives within an environmental context shaped by the collective programming of the mind that distinguishes the members

of one group or category of people from others (Hofstede, 2001; Perruci, 2011; Yukl, 2013).

Leadership. Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives within an environmental context shaped by cultural values and norms (Perruci, 2011; Yukl, 2013).

Leadership training. Leadership training is any online or live training that increases a participant's awareness of self, and others through assessments, reflection, and feedback (Bunker et al., 2002; Butler et al., 2014; Caldwell & Hayes, 2016; Cooke, Rousseau, & Lafferty, 1987; Gallagher et al., 2012; Gill et al., 2015; D. Goleman, 1998; Daniel Goleman et al., 2001; S. N. Taylor, 2010; S. N. Taylor et al., 2012).

National culture. The shared mentality of the people within one country's boundaries (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Scandura & Dorfman, 2004).

Organizational culture. The agreement within organizations on the behavior that is necessary to fit in and belong in the organization (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Martin, 2002; Rovithis et al., 2016; Schein, 2017).

Significance of the Study

This study is important to the field of pathology and laboratory medicine, as well as, the fields of leadership and cross-cultural communications. This study impacts the field of pathology and laboratory medicine because increased leadership development opportunities will assist in the visibility of and recruitment into the field (Caldwell, 2014;

Graves, 2007; Hung, Jarvis-Selinger, & Ford, 2011; Isouard, 2013; Kemp & Bowser, 2004). Furthermore, an increase in the number of laboratory leaders and knowledge of leadership skills will improve patient care (Fleming et al., 2017; Graves, 2007; Isouard, 2013). An understanding of culturally appropriate leadership training in the United Arab Emirates and the United Republic of Tanzania will also increase the leadership pipeline, which improves leader and organizational effectiveness (Ayman & Korabik, 2010; Fleming et al., 2017; Isouard, 2013; Kass et al., 2007; Sheikh & Kowalski, 2012).

Furthermore, this study encourages the adaptation of current leadership courses or the addition of new courses to make leadership training more applicable in the United Arab Emirates and the United Republic of Tanzania. This study also encourages the creation of culturally appropriate curricula outside of the field of pathology and laboratory medicine in the U.A.E. and Tanzania.

Lastly, this study inspires future research on culturally appropriate courses outside of the United States of America, the United Arab Emirates, and the United Republic of Tanzania to create culturally appropriate curricula worldwide.

Summary

Pathology and laboratory medicine is essential for optimal health care, because without diagnosing, prognosing, and monitoring diseases physicians are unable to treat patients (Fleming et al., 2017; Graves, 2007; Isouard, 2013). Laboratory leadership is therefore essential for optimal quality, efficiency, and patient-driven outcomes (Branda et al., 2014; Brimhall et al., 2007; Fleming et al., 2017; Graves, 2007; Horowitz, 2006; Isouard, 2013). Both national and organizational culture impact a leader's appropriate behavior in a specific context (Ayman & Korabik, 2010; Cooke & Rousseau, 1988; de

Mooij, 2013; Hofstede, 1980, 2001; Javidan et al., 2006; Nguyen, Terlouw, Pilot, & Elliott, 2009; Mayfield & Mayfield, 2012; Rovithis et al., 2017, 2016). It is, therefore, important to create culturally appropriate leadership behavior and training.

Chapter 2 presents literature related to leadership, leadership styles, culture, national culture, and organizational culture. Chapter 3 presents a detailed look at the methodology used to investigate the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania. Chapter 4 provides the results of the study, and Chapter 5 discusses the results, describe implications to the field of pathology, laboratory medicine, leadership, and leadership training. This final chapter describes the limitations of this study, the implications of this study to the fields of leadership and pathology and laboratory medicine, and provides recommendations for further research.

Chapter 2: Literature Review

Introduction

Leadership is a critical aspect of organizational, medical, and professional success. However, there is a lack of leadership and leadership training in the field of pathology and laboratory medicine and thus a shortage of laboratory leaders (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Brimhall et al., 2007; Caldwell, 2014; Dobie, 2007; Fleming et al., 2017; Frich et al., 2014; Gunderman & Kanter, 2009; Horowitz, 2006; Itani et al., 2004; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Sheikh & Kowalski, 2012; Stoller, 2008, 2009; Weiss et al., 2014). A lack of leadership and leadership training significantly impacts countries such as the United Republic of Tanzania and the United Arab Emirates because most leadership theories are based on Western models (Scandura & Dorfman, 2004).

The first section of this literature review explores the concept of leadership and the importance of self-awareness. This section is followed by a description of the LSI assessment and how it relates to leadership and self-awareness. Subsequently, the need for leadership training in medicine, residency programs, and in the subspecialty field of pathology and laboratory medicine is discussed. The next section of the literature review explores the concept of culture and cultural applicability as it relates to leadership. Following this, the concept of national culture is explained through Hofstede's (2001) cultural dimensions. This section also compares the national cultures of the United States of America, The United Arab Emirates, and the United Republic of Tanzania through the six dimensions of national culture. The fourth section of the literature review defines

organizational culture and how the OCI assessment relates to healthcare. Finally, the propositions for this study are established before Chapter 3: Methodology.

Research Strategy

This section describes the research strategy used in this study, specifically focusing on the databases used and the number of articles found. For this study and literature review, the researcher used the following databases: The Chicago School of Professional Psychology Library System; ProQuest; PubMed; SAGE; and Google Scholar. The searches produced more than 360 articles and books that were considered for this study. As the study evolved and was refined, the keywords used became more specific. There were a few themes in the searches for the literature review. The first theme was “leadership” and some examples of keywords used to search the literature were: “definition leadership,” “critical leadership components,” and “leadership self-awareness.” The second theme was “culture” and some keyword search examples are “cultural applicability leadership” and “culture definition.” The third theme was national culture and some of the keywords used to search the literature were “national culture,” “Hofstede’s dimensions,” and “national culture Tanzania.” The fourth theme was organizational culture and some of the keyword searches were “organizational culture” and “organizational culture healthcare.”

Leadership

Introduction

Leadership is a critical component of organizational success. However, there is little agreement on the best approach to leadership (Nicholson, 2013; Ramthun & Matkin, 2012; Yukl, 2013). In this section, both leadership and leadership training are defined.

Additionally, the LSI, an assessment used to measure a person's leadership thinking and behavior, is analyzed through a review of the literature. Lastly, there is a review of the need for leadership and leadership training in medicine, during residency, and more specifically, the medical subspecialty of pathology and laboratory medicine.

What is Leadership?

As a concept, leadership has been around for centuries. The Ancient Greeks saw leaders as philosophers whose job was to be wise (Nicholson, 2013; Perruci & McManus, 2013). Aristotle and Cicero influenced the Romans, whose view of leadership revolved around values and virtues (Nicholson, 2013; Perruci & McManus, 2013). Centuries later, Machiavelli described leadership through intimidation and fear (Hofstede, 1980; Machiavelli, 1992; Nicholson, 2013; Perruci & McManus, 2013). Because of the long history and plethora of assumptions regarding leadership, there is little agreement over a unified definition (Nicholson, 2013; Ramthun & Matkin, 2012; Yukl, 2013). Leadership revolves around human interaction and problem-solving, so its definition is likely more culture-bound and situational (Nicholson, 2013; Perruci, 2011; Perruci & McManus, 2013; Yukl, 2013).

Many leadership definitions contain a specific democratic aspect, an improvement, or some type of influence (Summerfield, 2014). However, at the core of leadership is the human element, because without followers a leader cannot lead (Grove, 2005; Perruci & McManus, 2013). Yukl (2013) defines leadership as: "The process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives" (Yukl, 2013, p.7). That specific definition covers three essential components:

democracy, influence, and improvement (Summerfield, 2014; Yukl, 2013). On the other hand, Perruci (2011) focuses on the cultural aspect of leadership: “Leadership is the process by which leaders and followers develop a relationship and work together toward a goal (or goals) within an environmental context shaped by cultural values and norms” (Perruci, 2011, p.83). Table 1 illustrates the different definitions of leadership.

Table 1

Definitions of Leadership

Definition	Source
“The process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives.”	Yukl, 2013, p.7
“Leadership is the process by which leaders and followers develop a relationship and work together toward a goal (or goals) within an environmental context shaped by cultural values and norms.”	Perruci, 2011, p.83
Servant-leadership revolves around focusing on other people’s priorities before the priorities of a leader. Serving others is the primary focus instead of focusing on gaining personal leadership power.	(Greenleaf, 2002)
“The only definition of a leader is someone who has followers.”	(Drucker, 1996)
“Leadership is the process of influencing the activities of an organized group toward goal achievement.”	(Rauch & Behling, 2014)
“The fundamental purpose of leadership is to produce useful change, especially non-incremental change.”	(Kotter, 1990)
“Leadership is successfully creating positive change for the common good.”	(Sorensen, Traynor, & Janke, 2010)
“Leadership is a process whereby an individual influences a group of individuals to achieve a common goal.”	(Northouse, 2010)

Across these definitions, there are three essential elements – change, influence, improvement (Drucker, 1996; Greenleaf, 2002; Kotter, 1990; Northouse, 2010; Perruci, 2011; Rauch & Behling, 2014; Sorensen, Traynor, & Janke, 2010; Yukl, 2013). In addition, cultural values are essential for this study’s definition because the focus is on the cultural applicability of leadership training (Perruci, 2011). Therefore, these ideologies are combined into this working definition of leadership for the purpose of this study:

Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives within an environmental context shaped by cultural values and norms. (Perruci, 2011; Yukl, 2013)

Leadership Training and Self-Awareness

Training is critical in any professional role, thus also in the field of leadership. There are many aspects influencing the effectiveness of leadership training: motivation, self-awareness, and communication and leadership style (Bunker et al., 2002; Butler et al., 2014; Caldwell & Hayes, 2016; Cooke, Rousseau, & Lafferty, 1987; Gallagher et al., 2012; Gill et al., 2015; Goleman, 1998; Goleman et al., 2001; Hasson, von Thiele Schwarz, Holmstrom, Karanika-Murray, & Tafvelin, 2016; Stiehl, Felfe, Elprana, & Gatzka, 2015; Taylor, 2010; Taylor et al., 2012). The first step in becoming a leader is knowing and understanding personal strengths and weaknesses (Butler et al., 2014; Caldwell & Hayes, 2016; Gallagher et al., 2012; Gill et al., 2015; Taylor, 2010; Taylor et al., 2012). This type of self-awareness increases a leader’s understanding of their own motivations, values, beliefs, skills, development areas, and their potential (Butler et al.,

2014; Caldwell & Hayes, 2016; Gallagher et al., 2012; Gill et al., 2015; Taylor, 2010; Taylor et al., 2012). Self-awareness is critical to individual and organizational success, because it allows leaders to be more aware of their specific emotions and how those emotions impact others (Butler et al., 2014; Caldwell & Hayes, 2016; Gallagher et al., 2012; Gill et al., 2015; Taylor, 2010; Taylor et al., 2012). Furthermore, self-awareness increases a leader's flexibility, openness, collaboration, and trust (Butler et al., 2014; Caldwell & Hayes, 2016; Gallagher et al., 2012; Gill et al., 2015). Therefore, the leadership training used in this study to analyze the cultural applicability of leadership courses revolves around developing and fostering participants' leadership skills through increasing awareness of self and others.

There are two aspects of self-awareness, namely an understanding of one's self and an understanding of the perception of others and one's impact on them (Butler et al., 2014; Caldwell & Hayes, 2016; Taylor, 2010; Taylor et al., 2012). Self-awareness is a critical component of emotional intelligence because it increases the understanding of self and others (Butler et al., 2014; Caldwell & Hayes, 2016; Goleman, 1998). Emotional intelligence has been determined to have a profound impact on leaders' effectiveness (Bunker et al., 2002; Goleman, 1998; Goleman et al., 2001; Taylor et al., 2012).

Leaders can increase self-awareness through valid self-assessments, 360-assessments tools, specific training, requesting and accepting feedback, and reflection (Butler et al., 2014; Caldwell & Hayes, 2016; Gill et al., 2015; Taylor, 2010; Taylor et al., 2012). Assessments are a useful tool to understand the impact of one's behavior on others (Gill et al., 2015; Taylor et al., 2012). A 360-assessment, also known as a

multirater assessment, helps provide information about whether a leader's self-view is aligned with the perception of others (Gill et al., 2015; Taylor, 2010).

Creating and fostering self-awareness is essential for leaders, which can be specifically taught through leadership training (Bunker et al., 2002; Butler et al., 2014; Caldwell & Hayes, 2016; Cooke et al., 1987; Gallagher et al., 2012; Gill et al., 2015; Goleman, 1998; Goleman et al., 2001; Taylor, 2010; Taylor et al., 2012). Leadership trainings that use assessments, feedback, and reflection increase self-awareness, which increases leadership effectiveness (Bunker et al., 2002; Butler et al., 2014; Caldwell & Hayes, 2016; Cooke et al., 1987; Gallagher et al., 2012; Gill et al., 2015; Goleman, 1998; Goleman et al., 2001; Taylor, 2010; Taylor et al., 2012). Therefore, for the purpose of this study, this definition of leadership training used is: Leadership training is any training that increases a participant's awareness of self and others through assessments, reflection, and feedback.

The Life Styles Inventory (LSI)

Awareness of self and others is important to be an effective leader in specific cultures and situations (Butler et al., 2014; Caldwell & Hayes, 2016; Gallagher et al., 2012; Gill et al., 2015; Taylor, 2010; Taylor et al., 2012). One well-established assessment is the LSI. The LSI measures a person's thinking and behavior patterns (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). It has been used both for individual leadership and organizational development opportunities through increasing a leader's self-awareness (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004). The theoretical foundation of the LSI is that the assessment increases a leader's self-

awareness, which, in turn, can create positive changes in the leader's thinking pattern (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). Once a thinking pattern changes, the leader's behavior will subsequently also change (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). The most effective thinking and behavioral changes are towards increases a leader's constructive behavior (Cooke & Szumal, 1993; Human Synergistics International, 2004, 2009 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). This behavior is exemplified in the *Constructive* cluster of the LSI, which includes the styles Achievement, Self-Actualizing, Humanistic-Encouraging, and Affiliative (Adesina et al., 2013; Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017; Rovithis, Linardakis, Merkouris, & Philalithis, 2016; Schein, 2017). The *Passive/Defensive* and *Aggressive/Defensive* clusters are less effective (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009 2013, 2015; Klisz, 2005). An effective leader will want to embody more constructive and fewer defensive behaviors (Cooke & Szumal, 1993; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). More detail about the validity of the LSI can be found in Chapter 3.

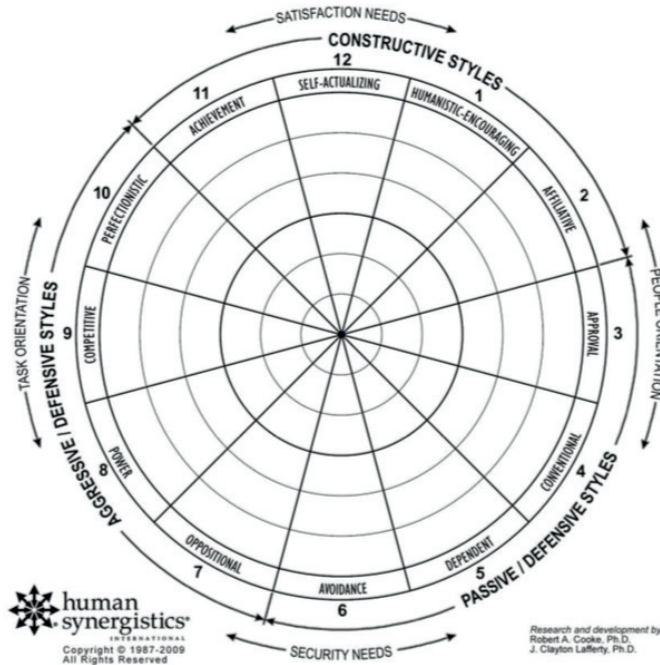


Figure 2. Life Styles Inventory (LSI) circumplex.

The Constructive cluster. The Constructive styles promote behaviors that contribute to satisfaction, effective collaboration, and performance (Human Synergetics International, 2009, 2013; Klisz, 2005; Rovithis et al., 2017). This cluster is the most effective and promotes the satisfaction needs of employees and has both a people and task focus (Cooke & Szumal, 1993; Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). The Constructive cluster consists of the Achievement, Self-Actualizing, Humanistic-Encouraging, and Affiliative styles (Adesina et al., 2013; Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). The Achievement style falls under both the task and the security dimension (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004;

Rovithis et al., 2017, 2016). It emphasizes achieving excellent performance, a commitment to improvement, and a belief in feedback (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). The Self-Actualizing style focuses on both the people and tasks dimensions, as well as the satisfaction dimension (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). This style focuses on self-development, open-mindedness, and long-term goals (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). The Humanistic-Encouraging style focuses on the people and satisfaction dimensions (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergistics International, 2004, 2009, 2013, 2015; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). It revolves around development of others, appreciating others' strengths, and inspiration (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergistics International, 2004, 2009, 2013, 2015; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). Lastly, the Affiliative style falls under the same two dimensions (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergistics International, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). This style underscores relationships, interpersonal skills, and motivation (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergistics International, 2004, 2009, 2013, 2015; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017).

The Passive/Defensive cluster. The Passive/Defensive cluster includes the Approval, Conventional, Dependent, and Avoidance styles (Cooke & Szumal, 1993;

Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). In the Passive/Defensive cluster, all styles fall under the security and people dimensions (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergetics International, 2004, 2009, 2013; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). However, the Approval style falls halfway in the satisfaction dimension, as seen in Figure 2 (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergetics International, 2004, 2009, 2013; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). This style emphasizes low self-esteem, concern about others' opinions, and compliance (Cooke & Rousseau, 1988; Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005). The characteristics of the Conventional style are lack of originality, minimal initiative, and conforming (Cooke & Rousseau, 1988; Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005). The Dependent style is passive, involves little decision-making, and focuses on pleasing people (Cooke & Rousseau, 1988; Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005). The Avoidance style has both a people and task orientation (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergetics International, 2004, 2009, 2013; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). This style has a fear of failure, denies responsibility, and is focused on oneself (Cooke & Rousseau, 1988; Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005).

The Aggressive/Defensive cluster. Similar to the Passive/Defensive cluster, the Aggressive/Defensive cluster is also focused on establishing and keeping a sense of

security and status (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009, 2013; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016). This cluster includes the Oppositional, Power, Competitive, and Perfectionistic styles (Cooke & Szumal, 1993; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). All Aggressive/Defensive styles fall under the task dimension, with the majority also falling under the security dimension (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergistics International, 2004, 2009, 2013; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). The Oppositional style focuses on identifying flaws, asking probing questions, and having a cynical, negative attitude (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). The Competitive style revolves around a need to win, aggressiveness, and extreme fear of failing (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). The characteristics of the Power style are a need for prestige and status, closed-mindedness, and an aggressive attitude (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). The Perfectionistic style falls in the satisfaction and task dimensions and characteristics include attaching self-worth to work accomplishments, low self-esteem, and too-high demands (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Leadership Need in Medicine

Developing leaders is essential in every profession. In the field of medicine, effective leadership leads to better patient outcomes, improved patient satisfaction, higher

health care quality, and an optimized health system (Blumenthal et al., 2012; Doughty et al., 2010; Frich et al., 2014; Gunderman & Kanter, 2009). Developing effective leaders has been proven to lower turnover rates, drive organizational effectiveness, ensure thriving communities, and allow medical institutions to prosper (Gunderman & Kanter, 2009; McAlearney, 2006; McAlearney, Scheck, & Butler, 2008; Schwartz & Pogge, 2000). Because health care relies on the implementation of advancing and progressing knowledge as well as the continuous evolution of technological advances, fostering cross-functional teams to ensure better patient outcomes is critically important when educating future leaders (Frich et al., 2014; Gunderman & Kanter, 2009; Lee, 2010; Majmudar et al., 2010; Stoller, 2008). Additionally, health care leaders face unique challenges because their responsibilities extend to clinical duties, managerial roles, and to the overall communities they serve (Gunderman & Kanter, 2009; McAlearney, 2006; McAlearney et al., 2008; Schwartz & Pogge, 2000). Unfortunately, there is a leadership gap in medicine and physician leaders are underdeveloped (Ackerly et al., 2011; Brimhall et al., 2007; Frich et al., 2014; Gunderman & Kanter, 2009; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Stoller, 2008). In short, there is a clear need to develop physician leaders (Frich et al., 2014; Gabel, 2014; Gunderman & Kanter, 2009; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; McAlearney et al., 2008; Schwartz & Pogge, 2000; Stoller, 2009).

The field of medicine is inherently focused on collaboration and effectiveness. In order to provide excellent health care, physicians work in multidisciplinary health care teams, which are led by formal or informal physician leaders (Gabel, 2014; Lee, 2010; Majmudar et al., 2010). High-performing health care teams rely on physician leadership

to implement and foster effective collaboration across disciplines (Frich et al., 2014; Lobas, 2006; Majmudar et al., 2010). Both informal and formal types of leadership require leadership skills focused on interpersonal competencies and self-awareness to be effective (Gabel, 2014; Lobas, 2006; Mintz & Stoller, 2014; Stoller, 2008, 2009; Taylor, Taylor, & Stoller, 2008). There is inadequate training on effective leadership in the field of medicine and a lack of a universal leadership framework (Ackerly et al., 2011; Frich et al., 2014; Gabel, 2014; Gunderman & Kanter, 2009; Lobas, 2006; McAlearney, 2006; McAlearney et al., 2008; Mintz & Stoller, 2014; Schwartz & Pogge, 2000; Stoller, 2009). Leadership development in the medical field is essential to foster high performing teams and for the physician leader pipeline (Frich et al., 2014; Gabel, 2014; Lee, 2010; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; McAlearney et al., 2008; Mintz & Stoller, 2014; Schwartz & Pogge, 2000; Stoller, 2009; Taylor et al., 2008). In addition, leadership development and training increase organizational achievement and effectiveness (Frich et al., 2014; Lee, 2010; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; McAlearney et al., 2008; Schwartz & Pogge, 2000; Stoller, 2009).

Effective leadership training in medicine focus on teamwork, self-awareness, and emotional intelligence (Frich et al., 2014; Gabel, 2014; Lee, 2010; Lobas, 2006; Majmudar et al., 2010; Mintz & Stoller, 2014; Stoller, 2008, 2009; Taylor et al., 2008). A focus on teams is critical because modern-day health care requires collaboration across disciplines to provide high-quality services (Blumenthal et al., 2012; Gunderman & Kanter, 2009; Lee, 2010; Lobas, 2006; Majmudar et al., 2010). The Accreditation Council for Graduate Medical Education (ACGME) created a list of program requirements that includes how to work effectively as a team member and components

that relate to emotional intelligence (Accreditation Council for Graduate Medical Education, 2011; Arora et al., 2010; Frich et al., 2014; Mintz & Stoller, 2014). The lack of physician education focused on increasing team effectiveness has led to a decrease in performance (Majmudar et al., 2010; Taylor et al., 2008). Emotional intelligence and self-awareness are essential in health care because they lead to effective leadership and organization-wide performance, productivity, and profit (Dobie, 2007; Frich et al., 2014; Goleman, 1998; Lobas, 2006; Mintz & Stoller, 2014; Stoller, 2008, 2009; Taylor et al., 2008). Teaching self-awareness increases leadership capacity among physicians and can deepen performance across the organization or institution (Dobie, 2007; Frich et al., 2014). Furthermore, inadequate understanding and proficiency in emotional intelligence have led to the failures by physician leaders and high turnover of physician department chairs (Gabel, 2014; Lobas, 2006; Stoller, 2008, 2009). Emotional intelligence is thus pertinent in medical practice and education (Dobie, 2007; Lobas, 2006; Mintz & Stoller, 2014; Stoller, 2008, 2009; Taylor et al., 2008).

Traditionally, promotion and selection of physician leaders is based on academic experience and research and not on competency in leadership (Ackerly et al., 2011; Blumenthal et al., 2012; Howell et al., 2015; Lobas, 2006; Stoller, 2009). Leadership development has thus been predominately based on “accidental” teaching, instead of preparing the next generation of leaders through development programs focused on leadership skills, such as emotional intelligence and team building (Frich et al., 2014; Gabel, 2014; Lee, 2010; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Mintz & Stoller, 2014; Schwartz & Pogge, 2000; Stoller, 2009, 2008; Taylor et al., 2008). In fact, health care has typically trailed behind the leadership development curve in other

industries (Majmudar et al., 2010; McAlearney, 2006; Stoller, 2009). Programs that focus on specific leadership development skills are essential components of creating the current and next generation of effective physician leaders (Frich et al., 2014; Gabel, 2014; Gunderman & Kanter, 2009; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; McAlearney et al., 2008; Mintz & Stoller, 2014; Schwartz & Pogge, 2000; Stoller, 2008, 2009; Taylor et al., 2008).

Unfortunately, there are multiple gaps identified within the available medical leadership trainings to meet the need for current and future physician leaders. A major gap in current leadership trainings in the medical field is a deficiency of integration of physicians and non-physicians, as these trainings are typically conducted separately for each group (Blumenthal et al., 2012; Frich et al., 2014). There is also a shortfall on systems- and organizational-level thinking, because most trainings focus on increasing individual skills (Frich et al., 2014; Gunderman & Kanter, 2009). Even though there is a focus on the individual, there is still a lack of leadership development programs that focus on self-awareness and emotional intelligence (Dobie, 2007; Frich et al., 2014; Lobas, 2006; Taylor et al., 2008). Additionally, there is a need to focus more on how to create and maintain effective team dynamics and how to improve teams that are dysfunctional (Blumenthal et al., 2012; Bowen, 1998; Gunderman & Kanter, 2009; Majmudar et al., 2010).

The major challenges regarding leadership trainings in health care revolve around a lack of access to computers and not building leadership development opportunities into job descriptions and responsibilities (McAlearney, 2006). When physicians are not actively involved in leadership development opportunities and leadership roles, there is

an increase in physician dissatisfaction (Gunderman & Kanter, 2009). This, in turn, creates a higher turnover, impacts patient care negatively, increases the cost of health care, and contributes to an increase in medical errors (Gunderman & Kanter, 2009). This indicates that leadership training in the field of medicine focused on developing effective leadership skills and knowledge is critical (Ackerly et al., 2011; Blumenthal et al., 2012; Frich et al., 2014; Gunderman & Kanter, 2009; Itani et al., 2004).

When there is an explicit focus on developing physician leaders, there is a clear impact on the overall health care environment. When physicians are trained to be effective leaders, there is an increase in patient and physician satisfaction (Blumenthal et al., 2012; Doughty et al., 2010; Gunderman & Kanter, 2009). Physician leaders also have a profound impact on organizational effectiveness and a higher quality of health care (Blumenthal et al., 2012; Doughty et al., 2010; Frich et al., 2014; Gunderman & Kanter, 2009). Overall, the literature suggests that increasing the number of trained physician leaders has a positive effect on the health care system and the patients they serve (Blumenthal et al., 2012; Doughty et al., 2010; Frich et al., 2014; Gunderman & Kanter, 2009).

Leadership need in residency programs. Similar to addressing a physician leadership shortage, leadership development should be addressed during medical school and residency programs (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Gabel, 2014; Gunderman & Kanter, 2009; Itani et al., 2004). Potential physician leadership is lost during residency training if the leadership curriculum is not integrated into the program, because often residents are otherwise forced to choose between a leadership/management track or a medicine track (Ackerly et al., 2011).

Leadership training during residency can increase collaboration between disciplines, which is essential to improve healthcare outcomes (Blumenthal et al., 2012; Bowen, 1998; Majmudar et al., 2010). However, currently, there is a lack of leadership development trainings within residency programs (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Dobie, 2007; Gunderman & Kanter, 2009; Itani et al., 2004). The impact is the loss of potential physician leaders (Ackerly et al., 2011; Gunderman & Kanter, 2009).

Teaching leadership during residency, regardless of the medical specialty, is critical—leadership training enhances residents’ self-perception, performance, and increases their potential as future leaders (Blumenthal et al., 2012; Doughty et al., 2010; Gunderman & Kanter, 2009; Itani et al., 2004). Furthermore, leadership development programs can increase morale and reduce the stressors residents experience as they start to deliver care to patients (Blumenthal et al., 2012; Doughty et al., 2010). Leadership training provides guidance and enhances the skills residents need to improve their communications when interacting with patients (Blumenthal et al., 2012; Doughty et al., 2010). Leadership training during residency can also help fill the physician leader shortage by establishing a strong leadership pipeline (Blumenthal et al., 2012; Doughty et al., 2010; Gunderman & Kanter, 2009). Developing leadership skills in residents will increase their collaborative skills, ability to give constructive feedback, and their competency in leading change, the central tenant of health care (Blumenthal et al., 2012; Doughty et al., 2010).

In one study, residents stated that the specific skills and knowledge needed are in conflict resolution and general leadership theory (Itani et al., 2004). Skills that residents

feel they have confidence in their ethics and time management (Itani et al., 2004). However, another study found that there was indeed a deficiency in planning and priority setting, two essential aspects of time management (Blumenthal et al., 2012). The difference between the two studies can indicate that even though residents feel their time management is sufficient, health care teams see it as a deficiency in their repertoire and further leadership training is needed on these subjects (Blumenthal et al., 2012; Itani et al., 2004). Another study found that 94% of both chief residents and program directors found that a leadership program specifically designed for chief residents was very or somewhat relevant, and 92% indicated that it had a positive impact on their tenure as chief resident (Doughty et al., 2010). Leadership development programs during residency appear to contribute positively to board performance, satisfaction, and recruitment of residents and physicians (Kohlwes et al., 2011).

The ACGME is a nonprofit organization that councils, accredits, and evaluates medical residency programs in the United States (Naritoku et al., 2014). In the 1990s, the ACGME created six competencies that all medical training programs' curricula need to focus on (Accrediting Council for Graduate Medical Education, 2017; Naritoku et al., 2014; Sheikh & Kowalski, 2012; Smith et al., 2006). The six competencies are Medical Knowledge; Patient Care and Procedural Skills; Practice-Based Learning and Improvement; Systems-Based Knowledge, Professionalism, and Interpersonal and Communication Skills (Accrediting Council for Graduate Medical Education, 2017; Naritoku et al., 2014; Sheikh & Kowalski, 2012; Smith et al., 2006). The ACGME and the Association of American Medical Colleges (AAMC) both emphasize the importance of leadership education during medical education (Accreditation Council for Graduate

Medical Education, 2011; Blumenthal et al., 2012; Itani et al., 2004). The Patient Protection and Affordable Care Act (PPACA) states that physicians need effective leadership skills (Blumenthal et al., 2012). Furthermore, it is the goal of graduate medical education to develop qualified and highly capable physicians with effective leadership skills (Bowen, 1998). It is, therefore, the responsibility of medical education programs, including residency programs, to provide effective leadership training (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Doughty et al., 2010; Gabel, 2014).

Overall, the literature suggests that current leadership training is inadequate and not integrated into most residency programs and throughout most physician careers, and is predominately nascent in decisions regarding promotions (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Dobie, 2007; Frich et al., 2014; Gunderman & Kanter, 2009; Itani et al., 2004; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Stoller, 2008, 2009). Leadership training offered to all levels of physicians, from physician-in-training to physician practitioners, can create better outcomes for patients and health systems (Ackerly et al., 2011; Blumenthal et al., 2012; Doughty et al., 2010; Frich et al., 2014; Gunderman & Kanter, 2009; Itani et al., 2004; McAlearney, 2006; McAlearney et al., 2008; Schwartz & Pogge, 2000).

Leadership Need in Pathology and Laboratory Medicine

As physician leaders are important in medicine in general, they are also within the field of pathology and laboratory medicine. However, there is a significant deficit of leadership training within the specialty of pathology and laboratory medicine (Brimhall et

al., 2007; Caldwell, 2014; Fleming et al., 2017; Horowitz, 2006). Competency in leadership may chart the success of pathologists, as they are expected to foster working relationships among their teams and between all medical specialties and departments (Branda et al., 2014; Brimhall et al., 2007; Fleming et al., 2017; Horowitz, 2006; Kemp & Bowser, 2004). For optimal efficiency, quality, and patient-driven outcomes, the medical field must ensure pathologist-leaders have appropriate skills in communication, emotional intelligence, and team dynamics (Branda et al., 2014; Brimhall et al., 2007; Fleming et al., 2017; Graves, 2007; Horowitz, 2006; Isouard, 2013). In one study, pathology practice administrators (non-physicians) and pathologists indicated that communication and leadership skills were critical, important, or very important to the success of their practice (Branda et al., 2014; Brimhall et al., 2007; Fleming et al., 2017; Graves, 2007; Horowitz, 2006; Isouard, 2013). Another study found laboratory directors, who are not always medically trained, do indeed need clinical expertise in addition to leadership skills in order to conduct the majority of the administrative tasks in the laboratory (Branda et al., 2014). Both studies indicate the need for significant leadership competency in the field.

The deficiency of leadership education in pathology and laboratory medicine is well known (Brimhall et al., 2007; Horowitz, 2006; Weiss et al., 2014). One of the reasons is that learning to be an effective leader is overshadowed by the educational importance of accurate diagnostics (Weiss et al., 2014). Furthermore, those making hiring decisions expect new pathologists to be highly proficient in diagnostics, but rarely are they willing to pay a higher salary for leadership skills, viewing pathology as a commodity within the medical system (Brimhall et al., 2007; Horowitz, 2006). Further

compounding the issue, within academic pathology practices, there is a profound shortage of female leaders (Howell et al., 2015). Despite the fact that half of medical students are female, only 15.4% of pathology Department Chairs are female, even though there is no gender difference in terms of leadership ambition (Bickel, 2007; Howell et al., 2015). Notably, women do conduct less scientific research than men and focus more time on patient care (Howell et al., 2015). Promotions in medicine are often based on research and academic achievements, indicating that women could be overlooked for leadership positions in pathology based on their patient-centered focus (Ackerly et al., 2011; Blumenthal et al., 2012; Howell et al., 2015; Lobas, 2006; Stoller, 2009). Women achieving their leadership potential will improve patient care, education, and research (Bickel, 2007).

Increasing leadership development opportunities in pathology and laboratory medicine has a profound impact on medicine overall. Pathology and laboratory medicine is critical to health care, and leadership effectiveness has an impact on the quality of services and patient safety (Fleming et al., 2017; Graves, 2007; Isouard, 2013). Appropriate leadership reduces turnover rates, increases provider satisfaction, and improves laboratory systems (Caldwell, 2014; Fleming et al., 2017; Howell et al., 2015). Effective laboratory leadership also increases visibility and recognition for the profession as a whole (Caldwell, 2014; Graves, 2007). Currently, many people in the medical (and non-medical) field do not understand pathology and laboratory medicine and its important relationship to medicine (Branda et al., 2014; Graves, 2007; Isouard, 2013; Kemp & Bowser, 2004). This caused a lack of understanding that laboratories have to be led by pathologists or clinical scientist leaders instead of nonpathology staff (Branda et

al., 2014; Fleming et al., 2017). This, in turn, causes low recruitment because there are limited opportunities to fulfill leadership positions (Isouard, 2013). The lack of awareness about pathology and laboratory medicine by medical students is a contributor to low recruitment (Isouard, 2013; Kemp & Bowser, 2004). A shortage of professionals in pathology and laboratory medicine can have dire consequences, as it increases the chances of misdiagnoses due to lack of personnel, which can have significant adverse patient and economic consequences (Fleming et al., 2017; Graves, 2007). Increasing recognition and knowledge about pathology and laboratory medicine is the responsibility of pathology leaders (Isouard, 2013; Kemp & Bowser, 2004). Therefore, there is a clear need for effective pathology-leaders and leadership development opportunities.

Leadership need in pathology residency programs. Developing the next generation of leaders is essential in all fields of medicine. As described earlier, the recruitment of residents within the field of pathology and laboratory medicine is currently a major challenge (Hung et al., 2011; Isouard, 2013; Kemp & Bowser, 2004). Pathology is not a popular choice for residents, mainly because of the misperceptions about the field and lack of visibility within the subspecialty of medicine (Graves, 2007; Hung et al., 2011; Isouard, 2013; Kemp & Bowser, 2004). In the United States in 2017, only 232 of a total of 31,757 residents chose pathology as a practice, equating to 0.73% of all medical student matches (National Resident Matching Program, 2017). In one study, the results indicated that residents did not actively avoid pathology, it was simply never considered due to lack of information about the profession (Hung et al., 2011). Furthermore, negative misperceptions about pathology and laboratory medicine, such as it not being considered a true medical field, pathologists not being people-persons, and pathology and

laboratory medicine not having an effect on clinical decision-making, further impedes sufficient recruitment (Graves, 2007; Hung et al., 2011; Isouard, 2013; Kemp & Bowser, 2004). Regardless, there is an understanding that practicing as a pathologist provides an excellent work-life balance (Hung et al., 2011). Increasing the visibility of the profession and implementing effective leadership, participating in pathology rounds, and preclinical lectures about pathology and laboratory medicine are critical (Howell et al., 2015; Hung et al., 2011; Isouard, 2013). These methods will raise awareness of the field with medical students for consideration (Hung et al., 2011; Isouard, 2013).

Residency training prepares future practitioners to become physicians in their chosen specialty. The curriculum in pathology and laboratory medicine residency programs is to enable these future experts to also become effective consultants to specialty clinicians (Conjoint Task Force on Clinical Pathology Residency Training Writing Committee, 1995). Training pathology residents is crucial for the solvency of the profession (Fleming et al., 2017; Isouard, 2013; Kass et al., 2007). Pathology and laboratory medicine programs must include appropriate training in leadership (Brimhall et al., 2007; Kass et al., 2007; Sheikh & Kowalski, 2012; Sims & Darcy, 1997; Smith et al., 2006; Weiss et al., 2014). After residency, junior-level pathologists should have acquired skills for directing hospital laboratory services and therefore need to practice leadership to a similar extent as they practice pathology-related skills (Smith et al., 2006; Weiss et al., 2014). Leadership training during medical residency programs enhances residents' self-perception and their potential as future leaders (Blumenthal et al., 2012; Doughty et al., 2010; Gunderman & Kanter, 2009). Research has shown that pathology residents' perception of their own administrative abilities is not confident, indicating that

leadership training could be beneficial (Brimhall et al., 2007; Kass et al., 2007). One study found that about 97% of participants ranked leadership skills in the laboratory as essential, important, or very important (Brimhall et al., 2007). Creating a leadership pipeline may aid in identifying and training residents with leadership interest (and potential,) making leadership training during residency essential for the survival of pathology and laboratory medicine (Fleming et al., 2017; Isouard, 2013; Kass et al., 2007; Sheikh & Kowalski, 2012).

Based on ACGME's six competencies, the Academy of Clinical Laboratory Physicians and Scientists (ACLPS) designed a curriculum to meet the needs of the American Board of Pathology's examination for competent practitioners in clinical pathology (Accrediting Council for Graduate Medical Education, 2017; Naritoku et al., 2014; Sheikh & Kowalski, 2012; Smith et al., 2006). There is an overlap with the curriculum for anatomic pathology as well (Smith et al., 2006). It was noted that leadership was an essential component, as seen in section 6.1 and 7.1 (Smith et al., 2006).

Unfortunately, current leadership training in pathology residency programs is clearly inadequate (Brimhall et al., 2007; Horowitz, 2006; Sheikh & Kowalski, 2012; Weiss et al., 2014). Residents appear to receive insufficient curricula outside of their diagnostic medical education, creating an assumed gap with employers (Sheikh & Kowalski, 2012; Weiss et al., 2014). The main areas of deficiency are leadership proficiency related to interpersonal and communication skills (Horowitz, 2006; Weiss et al., 2014). In one study, less than 1% of the 216 respondents thought that leadership training was adequate in pathology residency programs (Brimhall et al., 2007).

There are certain challenges to integrating a leadership curriculum into residency programs. To begin, the required duration of pathology residency training was reduced from four to three years for residents in either AP or CP, and from five to four years for residents in both AP and CP programs (Robboy et al., 2013; Smith et al., 2006). Furthermore, the challenge of perfecting diagnostics overshadows the acquisition of leadership education (Weiss et al., 2014). Additionally, there is a lack of pathology and laboratory medicine faculty with substantive experience and skills in leadership who can teach leadership (Farnsworth & Weiss, 1999). Those that do, usually perform leadership tasks far away from residents so there is limited visibility of pathology-leaders and thus a lack of understanding why it is essential (Weiss et al., 2014). In a study on leadership training within a pathology residency program, results showed that participants thought the training was valuable, appropriate, and educational (Sims & Darcy, 1997). Some residents stated it was their favorite rotation, indicating that there was a desire for leadership education during their training (Sims & Darcy, 1997). Leadership development would also decrease the gap between the leadership skills employers expect graduating residents should have and the skills they currently acquire in residency programs (Kass et al., 2007; Weiss et al., 2014). Leadership competency in communication and interpersonal skills is a significant characteristic that allows applicants to stand out to prospective employers (Brimhall et al., 2007; Kass et al., 2007). Current research clearly indicates that more adequate leadership training is needed during pathology residency programs.

Cultural Applicability

Leadership development is impacted by culture because culture influences numerous aspects of human behaviors (Ayman & Korabik, 2010; Hofstede, 1980; Javidan et al., 2006). Awareness of one's own and other people's cultures is essential for effective leadership, because not every leadership style is applicable in every culture (Javidan et al., 2006). This section focuses on the concept of culture and how it applies to leadership and leadership development. Following this section is a discussion about national and organizational culture, which are two constructs of this study.

Introduction

Culture is an integral part of human existence. Through interaction, individuals establish shared values, beliefs, experiences, and customs (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006; Migliore, 2011; Ramthun & Matkin, 2012). These shared concepts create and foster a culture on a national, regional, and organizational level (American Psychological Association, 2003; Ayman & Korabik, 2010; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Malone, Hasan, Sanni, & Reilly, 2013; Martin, 2002; Ramthun & Matkin, 2012; Schein, 2017). In this section, the concept of culture is defined. Additionally, the cultural applicability of leadership and leadership training is discussed before describing national and organizational culture in the following sections.

What is Culture?

People are defined by the things they share. Shared experiences create shared values, beliefs, customs, behaviors, and language (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006; Ramthun & Matkin,

2012). Such shared concepts between humans create and foster culture (American Psychological Association, 2003; Ayman & Korabik, 2010; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006; Martin, 2002; Ramthun & Matkin, 2012; Schein, 2017). There are two levels of culture: the physical, visual characteristics and the values-based, individual attributes (Ayman & Korabik, 2010; Ramthun & Matkin, 2012). For the purpose of this study, the focus is on the cultural differences of values, beliefs, behaviors, and thinking as opposed to the physical side of culture.

It is challenging to define the boundaries of specific cultures, whether it is the culture of a country, a region, a profession, or an organization because there are no clear borders (American Psychological Association, 2003; Hofstede, 1980; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006). Furthermore, researching a culture does not indicate that everyone inside the established boundaries of a culture embodies all the characteristics of that culture (Hofstede, 1980). For example, someone working in an organization that has a culture of competition does not necessarily have that same characteristic. The same applies to national cultures, which is why national culture refers to commonalities among individuals of that society, and not to individual characteristics (Hofstede, 1980).

Culture is a dynamic process, yet it is difficult to change because it is ingrained in the collective mentality of groups and people are generally not aware of its characteristics due to their immersion (American Psychological Association, 2003; Hofstede, 1980; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006). Furthermore, culture impacts almost every aspect of behavior (Javidan et al., 2006). The definition of culture

should thus refer to the shared aspect of culture (Ayman & Korabik, 2010; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Martin, 2002; Ramthun & Matkin, 2012; Schein, 2017). However, there is little to no agreement over what shared concepts are part of a culture, and which are not (Hofstede, 2001; Martin, 2002; Ramthun & Matkin, 2012; Schein, 2017). Furthermore, there is no agreement over what is included in the concept of culture and what should be excluded (Martin, 2002).

Shared beliefs and values impact families, education, organizations, policies, and leadership (American Psychological Association, 2003; Ayman & Korabik, 2010; Hofstede, 1980; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006). In turn, these beliefs distinguish individuals who belong in the in-group versus the out-group of a specific culture (Ayman & Korabik, 2010; Hofstede, 1980; Hofstede, Garibaldi de Hilal et al., 2010; Ramthun & Matkin, 2012). These culture-specific characteristics create a shift in the behavior, values, and beliefs between different cultures (Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006). The differences in shared values indicate the boundaries of one culture to another (Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006).

The various definitions of culture all agree that something is shared between group members (Martin, 2002). One of the most common definitions of culture is: “Culture is the collective programming of the mind that distinguishes the members of one group or category of people from others” (Hofstede, 2001, p. 9). This definition helps distinguish the boundaries between cultural groups and focuses on the shared aspect of culture (Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Ramthun & Matkin, 2012). Furthermore, it provides a platform for research-specific interpretation.

According to Martin (2002), researchers often define culture in such a way that is unrelated to the study conducted (Martin, 2002).

When adding the definition of culture to the definition of leadership, as described in the previous section, the definition of cultural leadership is:

Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives within an environmental context shaped by the collective programming of the mind that distinguishes the members of one group or category of people from others (Hofstede, 2001; Perruci, 2011; Yukl, 2013).

In this study, the researcher focused on two subsets of culture: national culture and organizational culture. For the purpose of this study, culture is defined by Hofstede. Furthermore, the researcher focused on the invisible and non-physical attributes of culture, thus excluding any definition that defines culture based on physical components (Ayman & Korabik, 2010; Ramthun & Matkin, 2012). However, certain visible components of culture, such as artifacts, symbols, and rituals are not excluded as they can be an embodiment of a culture's values and beliefs (Hofstede, 2001; Martin, 2002; Schein, 2017).

Cross-cultural research either has an etic or an emic approach (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Martin, 2002; Scandura & Dorfman, 2004). The etic approach focuses on applying a generalized theory of leadership to other cultures (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Martin, 2002; Scandura & Dorfman, 2004). This typically means that a Westernized theory is applied to non-Western cultures (Scandura &

Dorfman, 2004). Furthermore, an etic research approach looks at culture from an outsider perspective (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Martin, 2002; Scandura & Dorfman, 2004). A challenge of the etic approach is that it can be ethnocentric and it runs the risk of losing the complete picture of a culture (Martin, 2002; Scandura & Dorfman, 2004). However, ethical studies provide the condition for research on international validation of leadership studies (Ayman & Korabik, 2010).

The emic approach to cross-cultural studies researches theories from within a culture (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Martin, 2002; Scandura & Dorfman, 2004). This approach is effective when trying to comprehend cultural practices that are not part of the researcher's culture (Martin, 2002). In order to fully understand a culture, the researcher of an emic approach needs to integrate into the culture as much as possible, thus becoming "native" (Martin, 2002). The challenge with this approach is that the researcher is unable to distinguish the studied culture from the researcher's own native culture (Martin, 2002).

A combination of the etic and emic approach is therefore recommended when conducting a cross-cultural study (Ayman & Korabik, 2010; Hofstede, 2001; Scandura & Dorfman, 2004). The challenge with this dual approach is that the researcher needs to create distance from the culture studied for it to be considered an etic approach, while also becoming a close enough part of the culture in order for the study to be emic (Martin, 2002). However, it is possible to conduct ethnographic interviews, the emic approach, while also using survey research through the etic approach to cross-cultural studies (Hofstede, 2001; Scandura & Dorfman, 2004). The most important aspect of

studies that involve multiple cultures is to choose the right approach for the research (Martin, 2002).

Cultural Applicability and Leadership

Culture affects many aspects of human behaviors, including leadership (Ayman & Korabik, 2010; Hofstede, 1980; Javidan et al., 2006). Understanding one's own and others' cultures is important because what is applicable in one culture does not necessarily work in another (Javidan et al., 2006). According to the guidelines for multicultural training and education from the American Psychological Association (2003), in practices that are culture-centered, it is important to understand that people are influenced by different aspects of culture (American Psychological Association, 2003). Culture impacts many areas of leadership, including communication, group dynamics, and values and beliefs (Ayman & Korabik, 2010). Leaders who are self-aware and who are able to adapt their behavior to a specific situation are the most effective (Butler et al., 2014; Caldwell & Hayes, 2016; Gallagher et al., 2012; Gill et al., 2015; Ramthun & Matkin, 2012; Taylor, 2010; Taylor et al., 2012). Leaders who ignore culture create challenges for the leadership pipeline (Ayman & Korabik, 2010).

Culture influences which leadership traits are most effective in a specific situation (Ayman & Korabik, 2010; Hofstede, 2001; Nguyen, Terlouw, Pilot, & Elliott, 2009). Culture also affects how to properly exert influence appropriately because neither leadership or culture are universal (Ayman & Korabik, 2010; Hofstede, 1980, 2001; Javidan et al., 2006; Nguyen et al., 2009; Ramthun & Matkin, 2012). Leaders need to adapt their behavior, communication, and style accordingly (Ayman & Korabik, 2010; Hofstede, 1980, 2001; Ramthun & Matkin, 2012). Through learning about other's

cultures, people simultaneously learn about their own culture (Hofstede, 1980; Javidan et al., 2006). This awareness of self and others is important in order to create culturally appropriate leadership behavior and communication (Ayman & Korabik, 2010; Javidan et al., 2006; Nguyen et al., 2009; Ramthun & Matkin, 2012).

The majority of management and leadership philosophies have emerged or are based on theories from the Western world (Nguyen et al., 2009; Scandura & Dorfman, 2004). However, because culture impacts preferred communications and behavioral styles, it is critical for leadership to reflect the culture in which it is used (Ayman & Korabik, 2010; Bolden & Kirk, 2009; Nguyen et al., 2009). Furthermore, education is also culture-specific, thus leadership training should also resonate with the cultural values of a specific region (Bolden & Kirk, 2009; Nguyen et al., 2009). In addition, studies about leadership should include multiple cultures to reduce ethnocentric leadership studies, methods, and behavior (Ayman & Korabik, 2010; Bolden & Kirk, 2009; Nguyen et al., 2009).

An increase in cultural understanding coupled with leadership training can potentially change the concept of leadership around the world (Ayman & Korabik, 2010). Furthermore, cultural awareness would increase leadership training not focused solely on Western models, but that which focuses instead on how to increase leadership effectiveness specific to a culture (Bolden & Kirk, 2009). In turn, this will increase the diversity within leadership as it demonstrates that leaders do not have to learn Western behaviors in order to be effective leaders (Ayman & Korabik, 2010; Bolden & Kirk, 2009). Culturally relevant concepts and language increase the cultural applicability of leadership courses (Nguyen et al., 2009). Culturally appropriate language, concepts, and

leadership trainings are thus essential to create inclusive and effective leadership around the world (Ayman & Korabik, 2010; Bolden & Kirk, 2009; Hofstede, 1980, 2001; Javidan et al., 2006; Nguyen et al., 2009; Ramthun & Matkin, 2012).

It is easier to adapt language, concepts, and leadership styles when knowing and understanding a culture's values and beliefs (American Psychological Association, 2003; Ayman & Korabik, 2010; Bolden & Kirk, 2009; Hofstede, 1980, 2001; Nguyen et al., 2009; Ramthun & Matkin, 2012). A culture's values demonstrate the shared mentality as it relates to preferred ways of dealing with authority, communication, behavior, and leadership (American Psychological Association, 2003; Ayman & Korabik, 2010; Bolden & Kirk, 2009; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006; Martin, 2002; Schein, 2017). In order for leadership to be effective in different cultures, it is essential to understand the specific culture's values (Ayman & Korabik, 2010; Bolden & Kirk, 2009; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Martin, 2002; Nguyen et al., 2009; Ramthun & Matkin, 2012; Schein, 2017).

National Culture

Culture influences leadership effectiveness in different cultural situations and circumstances (Ayman & Korabik, 2010; Hofstede, 1980; Javidan et al., 2006). National culture is the shared mentality of people within the boundaries of a nation (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Scandura & Dorfman, 2004). This section discusses the concept of national culture and how it relates to leadership. This section also describes the national culture of the countries included in this study, namely the United States of America, the United Arab Emirates, and the United Republic of

Tanzania. The last section of the literature review focuses on organizational culture and its applicability to healthcare.

Introduction

National culture refers to the shared mentality of people within a nation. This section explores the concept through a discussion about the definition and Hofstede's (2011) cultural dimensions (Hofstede, 2001). In addition, the Value Survey Module (VSM) is explained before exploring the cultural differences between the United States of America, The United Arab Emirates, and the United Republic of Tanzania. Subsequently, the following section describes organizational culture and its implications on leadership.

What is National Culture?

Culture is a shared concept between individuals based on the place they live, work, and spend time. These shared experiences create and reinforce shared behaviors, language, and values (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006; Ramthun & Matkin, 2012). Every group of people consists of multiple individuals, each with their own personality, life experiences, thoughts and beliefs (Hofstede, Garibaldi de Hilal et al., 2010). Many life events, whether big or small, are experienced with others, therefore there is also a collective mentality (Brewer & Venaik, 2012; de Mooij, 2013; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010). This collective mentality is the basis for the definition of culture (de Mooij, 2013; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Ramthun & Matkin, 2012). Therefore, national culture refers to the shared mentality of the people within one country's boundaries (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012;

Scandura & Dorfman, 2004). The national culture is an accumulation of the behavioral preferences, values, and thought patterns of the individuals in that society (Ayman & Korabik, 2010; de Mooij, 2013; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Scandura & Dorfman, 2004). National culture does not refer to individual characteristics of its members but is rather an average of the people within its boundaries (de Mooij, 2013; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Venaik & Brewer, 2016). In short, this means that when measuring national culture, it is not valid to characterize individuals of that country (de Mooij, 2013; Venaik & Brewer, 2016). There is a direct correlation between individual and national culture, but not every individual embodies the national cultural values (de Mooij, 2013; Hofstede, 1980).

Models that measure national culture focus on values, which are expressed through behaviors, norms, structures, attitudes, and language (de Mooij, 2013; Hofstede, 1980, 2001; Mayfield & Mayfield, 2012). There are two types of values: those that people think they should desire, and the values they actually desire (de Mooij, 2013). The focus of this paper is on the cultural values that people desire because it signifies the current national culture (de Mooij, 2013). Keep in mind that cultural values are often innate, they are not always clear to the in-group (Hofstede, 1980).

The concept of national culture implies that there is some sense of cultural stability on the national level; however, there appears to be less fluctuation in national culture than anticipated (Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012). Variation between national cultures occurs in shifts

between national values (Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010).

These shifts in national and cultural values are the focus of this research.

Models of National Culture

There are multiple models to measure national culture. Some models focus on a single dimension and others on multiple dimensions (Morden, 1999). An example of a single dimension model is Hall's High and Low Context Culture (Morden, 1999). This model measures how people seek knowledge and information, namely either through personal networks (high context) or through research of data, reports, and information (low context) (Morden, 1999). Another single dimension model is Lewis' Monochronic and Polychronic Culture model (Morden, 1999). This model measures if individuals in a specific culture prefer to focus on one task at a time (monochronic) or if people are more unconstrained and flexible about time (polychronic) (Morden, 1999). A third single dimension model that measures national culture is Fukuyama's Analysis of Trust (Morden, 1999). This model measures if societies are more group-oriented and flexible (high trust societies) or more focused on bureaucracy and isolation (low trust societies) (Morden, 1999).

Models that measure national culture through multiple dimensions utilize numerous variables (Morden, 1999). One of the most well-known measures for national culture is Hofstede's (2001) Cultural Dimensions (Morden, 1999). This model focuses on six different dimensions, namely Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long-Term Orientation, and Indulgence (Ayman & Korabik, 2010; de Mooij, 2013; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Malone et al., 2013; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Rarick et al.,

2013; Venaik & Brewer, 2016). Together, these six dimensions provide an overview of the values of a specific national culture (Ayman & Korabik, 2010; de Mooij, 2013; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Malone et al., 2013; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Rarick et al., 2013; Venaik & Brewer, 2016). Another multidimensional model is the Hampden-Turner & Trompenaars Analysis (Morden, 1999). This model measures seven values, namely *Universalism* versus *Particularism*, *Analyzing* versus *Integrating*, *Individualism* versus *Communitarianism*, *Inner-Directed* versus *Outer-Directed*, *Time as Sequence* versus *Time as Synchronization*, *Achieved Status* versus *Ascribed Status*, and *Equality* versus *Hierarchy* (Morden, 1999). A third multidimensional model to measure national culture is Lessem and Neubauer's analysis (Morden, 1999). This model measures national culture along four categories: *Pragmatism*, *Idealism/Wholism*, *Rationalism*, and *Humanism* (Morden, 1999).

Cultures are complex and multifaceted entities (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006; Ramthun & Matkin, 2012). Therefore, the researcher used a multiple dimension model to measure national culture. Hofstede's Dimensions of National Culture model has been proven to have strong validity (Hofstede, 2001; Hofstede & Minkov, 2013). Furthermore, there is reliable and valid data available on the national culture of the United States of America, the United Arab Emirates, and the United Republic of Tanzania (Hofstede, 2001; Hofstede & Hofstede, 2017). This model has six dimensions, but each dimension is divided into two styles (Blanton, 2005; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013; Mayfield & Mayfield, 2012; Venaik & Brewer,

2016). For example, the Individualism dimension has a collectivist and an individualistic style (Ayman & Korabik, 2010; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012; Rarick et al., 2013; Scandura & Dorfman, 2004). This means that there are 12 styles in this model, similar to both the OCI and the LSI, increasing the clarity of a cross-model analysis. Therefore, the researcher used Hofstede's model for the analysis of national culture.

Hofstede's Dimensions of National Culture

Hofstede (1976) studied 372 middle managers from forty different nations and their espoused values (Hofstede, 1976). This study inspired a study with IBM, which became the baseline for the cultural dimensions (Blanton, 2005; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013; Mayfield & Mayfield, 2012; Venaik & Brewer, 2016). The typology on national culture was also based on forty nations, and it identified four out of the six current cultural dimensions (Blanton, 2005; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013; Mayfield & Mayfield, 2012; Venaik & Brewer, 2016). A fifth dimension was added in the 1990s and the sixth in the early 2000s (Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013).

The initial four dimensions were: Power Distance, Individualism, Masculinity, and Uncertainty Avoidance (Ayman & Korabik, 2010; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012; Rarick et al., 2013; Scandura & Dorfman, 2004). Research on Confucianism led to the fifth dimension of Long-Term Orientation (Blanton, 2005; Hofstede, 2001, 2013a; Hofstede & Minkov, 2013; Malone et al., 2013; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Rarick et al., 2013;

Scandura & Dorfman, 2004). The sixth dimension is that of Indulgence (Hofstede & Minkov, 2013). Together, these six dimensions provide an overview of the values of cultures at a national or regional level (Ayman & Korabik, 2010; de Mooij, 2013; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Malone et al., 2013; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Rarick et al., 2013; Venaik & Brewer, 2016).

Power Distance is one of the first discovered cultural dimensions and it revolves around inequality (Blanton, 2005; Hofstede, 1980, 2001, 2013a; Hofstede & Minkov, 2013; Malone et al., 2013; Mayfield & Mayfield, 2012; Rarick et al., 2013). Countries with a low Power Index have a more flattened hierarchy than in nations with a high Power Index (Blanton, 2005; Hofstede, 2001; Malone et al., 2013; Mayfield & Mayfield, 2012). It is important to note that this dimension refers both to the distribution of power and to people's acceptance of that unequal distribution (Hofstede, 1980, 2001, 2013a; Hofstede & Minkov, 2013; Malone et al., 2013).

Individualism revolves around the degree to which collective needs are valued over individual needs (Blanton, 2005; Hofstede, 1980, 2001, 2013a; Hofstede & Minkov, 2013; Malone et al., 2013; Mayfield & Mayfield, 2012; Rarick et al., 2013). Furthermore, it indicates that the strengths of the ties between people are strong in a collective society and loose in an individualistic nation (Hofstede, 1980, 2001, 2013a; Hofstede & Minkov, 2013; Malone et al., 2013). People in collective societies can feel pressure to conform and people in individualistic societies focus on self-development (Hofstede, 2001; Mayfield & Mayfield, 2012).

The dimension of Masculinity focuses on how societies cope with behaviors that are either more nurturing or modest (*Feminine*) or more assertive (*Masculine*) (Blanton, 2005; Hofstede, 1980, 2001, 2013a; Hofstede & Minkov, 2013; Malone et al., 2013; Mayfield & Mayfield, 2012; Rarick et al., 2013). Assertive values revolve around competition, achievement, and acquisition of wealth and resources (Blanton, 2005; Hofstede, 1980, 2001, 2013a; Hofstede & Minkov, 2013; Mayfield & Mayfield, 2012; Rarick et al., 2013). The Feminine qualities are more nurturing, such as interpersonal relationships, concerns for others, and quality of life (Blanton, 2005; Hofstede, 2001, 2013a; Hofstede & Minkov, 2013; Malone et al., 2013; Mayfield & Mayfield, 2012; Rarick et al., 2013).

Uncertainty Avoidance is the last of the initial four dimensions (Ayman & Korabik, 2010; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Rarick et al., 2013; Scandura & Dorfman, 2004). This dimension describes how comfortable nations are with uncertainty and ambiguity (Blanton, 2005; Hofstede, 1980, 2001, 2013a; Hofstede & Minkov, 2013; Malone et al., 2013; Mayfield & Mayfield, 2012; Rarick et al., 2013). It is important to note that Uncertainty Avoidance does not equal risk avoidance (Hofstede, 2001). Instead, it focuses on whether societies rely on structures and social norms to mitigate the unpredictability of the future (Hofstede, 1980, 2001; Malone et al., 2013; Mayfield & Mayfield, 2012; Rarick et al., 2013).

The fifth dimension is Long-Term Orientation and it is based on the Confucius teachings (Hofstede, 2001; Mayfield & Mayfield, 2012; Rarick et al., 2013). Nations with a Long-Term Orientation encourage future-oriented thinking and behaviors (Blanton, 2005; Hofstede, 2001; Hofstede & Minkov, 2013; Rarick et al., 2013). Short-term

oriented societies focus on monumentalism, immediate gratification, and social obligations (Blanton, 2005; Hofstede, 2001; Hofstede & Minkov, 2013; Malone et al., 2013).

The final addition to the dimensions is the Indulgence index (Hofstede & Minkov, 2013). This dimension refers to whether societies encourage gratification or restraint (Hofstede & Minkov, 2013). Societies that lean towards the indulgent side allow their members to have a more relaxed attitude towards enjoyment (Hofstede & Minkov, 2013). Nations that are more restrained, try to control their members' gratification and pleasure-seeking behaviors (Hofstede & Minkov, 2013).

National Culture and Leadership

Understanding a national culture provides people with an understanding of their preferred behaviors, customs, and values (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Javidan et al., 2006; Ramthun & Matkin, 2012). This awareness informs leaders which styles, communications, and behaviors are most effective in a certain region (Ayman & Korabik, 2010; Hofstede, 1980). Culture indicates what is effective leadership within a specific context (Ayman & Korabik, 2010; Hofstede, 1980; Mayfield & Mayfield, 2012). National culture influences motivation, which is an essential part of leadership (de Mooij, 2013; Hofstede, 2001). Avoiding giving attention to culture can reduce a leader's effectiveness (Ayman & Korabik, 2010; Hofstede, 1980; Mayfield & Mayfield, 2012). Leaders must increase their cultural understanding, self-awareness, and adaptability to become more effective in today's globalizing world (Ayman & Korabik, 2010; de Mooij, 2013; Hofstede, 1980, 2001; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012).

Leadership has a particular effect on the Power Distance dimension (Hofstede, 1980, 2001). This dimension focuses on levels of hierarchy and people's acceptance of it (Blanton, 2005; Hofstede, 2001; Malone et al., 2013; Mayfield & Mayfield, 2012).

Leaders cannot merely choose their power style without considering the national culture of the intended followers (Hofstede, 1980, 2001). As a result, leadership and national culture are intrinsically linked (Ayman & Korabik, 2010; de Mooij, 2013; Hofstede, 1980, 2001; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012).

National Culture Comparisons

The purpose of the cultural dimensions is to compare different regions or nations with others (Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013). In this study, the national cultures of the United States of America, The United Arab Emirates, and the United Republic of Tanzania are used.

National culture of the United States of America. The United States was part of Hofstede's (2001) initial IBM study (Hofstede, 2001). The following is a summary of the national U.S. culture (Hofstede, 2001).

In the Power Distance dimension, the U.S.A. scored 40, meaning that there is a focus on independence, equality, coaching, and empowerment (Hofstede, 2001; Hofstede & Hofstede, 2017). The U.S.A.'s score with the Individualism dimension falls on 91, indicating a clear preference for an Individualistic society (Hofstede, 2001; Hofstede & Hofstede, 2017). Such societies have a loose social framework, in which promotions are based on merit and people are expected to only take care of themselves and their immediate family (Hofstede, 2001; Hofstede & Hofstede, 2017). In the Masculinity dimension, the U.S.A. falls under a Masculine society with a score of 62 (Hofstede, 2001;

Hofstede & Hofstede, 2017). The characteristics of a Masculine society are a focus on achievement, competition, and striving to be the “winner” (Hofstede, 2001; Hofstede & Hofstede, 2017). The U.S.A. has a slight tendency towards accepting uncertainty, indicated by a score of 46 in the Uncertainty Avoidance dimension (Hofstede, 2001; Hofstede & Hofstede, 2017). This type of culture is manifested in innovation, tolerance of new ideas, and a willingness to try new things (Hofstede, 2001; Hofstede & Hofstede, 2017). In the Long-Term Orientation dimension, the U.S.A. falls within a short-term orientation (Hofstede, 2001; Hofstede & Hofstede, 2017). This type of orientation is characterized by a respect for traditions and desiring results immediately (Hofstede, 2001; Hofstede & Hofstede, 2017). Finally, the Indulgence dimension shows that the U.S.A. has a preference for Indulgence (Hofstede, 2001; Hofstede & Hofstede, 2017). An indulgent culture revolves around optimism, leisure time, and spending money (Hofstede, 2001; Hofstede & Hofstede, 2017).

National culture of the United Arab Emirates. The United Arab Emirates (U.A.E.) was only measured on four of the six dimensions, excluding the Long-Term Orientation and Indulgence (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede, & Minkov, 2010). The U.A.E.’s dimensions were first measured in 1969 and 1972, but all country data was destroyed and the U.A.E.’s results were pooled into an Arab section, together with Egypt, Lebanon, Libya, Kuwait, Iraq, and Saudi Arabia (Hofstede, 2001). Neither the fifth nor sixth dimension existed at that time (Ayman & Korabik, 2010; Hofstede, 1980, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012; Rarick et al., 2013; Scandura & Dorfman, 2004). Data from the Arab

cluster on the four dimensions are used for this study since country-specific data on the national culture in the U.A.E. is no longer available (Hofstede, 2001).

The Arab region ranks at 80 in the Power Distance dimension (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). This indicates that people have a high acceptance of a hierarchical structure; deputies are expected to follow orders from superiors and inequalities are accepted (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). In the Individualism dimension, the Arab region scores 38, meaning that it is a collectivist society (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). Characteristics of such a society are loyalty, shared responsibility, and promotions based on being part of the in-group (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). The Arab region scores 53 on the Masculinity dimension, therefore indicating a very slight preference for a Masculine society focused on achievement and competition (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). The Arab region's rank on the Uncertainty Avoidance index indicates a preference for avoiding uncertainty, with a score of 68 (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). Avoidance cultures have a rigid idea of what behavior and beliefs are appropriate and do not tolerate behavior that is different (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). Furthermore, punctuality is prevalent and people have an urge to be busy and productive (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). Lastly, innovation might meet resistance and people are motivated by a sense of security (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede,

Hofstede et al., 2010). As noted previously, there are no known scores in the Long-Term Orientation and Indulgence dimensions.

National culture of the United Tanzania Republic of Tanzania. In 1972, Hofstede (2001) used the English version of the IBM questionnaire, which later became the basis for the VSM 80, in the United Republic of Tanzania (Hofstede, 2001). Tanzania's results were pooled into an East African section, together with results from Kenya, Ethiopia, and Zambia (Hofstede, 2001). This cluster had a total of forty-six respondents from four different occupations (Hofstede, 2001). However, this section discusses Tanzania's results along the six dimensions, not the combined results from the East African cluster.

In the Power Distance dimension, Tanzania scored a 70 (Hofstede, 2001; Hofstede & Hofstede, 2017). This indicates that people expect and accept a strong hierarchy in which everyone has a place (Hofstede, 2001; Hofstede & Hofstede, 2017). Furthermore, subordinates have the expectation that they are told what to do and that the person in charge is benevolent (Hofstede, 2001; Hofstede & Hofstede, 2017). In the Individualism dimension, Tanzania has an index of 25, similar to the U.A.E. (Hofstede, 2001; Hofstede & Hofstede, 2017). This indicates that both nations are collectivist societies (Hofstede, 2001; Hofstede & Hofstede, 2017). A collectivist society focuses on loyalty, commitment to the group, and taking responsibility for others' welfare (Hofstede, 2001; Hofstede & Hofstede, 2017). Tanzania scores 40 in the Masculinity dimension (Hofstede, 2001; Hofstede & Hofstede, 2017). This indicates that there is a Feminine culture with a focus on equality, consensus, solidarity, and compromise (Hofstede, 2001; Hofstede & Hofstede, 2017). Effective leaders in a Feminine society make collective

decisions, support their reports, and do not show their status (Hofstede, 2001; Hofstede & Hofstede, 2017). On the Uncertainty Avoidance index, Tanzania ranks at 50, which does not show a preference for either uncertainty avoidance or acceptance (Hofstede, 2001; Hofstede & Hofstede, 2017). Tanzania scores 34 on the Long-Term Orientation (Hofstede, 2001; Hofstede & Hofstede, 2017). This indicates that Tanzanian culture has a preference for the short term, which revolves around traditions and a level of impatience when it comes to achieving results (Hofstede, 2001; Hofstede & Hofstede, 2017). Finally, in the Indulgence dimension, Tanzania ranks at 38, thus leaning more closely towards restraint (Hofstede, 2001; Hofstede & Hofstede, 2017). People living in a restraint culture feel that indulging themselves is inappropriate and they feel the need to control their desires (Hofstede, 2001; Hofstede & Hofstede, 2017).

Comparison of the United States of America, United Arab Emirates, and the United Republic of Tanzania. Reviewing the cultural dimensions of the United States of America, the Arab Region, and the United Republic of Tanzania, it is evident that there are significant differences in the national preferences. In the Power Distance dimension, Tanzania and the Arab region both indicate a preference for hierarchical structure, although the Arab region has a stronger preference and the U.S.A. indicates a preference for equal structures (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). In the Individualism dimension, Tanzania scores 25 and the Arab region scores 38, both indicating a preference for a collectivistic approach to society, while the U.S.A. has a strong preference for Individualism (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). In the Masculinity dimension, the Arab region has a very slight preference for a Masculine approach, the U.S.A. shows a stronger preference

for a Masculine approach, and Tanzania demonstrates a Feminine society (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). Furthermore, Tanzania does not indicate a preference in the Uncertainty Avoidance dimension, while the Arab region has a strong preference for avoidance and the U.S.A. has a slight preference for accepting uncertainty (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). In the Long-Term Orientation dimension, both the U.S.A. and Tanzania demonstrate a short-term orientation (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010). No data for the Arab region in this dimension is available. Finally, in the Indulgence dimension, there is no data for the Arab region, Tanzania has a preference for restraint, and the U.S.A. has a preference for Indulgence (Hofstede, 2001; Hofstede & Hofstede, 2017; Hofstede, Hofstede et al., 2010).

This comparison demonstrates the differences in national culture between the United States of America, United Arab Emirates, and the United Republic of Tanzania. The implication of these differences on the applicability of leadership training is the purpose of this study.

Organizational Culture

Organizational culture is the agreement within organizations about the behavior that is necessary to fit in and belong in an organization (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Martin, 2002; Rovithis et al., 2016; Schein, 2017). This section discusses what organizational culture is and how it impacts leadership. Subsequently, the relationship of organizational culture to medicine and the international field is explained

after a brief description of a measure of organizational culture. The final section of this chapter describes the propositions of this research as they relate to the literature.

Introduction

There are many factors influencing organizational performance, satisfaction, and effectiveness. The structures of an organization, its systems, its language, hierarchy, behaviors, beliefs, and its values all have an impact on the performance of both employees and the organization itself (Cooke & Szumal, 1993, 2000; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Scott, Mannion, Davies, & Marshall, 2001). All of these aspects form the culture of an organization, which in turn, influences how people believe they are expected to behave and think in order to belong (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Martin, 2002; Rovithis et al., 2016; Schein, 2017). This section defines organizational culture and explains how it relates to healthcare.

What is Organizational Culture?

Organizational culture has been an academic concept since the 1970s when Andrew Pettigrew referenced it in the *Administrative Science Quarterly* (Scott et al., 2001). Since that time, the concept has been widely used, yet widely debated. In fact, there has been significant confusion about exactly how organizational culture should be defined and how it should be measured (Scott et al., 2001). There are three main approaches when discussing organizational culture: the integration perspective, the differentiation perspective, and the fragmentation perspective (Kwantes & Boglarsky, 2004; Martin, 2002). The differences in these approaches indicate either the similarities, differences, or the transience of shared meanings within organizations (Kwantes &

Boglarsky, 2004; Martin, 2002). The most common research approach of organizational culture is to focus on the similarities (Kwantes & Boglarsky, 2004). This is in line with Cooke and Rousseau's (1988) definition of organizational culture, which states that it is the shared values and beliefs that guide the behaviors and thinking styles of members in an organization (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Rovithis et al., 2017, 2016). Organizational culture refers to the agreement within organizations on the behavior that is necessary to fit in and belong in the organization (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Martin, 2002; Rovithis et al., 2016; Schein, 2017). The language, stories, dress, customs and traditions, organizational structure and hierarchy, assumptions, values, and beliefs are parts of organizational culture (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Kwantes & Boglarsky, 2004; Martin, 2002; Rovithis et al., 2017, 2016; Schein, 2017; Scott et al., 2001). Organizational culture will inform employees' effectiveness, retention rate, and satisfaction; therefore, it is essential to understand the culture of an organization in order to determine how to optimize its performance (Cooke & Rousseau, 1988; Rovithis et al., 2017, 2016).

The Organizational Culture Inventory (OCI)

Measuring organizational culture is crucial to understanding how to effectively change or improve it. The OCI is an instrument based on the LSI, developed by Dr. Robert Cooke and Dr. Clayton Lafferty and is administered by Human Synergistics International (Cooke & Rousseau, 1988; Rovithis et al., 2017, 2016; Schein, 2017). The OCI measures behavior and thinking that is desired in a specific organization based on shared beliefs and values (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Rovithis et al., 2016). Knowing and embodying

these shared values and beliefs will help employees understand how to better fit in and belong with the other members of the organization (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Martin, 2002; Rovithis et al., 2016; Schein, 2017). The OCI uses the same theoretical model as the LSI assessment (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergistics International, 2004, 2009, 2013, 2015; Rovithis et al., 2016). Because the same circumplex is used, relationships between the leadership style and organizational culture can be easily seen (Cooke & Rousseau, 1988; Rovithis et al., 2017, 2016; Schein, 2017).

The Organizational Culture Inventory (OCI) styles and clusters. A culture focused on Achievement has members who set and work towards goals, enjoy challenging tasks, plan and think ahead, and who are openly enthusiastic (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). In a culture with a Self-Actualizing style, people tend to focus on quality more than on quantity, they communicate ideas and information openly about themselves, think independently, and they are focused on their own development (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). The Humanistic-Encouraging style promotes a supportive and inclusive culture (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). This type of organizational culture develops its members, encourages individuals to think for themselves, and provides positive rewards (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). The Affiliative style focuses on cooperation, group satisfaction, motivation through

friendliness, and tactfulness (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016).

The Approval style is exemplified by members with a tendency to agree with everyone, supporting the people with the most authority, and doing things to gain approval from others (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). The Conventional style is conforming, always following policies and practices, and avoiding confrontations (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). The Dependent style promotes predictability, doing what is expected, never challenging superiors, and pleasing those higher in the hierarchy of the organization (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). An Avoidance culture takes fewer chances, is likely to make popular rather than sound decisions, and waits for others to act first—thus shifting responsibility to others (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016).

An Oppositional culture points out flaws, questions decisions, and creates indirect opposition (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). The Competitive style promotes competition over cooperation, turning tasks into contests, and its members always try to be right in order to be noticed (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). A culture with a Power orientation demands loyalty while its constituents act forcefully to never give up control (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes

& Boglarsky, 2004; Rovithis et al., 2016). A Perfectionistic culture falls under the satisfaction dimension and its members work long hours, rarely make mistakes, focus on every detail themselves, and choose to persist and endure (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016).

Correlated styles. There are multiple correlated styles in the model (Cooke & Rousseau, 1988). Positively correlated styles are styles in which one increases, the other increases as well (Cooke & Rousseau, 1988). The positively correlated pairs are Perfectionistic with Conventional and Competitive with Approval (Cooke & Rousseau, 1988). This means that if a culture is high in Perfectionistic that the culture is also likely to be high in the Conventional style (Cooke & Rousseau, 1988). Negatively correlated styles are styles that if one increases, the other decreases and vice versa (Cooke & Rousseau, 1988). The negatively correlated pairs are all with one of the four Constructive styles, namely Achievement with Dependent; Self-Actualizing with Avoidance; Humanistic-Encouraging with Oppositional; and Affiliative with Power (Cooke & Rousseau, 1988). This means that if a culture scores high in the Power style, this tendency can be decreased by increasing the Affiliative style because if one increases, the other style decreases (Cooke & Rousseau, 1988).

The Organizational Culture Inventory (OCI) in Healthcare

Organizations can have more than one culture—they can have a dominant culture with one or more subcultures (Cooke & Rousseau, 1988; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016). These subcultures can be vastly different from the dominant culture and can even influence the larger organizational culture (Kwantes & Boglarsky,

2004; Rovithis et al., 2016). Because of its fragmentation into different departments and specialties, health care is especially prone to develop multiple subcultures (Cooke & Rousseau, 1988; Rovithis et al., 2017, 2016). The OCI is therefore used frequently in health care organizations (Cooke & Szumal, 1993). Organizational culture influences the quality of health care provided to patients and impacts patient safety, employee turnover, management, and overall satisfaction (Rovithis et al., 2017). Shifting health care culture towards the Constructive cluster will increase collaboration, adaptability, and overall patient care (Rovithis et al., 2016). Specific occupations might have their own organizational culture, as individuals with similar values or beliefs can be drawn to a specific field (Kwantes & Boglarsky, 2004). As a specialty within health care, pathology and laboratory medicine can be thus be analyzed and improved as a potential laboratory organizational subculture of medicine (Cooke & Rousseau, 1988; Rovithis et al., 2017, 2016). As of March 2018, there are no known studies about the OCI in the field of pathology and laboratory medicine.

International Application of the Organizational Culture Inventory (OCI)

The ideal profiles created by organizations are typically stronger in the Constructive cluster than in the Passive/Defensive and Aggressive/Defensive clusters, regardless of the country in which it is administered (Cooke & Szumal, 2000). However, there are regions that indicate, in addition to high Constructive styles, a stronger expectation of some Aggressive/Defensive styles, especially the Oppositional style (Cooke & Szumal, 2000). Figure 3 shows the Ideal Profiles of some of these regions compared to the Ideal profile of the Anglo-Saxon Countries. As of March 2018, The OCI

Ideal is available in 31 languages and the OCI Current is available in 36 languages. Both have translations in Arabic, but not in Swahili.

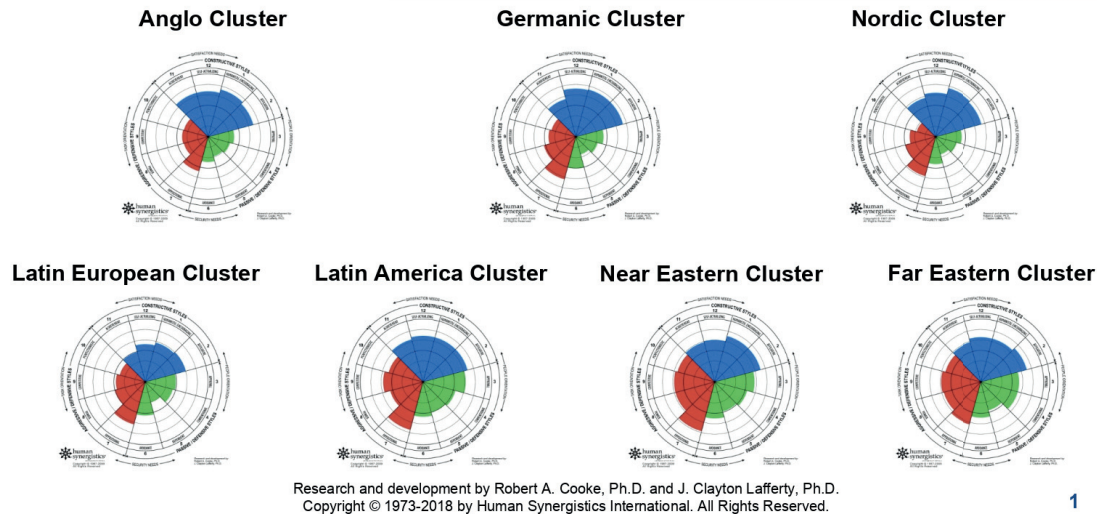


Figure 3. Ideal Organizational Culture Inventory (OCI) profiles of international clusters

Gaps in Literature

The review of the literature demonstrates that there is an absence of research on culturally applicable leadership trainings in the field of pathology and laboratory medicine, specifically in the United Arab Emirates and the United Republic of Tanzania. Furthermore, there is no research on the organizational culture of pathology and laboratory medicine. However, the literature review indicates that there is a lack of leadership in the medical field and that leadership training will create better patient outcomes (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Brimhall et al., 2007; Caldwell, 2014; Doughty et al., 2010; Fleming et al., 2017; Frich et al., 2014; Gunderman & Kanter, 2009; Horowitz, 2006; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Stoller, 2008; Weiss et al., 2014).

Summary

Leadership involves awareness of self and of others (Butler et al., 2014; Caldwell & Hayes, 2016; Gallagher et al., 2012; Gill et al., 2015; Taylor, 2010; Taylor et al., 2012). Culture is thus a critical component of leadership as it indicates the shared mentality of a group as it relates to values, beliefs, and leadership style (Ayman & Korabik, 2010; Bolden & Kirk, 2009; Hofstede, 2001; Hofstede et al., 2010; Javidan et al., 2006; Migliore, 2011; Nguyen et al., 2009; Ramthun & Matkin, 2012). To train effective leaders, a culturally appropriate curriculum is essential (Ayman & Korabik, 2010; Bolden & Kirk, 2009; Hofstede, 1980, 2001; Javidan et al., 2006; Nguyen et al., 2009; Ramthun & Matkin, 2012).

There is a shortage of physician leaders in medicine and its subspecialty of pathology and laboratory medicine (Ackerly et al., 2011; Brimhall et al., 2007; Caldwell, 2014; Fleming et al., 2017; Frich et al., 2014; Gunderman & Kanter, 2009; Horowitz, 2006; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Stoller, 2008; Weiss et al., 2014). Additionally, leadership training during residency program is inadequate, which negatively impacts the leadership pipeline (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Brimhall et al., 2007; Dobie, 2007; Frich et al., 2014; Gunderman & Kanter, 2009; Horowitz, 2006; Itani et al., 2004; Lobas, 2006; Majmudar et al., 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Sheikh & Kowalski, 2012; Stoller, 2008, 2009; Weiss et al., 2014). Improved leadership development in pathology and laboratory medicine leads to optimal quality, efficiency, patient-driven outcomes, and potential as future leaders (Blumenthal et al., 2012; Branda

et al., 2014; Brimhall et al., 2007; Blumenthal et al., 2012; Doughty et al., 2010; Fleming et al., 2017; Graves, 2007; Gunderman & Kanter, 2009; Horowitz, 2006; Isouard, 2013).

National culture impacts leadership through an understanding of a nation's values, behavioral preferences, and thought patterns (Ayman & Korabik, 2010; de Mooij, 2013; Hofstede, 1980, 2001; Hofstede et al., 2010; Javidan et al., 2006; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Scandura & Dorfman, 2004). Therefore, culture indicates people's effective leadership style (Ayman & Korabik, 2010; Hofstede, 1980; Mayfield & Mayfield, 2012). Organizational culture demonstrates which behaviors are essential to belong in the organization through values, language, stories, hierarchy, and traditions (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Kwantes & Boglarsky, 2004; Martin, 2002; Rovithis et al., 2017, 2016; Schein, 2017; Scott, Mannion, Davies, & Marshall, 2001). Both national and organizational culture impact a leader's situational effectiveness (Ayman & Korabik, 2010; Cooke & Szumal, 1993, 2000; de Mooij, 2013; Hofstede, 1980, 2001; Kwantes & Boglarsky, 2004; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Rovithis et al., 2017, 2016; Scott et al., 2001). Therefore, there is a clear need for culturally applicable leadership training in the field of pathology and laboratory medicine.

Propositions

The literature review indicates that there are many correlations between national culture, organizational culture, leadership style and the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania. This section describes the propositions of this study and how they relate to the literature.

Proposition 1

National culture is the shared mentality of people within a national boundary (Ayman & Korabik, 2010; Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Mayfield & Mayfield, 2012; Ramthun & Matkin, 2012; Scandura & Dorfman, 2004). The national culture informs leaders about the behaviors, values, and customs that are most effective in a particular country (Ayman & Korabik, 2010; Hofstede, 1980). The first proposition of this study is, therefore:

P1: National culture influences the cultural applicability of leadership courses in the United States, the United Arab Emirates, and the United Republic of Tanzania.

When looking at each country's national culture, it is clear that there are indeed significant differences between the national cultures of the three countries included in this study (Hofstede, 2001; Hofstede & Hofstede, 2017). The United States of America has a preference for a less hierarchical and more individualistic society, it values a Masculine style of assertiveness and competitiveness while being comfortable with a certain level of uncertainty (Hofstede, 2001; Hofstede & Hofstede, 2017). Additionally, there is a focus on short-term results with an expectation to indulge in pleasure and leisurely behavior (Hofstede, 2001; Hofstede & Hofstede, 2017). This indicates that the following leadership courses of the ASCP Leadership Institute certificate program are most culturally applicable in the United States of America:

P1a: In the United States of America, the following courses are most culturally applicable:

1. Time Mastery: due to the highest score in Masculinity (Hofstede, 2001; Hofstede & Hofstede, 2017).

2. Reacting to Change: due to the lowest score in Uncertainty Avoidance (Hofstede, 2001; Hofstede & Hofstede, 2017).
3. DeCoding American Generations: due to ingrained overall cultural values, beliefs, and customs (Hofstede, 2001; Hofstede & Hofstede, 2017).

In the United Arab Emirates, there is a strong preference for a hierarchical structure with a focus on collectivism and uncertainty avoidance (Hofstede, 2001; Hofstede & Hofstede, 2017). Additionally, there is a slight preference for a culture focused on achievement and competition, as indicated by the score on the Masculinity versus Femininity dimension (Hofstede, 2001; Hofstede & Hofstede, 2017). This indicates that the following ASCP Leadership Institute certificate courses are most applicable in the United Arab Emirates:

P1b: In the United Arab Emirates, the following courses are most culturally applicable:

1. Organizational Savvy: due to the strongest preference for and acceptance of a hierarchy (Hofstede, 2001; Hofstede & Hofstede, 2017).
2. Conflict Prevention and Resolution: due to the strongest preference for and acceptance of a hierarchy (Hofstede, 2001; Hofstede & Hofstede, 2017).

In the United Republic of Tanzania, there is a preference for a hierarchical structure with a strong emphasis on collectivism and supporting others (Hofstede, 2001; Hofstede & Hofstede, 2017). Furthermore, Tanzania does not indicate a preference for avoiding or accepting uncertainty, but there is a focus on short-term accomplishments and on constraining indulgences and leisure-seeking behavior (Hofstede, 2001; Hofstede & Hofstede, 2017). This indicates that the following ASCP Leadership Institute certificate courses are most applicable in the United Republic of Tanzania:

P1c: In the United Republic of Tanzania, the following courses are most culturally applicable:

1. Team Dynamics: due to a strong preference for collectivism (Hofstede, 2001; Hofstede & Hofstede, 2017).
2. Groupthink and the Abilene Paradox: due to a strong preference for collectivism (Hofstede, 2001; Hofstede & Hofstede, 2017).
3. Listening with a Purpose: due to a strong preference for collectivism (Hofstede, 2001; Hofstede & Hofstede, 2017).

The international applicability of Everything DiSC Workplace and the Myers-Briggs Type Indicator (MBTI) has been established (The Myers-Briggs Company, 2017; Wiley Publishing, 2017). Therefore, the final subproposition is:

P1d: There is no difference in the cultural applicability of the following two courses:

1. Everything DiSC Workplace
2. MBTI

Proposition 2

Organizational culture impacts how individuals feel they are expected to think and behave in order to belong in an organization (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Martin, 2002; Rovithis et al., 2016; Schein, 2017). Understanding the culture of an organization is therefore essential for leaders in order to optimize performance and increase employee satisfaction and retention rate (Cooke & Rousseau, 1988; Rovithis et al., 2017, 2016). The second proposition of this study was, therefore:

P2: Organizational culture influences the cultural applicability of leadership courses in

the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

Similar to the 12 styles of the OCI, the courses of the ASCP Leadership Institute certificate program can be divided along a people versus task orientation (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergistics International, 2004, 2009, 2013, 2015; Rovithis et al., 2016). The following Leadership Institute courses have a stronger people than task orientation: DeCoding American Generations, Listening with a Purpose, MBTI, and Team Dynamics (ASCP, 2017). The OCI styles that have a people orientation are Humanistic-Encouraging, Affiliative, Approval, Conventional, and Dependent (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergistics International, 2009, 2013, 2015).

P2a: In laboratories with an organizational culture that indicates an orientation on people instead of on tasks, the following courses are most culturally applicable:

1. DeCoding American Generations
2. Listening with a Purpose
3. MBTI
4. Team Dynamics

The ASCP Leadership Institute course that has a stronger task focus is Time Mastery (ASCP, 2017). The OCI styles that focus on tasks are Oppositional, Power, Competitive, Perfectionistic, and Achievement (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergistics International, 2009, 2013, 2015). Therefore:

P2b: In laboratories with an organizational culture that indicates a task instead of a people orientation, the following course is most culturally applicable:

1. Time Mastery

The ASCP Leadership Institute courses that have both a task and people focus are Everything DiSC Workplace, Organizational Savvy, Reacting to Change, Conflict Resolution and Prevention, and Groupthink and the Abilene Paradox (ASCP, 2017). The OCI styles that have both a people and task orientation are Self-Actualizing and Avoidance (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergistics International, 2009, 2013, 2015).

P2c: In laboratories with an organizational culture that indicates neither a people or task orientation, the following courses are most culturally applicable:

1. Everything DiSC Workplace
2. Organizational Savvy
3. Reacting to Change
4. Conflict Resolution and Prevention
5. Groupthink and the Abilene Paradox

Proposition 3

Self-awareness is one of the essential components of effective leadership (Butler, Kwantes, & Boglarsky, 2014; Caldwell, 2014; Gallagher, Costal, & Ford, 2012; Gill, Ramsey, & Leberman, 2015; S. N. Taylor, 2010; S. N. Taylor, Wang, & Zhan, 2012). The LSI is an assessment used to measure an individual's behavior and thinking patterns through input from others (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). The third proposition of this study was, therefore:

P3: The leadership style of the Laboratory Director influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

Both the OCI and the LSI use the same theoretical model and circumplex, thus the LSI styles are divided as the OCI styles along the people and task dimensions (Cooke & Rousseau, 1988; Rovithis et al., 2017, 2016; Schein, 2017). The subpropositions are therefore as follows:

P3a: In laboratories with a leadership style that indicates a people instead of a task orientation, the following courses are most culturally applicable:

1. DeCoding American Generations
2. Listening with a Purpose
3. MBTI
4. Team Dynamics

P3b: In laboratories with a leadership style that indicates a task instead of a people orientation, the following course is most culturally applicable:

1. Time Mastery

P3c: In laboratories with a leadership style that indicates neither a task or a people orientation, the following courses are most culturally applicable:

1. Everything DiSC Workplace
2. Organizational Savvy
3. Reacting to Change
4. Conflict Resolution and Prevention
5. Groupthink and the Abilene Paradox

Proposition 4

The fourth proposition of this study was:

P4: The national culture of the country, the organizational culture of the laboratory, and the leadership style of the Laboratory Director influence the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

P4a: In countries with Masculine national culture and an organizational culture and leadership director style with task orientation, the following course is most applicable:

1. Time Mastery

P4b: In countries with a collectivist national culture and an organizational culture and leadership director style with people orientation, the following courses are most applicable:

1. Listening with a Purpose
2. Team Dynamics

P4c: In countries with a collectivist national culture and an organizational culture and leadership director style with people and task orientation, the following course is most applicable:

1. Groupthink and the Abilene Paradox

P4d: In countries with a high Power Distance Index and an organizational culture and leadership director style with people and task orientation, the following courses are most applicable:

1. Organizational Savvy

2. Conflict Prevention and Resolution

P4e: In countries that accept uncertainty as part of the national culture and an organizational culture and leadership director style with people and task orientation, the following course is most applicable:

1. Reacting to Change

P4f: In all national cultures and in laboratories with an organizational culture and leadership director style with people and task orientation, the following course is most applicable:

1. Everything DiSC Workplace

P4g: In all national cultures and in laboratories with an organizational culture and leadership director style with a people orientation, the following course is most applicable:

1. MBTI

P4h: In the national culture of the United States of America and in laboratories with an organizational culture and leadership director style with a people orientation, the following course is most applicable:

1. DeCoding American Generations

Chapter 3: Methodology

Chapter Overview

An increase in leadership training in the field of pathology and laboratory medicine has the potential to significantly improve health care (Fleming et al., 2017; Graves, 2007; Isouard, 2013). This chapter focuses on the methodology of this study and how the researcher analyzed the cultural applicability of leadership training to increase the number of laboratory leaders and improve the leadership pipeline. The research questions revolve around the multiple layers of culture discussed in the previous chapter followed by expected outcomes of the study regarding culture's impact on applicable leadership courses. The population sample consists of four different laboratories in the United States of America, the United Arab Emirates, and the United Republic of Tanzania, which informed four separate case studies that are compared against one another. Finally, the researcher discusses assumptions, limitations, and ethical assurances.

Research Statement and Questions

The purpose of this study was to analyze the cultural applicability of leadership courses to make recommendations for improving leadership training in the field of pathology and laboratory medicine within three distinct cultures, namely the United States of America, the United Arab Emirates, and the United Republic of Tanzania. There is a deficit of leaders within the field of pathology and laboratory medicine, predominantly physician leaders and poor leadership training in residency programs (Ackerly et al., 2011; Blumenthal et al., 2012; Bohmer, 2010; Bowen, 1998; Brimhall et al., 2007; Caldwell, 2014; Dobie, 2007; Fleming et al., 2017; Frich et al., 2014; Gunderman & Kanter, 2009; Horowitz, 2006; Itani et al., 2004; Lobas, 2006; Majmudar

et al., 2010; McAlearney, 2006; Schwartz & Pogge, 2000; Sheikh & Kowalski, 2012; Stoller, 2008, 2009; Weiss et al., 2014). Culture is an essential aspect of leadership because it indicates which leadership style is most effective in specific moments and situations (Ayman & Korabik, 2010; Bolden & Kirk, 2009; Hofstede, 1980, 2001; Hofstede et al., 2010; Javidan et al., 2006; Migliore, 2011; Nguyen et al., 2009; Ramthun & Matkin, 2012). There is currently no research on culturally appropriate leadership training in the field of pathology and laboratory medicine. This problem impacts pathology and laboratory medicine, especially in countries such as Tanzania (located in Sub-Saharan Africa) and the United Arab Emirates in the Middle East because most leadership theories are based on a Western model (Scandura & Dorfman, 2004). It also impacts pathology and laboratory medicine as a whole, because a lack of applicable leadership decreases integration of pathology services within health care and recruitment of medical students into pathology (Adesina et al., 2013; Andiric & Massambu, 2015; Fleming et al., 2017; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015; Tumino et al., 2017). Since pathology is critical to ensure high-quality health care, there are tremendous implications for health globally (Fleming et al., 2017; Graves, 2007; Isouard, 2013). This study contributes to the body of knowledge needed to address this problem by examining if culturally appropriate leadership courses are equally applicable in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

For the purpose of this study, the research question is: What is the cultural applicability of leadership training in the field of pathology and laboratory medicine in

the United States of America, the United Arab Emirates, and the United Republic of Tanzania?

The subquestions are:

1. What is the national culture of the United States of America, the United Arab Emirates, and the United Republic of Tanzania?
2. What is the current organizational culture of each medical laboratory participating in the study in the United States of America, the United Arab Emirates, and the United Republic of Tanzania?
3. What is the leadership style of the medical laboratory of each of the laboratories participating in the study in the United States of America, the United Arab Emirates, and the United Republic of Tanzania?
4. Is there a relationship between national culture and organizational culture?
5. Is there a relationship between organizational culture and leadership style?
6. Is there a relationship between national culture and leadership style?
7. What is the cultural applicability of each of the 10 leadership courses in the ASCP Leadership Institute Certificate program in the United States of America, the United Arab Emirates, and the United Republic of Tanzania?
8. Is there a relationship between the organizational culture of a medical laboratory and the cultural applicability of leadership courses?
9. Is there a relationship between national culture and the cultural applicability of leadership courses?
10. Is there a relationship between leadership style and the cultural applicability of leadership courses?

Alignment Between Research Questions and Propositions

The research questions are aligned with the propositions in multiple ways. The four main research questions, see Chapter 2, propose that the three types of culture included in this study impact the applicability of leadership training. In order to gain insights into that potential impact, the research questions focus on whether or not there is a relationship between certain types of culture and between the cultures and the applicability of leadership training. This section describes how each research question is related to the four propositions included in this study. The first proposition is that national culture influences the cultural applicability of leadership courses in the United States, United Arab Emirates, and the United Republic of Tanzania. Research Questions 1, 4, 6, 7, and 9 relate to this proposition. The second proposition is that the organizational culture influences the cultural applicability of leadership courses in the three countries. Questions 2, 4, 5, 7, and 8 relate to this proposition. The third proposition is that the leadership style of the Laboratory Director influences the cultural applicability of leadership courses. Questions 3, 5, 6, 7, and 10 are aligned with this proposition. The fourth proposition is that the national culture of the country, the organizational culture of the laboratory, and the leadership style of the laboratory director influence the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania. All 10 research questions relate to this final proposition.

Research Design

Because of the small number of pathologists and laboratory professionals in Tanzania, it is impossible to create a valid quantitative study (Adesina et al., 2013;

Creswell, 2013; Rambau, 2011). The validity of qualitative studies is less defined by the number of participants, allowing for research opportunities in the field of pathology and laboratory medicine in Tanzania (Creswell, 2013). This study utilizes a case study research method. Case studies involve a case set in a real-life setting (Creswell, 2013). Furthermore, each case is bound by time and context (Creswell, 2013). This study analyzes multiple case studies, namely two from medical laboratories in the United States of America, one from the United Arab Emirates, and from one the United Republic of Tanzania. This study was a multiple case study, in which multiple sites were selected to illustrate the cultural applicability of leadership training in the three distinct cultures.

The characteristics of each of the four cases is as follows: a medical laboratory in the United States of America, the United Arab Emirates, and the United Republic of Tanzania, in which six to seven pathologists and laboratory professionals are enrolled in the ASCP Leadership Institute Certificate program. All participants were enrolled in the Leadership Institute between four to six months of the start date of the study. In this multiple case study, numerous sources of information were used, including surveys, observations, and interviews. A more detailed description of each of the four cases is provided later in this chapter.

Case Study Method

The case study method is used when the researcher explores a real-life, present-day bounded system using multiple sources of data collection (Creswell, 2013). The purpose of this research is to analyze the cultural applicability of leadership courses in specific cultural settings. Therefore, the method used is a multiple case study, in which four different cases are compared with one another (Creswell, 2013). In this study, data is

collected through interviews, assessments, surveys, focus groups, photographs, and observations (Creswell, 2013). The next sections will describe each of the cases in more detail and convey the differences and similarities between them. The following sections cover data collection and measurement, followed by participant selection and instrumentation.

Case Selection

This study focuses on the cultural applicability of leadership courses. Therefore, the countries included in this study need to be culturally diverse. The ASCP Leadership Institute Certificate program was designed and implemented in the United States of America, thus creating the assumption that all courses culturally apply. The United Arab Emirates is significantly culturally different from the United States, but developmentally similar as they have a Human Development Index (HDI) of 0.84 and 0.92 respectively (United Nations Development Programme, 2018b, 2018c). The United Republic of Tanzania is both culturally and developmentally different, with an HDI of 0.52 (United Nations Development Programme, 2018a, 2018b, 2018c). Comparing these three countries will, therefore, provide insight into the applicability of leadership training on both a cultural and developmental level.

The pilot program of the ASCP Leadership Institute Certificate program provided the researcher access to in-country pathology experts in the United States of America, the United Arab Emirates, the United Republic of Tanzania. The researcher contacted these experts and asked for laboratory recommendations to participate in this study. In the United States of America, the researcher contacted three laboratories in total, of which the last two provided consent to participate in the study. In the United Arab Emirates, the

researcher contacted five laboratories of which one consented. In the United Republic of Tanzania, the researcher contacted three laboratories, of which one local IRB was approved. The laboratory directors of each of the four sites were asked to email the recruitment flyer to eligible laboratory professionals and pathologists. Interested participants contacted the researcher directly via email, upon which they were asked to confirm their eligibility and sign the consent form.

Recruitment process. The recruitment process started with the recruitment of the laboratories. The researcher contacted in-country experts in the field of pathology and laboratory medicine. For laboratory recommendations in the United States of America, the researcher contacted a well-renowned leader in pathology and laboratory medicine who completed the ASCP Leadership Institute. The researcher emailed the Laboratory Directors of the suggested laboratories, one of whom had graduated from the ASCP Leadership Institute pilot program in May of 2017. In the United Arab Emirates, the researcher contacted a local graduate from the ASCP Leadership Institute pilot program and an Emirati pathologist. They recommended multiple labs and the researcher emailed the Laboratory Directors, none of whom the researcher had been in contact with prior to inviting them to partake in the study. In Tanzania, the researcher reached out to a Ugandan pathologist, ASCP Leadership Institute pilot program graduate, and former President of the Association of Pathologists of East, Central, and Southern Africa. The researcher followed up with his suggestions as well, none of whom had any familiarity with the Leadership Institute or the researcher prior to contact.

After IRB approval, the researcher reached out to the Laboratory Directors and confirmed that no additional IRB approvals were needed. The two sites in the United

States did not require additional approval processes, the two of the three sites in the U.A.E. did require a local IRB, and all three sites in Tanzania required additional approvals, including local IRBs. The two local IRBs in the U.A.E. required that a local researcher was the principal investigator, upon which the researcher withdrew the IRB. In Tanzania, there were multiple levels of approval needed, including IRBs, permits, and permission from the Ministry of Health. Only one site was approved and included in this study.

Once approval was confirmed at each site, the researcher emailed the Laboratory Director who then emailed the recruitment flyers to candidates, see Appendix D. Interested participants emailed the researcher directly and were asked to confirm their eligibility by answering the following questions:

- Are you 18 years or older?
- Are you either a pathologist or laboratory professional?
- Do you work at [XXX] Pathology Department?
- What is your level of English comprehension?

Once eligibility was confirmed, the researcher emailed the consent form (see Appendix E) and offered to answer any questions participants. Upon receipt of the consent form, the researcher signed participants up for the ASCP Leadership Institute and scheduled their phone interviews. Once all participants per site were confirmed, all were signed up to complete the OCI and LSI online assessments.

Population and sample. There were four medical laboratories participating in this study: two laboratories in the United States, one in the United Arab Emirates, and one in the United Republic of Tanzania. In each laboratory, six to seven pathologists and

laboratory professionals participated in the research. The main reason for the number of participants per laboratory is that the validity of both the OCI and the LSI depend on a minimum of five participants each. There are six to seven participants per site, leading to six to thirteen participants per country, creating a total of 26 participants across the four case studies. The names of the laboratories and of the participants remain confidential, in order to protect the identity of the participants and the results of both the OCI, as well as the LSI assessments. It is important to note that the two U.S. laboratories participating in the study are located in different cities to ensure a diverse national population.

Furthermore, the researcher ensured that there was an equal distribution of male and female participants. Once the participants were confirmed and consent forms were signed, the researcher signed each participant up for the ASCP Leadership Institute Certificate program. Once all participants of each lab provided consent to participate in the study, all participants were signed up to take the OCI and LSI assessments.

There were few minimal eligibility requirements to participate in this study: Participants must have been employed at the time of the study as a pathologist or laboratory professional in one of the medical laboratories participating in the study, be of adult age, and have a proficient level of English comprehension. All participants were asked to confirm their eligibility via email prior to enrolling them in this study.

Case Descriptions

To protect the confidentiality of the participating laboratories, laboratory directors, and participants, the case descriptions are intentionally lacking specificity in certain areas. However, the following section consists of descriptions of each case, including the number, gender, and credentials of participants, as well as, the data

collected from each participant. This section is followed by a discussion on the similarities and differences between the cases.

Case description: US-4. The US-4 case is located in the Western United States of America. It is a large academic laboratory, which means that there is a focus on education and research in addition to diagnostics. US-4 offers both anatomic and clinical pathology services, they operate 24/7 and are a nationally accredited laboratory.

In this study, seven participants from US-4 were included. They were recruited by the Chair of Pathology and enrolled in the leadership courses in early October 2018. The seven participants included five women and two men. Five of the participants are laboratory professionals (LP), and two are pathologists (MD).

All participants of US-4 took part in one-on-one phone interviews in November 2018. For the observation, one participant was out of town and of the remaining six participants, three took part in the focus group and three were included in the observation. Table 2 shows the distribution of the data collection for US-4. Because the survey was confidential, the researcher does not know which participants submitted the survey. However, it is known that six out of the seven participants completed and submitted the survey.

Table 2

US-4 Case Description and Data Collected

Code	Gender	LP or MD*	Interview	Focus Group	Observation	Leadership Course Completion	Survey
US-4_5-7	Male	LP	11.7.18	No	No	4.1.19	Unknown
US-4_4-7	Female	LP	11.7.18	No	No	2.6.19	Unknown
US-4_1-7	Female	MD	11.3.18	11.29.18	11.29.18	1.5.19	Unknown
US-4_6-7	Male	MD	11.12.18	11.29.18	11.29.18	4.5.19	Unknown
US-4_2-7	Female	LP	11.5.18	No	No	3.12.18	Unknown
US-4_7-7	Female	LP	11.19.18	11.29.18	11.29.18	3.31.19	Unknown
US-4_3-7	Female	LP	11.6.18	No	No	3.31.19	Unknown
Total			7/7	3/7	3/7	7/7	6/7

* LP = Laboratory Professional; MD = Pathologist Physician

Case description: US-14. The US-14 case is located in the Midwestern United States of America. It is a large academic laboratory, so there is a focus on education and research in addition to diagnostics. US-14 offers both anatomic and clinical pathology services, they operate 24/7 and are a nationally accredited laboratory.

In this study, six participants from US-14 were included. They were recruited by a Professor of Pathology and enrolled in the leadership courses in early October 2018. The six participants included five women and one man. Five of the participants are pathologists and one is a laboratory professional.

All participants of US-14 took part in one-on-one phone interviews, which were conducted in November and December of 2018. The observation was conducted in November and included laboratory personal not included in the study but who provided

verbal consent. No focus group was conducted during this visit. Table 3 shows the distribution of the data collection for US-14. Because four participants completed the leadership courses, only four were emailed the survey link. All four of these participants completed the survey.

Table 3

US-14 Case Description and Data Collected

Code	Gender	LP or MD*	Interview	Focus Group	Observation	Leadership Course Completion	Survey
US-14_2-6	Female	MD	11.9.18	No	No	4.1.19	Yes
US-14_1-6	Female	MD	11.8.18	No	No	4.7.19	Yes
US-14_6-6	Female	MD	12.20.18	No	No	0/10 courses	N/A
US-14_4-6	Female	LP	11.16.18	No	No	0/10 courses	N/A
US-14_5-6	Female	MD	11.4.18	No	No	3.21.19	Yes
US-14_3-6	Male	MD	11.13.18	No	No	3.25.19	Yes
Total			6/6	0/6	0/6	4/6	4/6

* LP = Laboratory professional; MD = Pathologist physician

Case description: UA-18. The UA-18 case is located in one of the large cities in the United Arab Emirates. It is a comprehensive laboratory that operates 24/7 and they offer only clinical pathology services. They are currently not internationally accredited.

This case has six participants, who were all recruited by the Chair of Pathology. All participants were enrolled in the leadership courses in early October 2018. The six participants included five women and one man, four of whom are pathologists and two of whom are laboratory professionals.

All participants of UA-18 took part in one-on-one phone interviews, which were conducted in October and November of 2018. The site received multiple opportunities for observations, but the researcher and the site were unable to align their schedules.

Therefore, no observation or focus group was conducted. Table 4 shows the distribution

of the data collection for UA-18. Because five participants completed the leadership courses, only five were sent the survey. All five participants completed the survey.

Table 4

UA-18 Case Description and Data Collected

Code	Gender	LP or MD *	Interview	Focus Group	Observation	Leadership Course Completion	Survey
US-18_2-6	Female	MD	10.31.18	No	No	3.27.19	N/A
US-18_6-6	Female	MD	11.10.18	No	No	1.16.19	Yes
US-18_4-6	Female	MD	11.2.18	No	No	3.30.9	N/A
US-18_1-6	Female	LP	10.29.18	No	No	9/10 courses	N/A
US-18_5-6	Female	MD	11.05.18	No	No	3.26.19	N/A
US-18_3-6	Male	LP	11.1.18	No	No	2.13.19	Yes
Total			6/6	0/6	0/6	5/6	5/6

* LP = Laboratory professional; MD = Pathologist physician

Case description: TZ-13. The TZ-13 is located in one of the larger cities in Tanzania and it is an academic laboratory, which means that there is a focus on education and research in addition to diagnostics. TZ-13 offers both anatomic and clinical pathology services, they do not operate 24/7, and are not a nationally accredited laboratory.

In this study, seven participants from TZ-13 were included. They were recruited by the Chair of Pathology and enrolled in the leadership courses in early December 2018, because of the local IRB approval they requested. The seven participants included three women and five men, five of whom are pathologists and two of whom are laboratory professionals.

All participants of TZ-13 took part in one-on-one phone interviews in December 2018 and in January 2019. The researcher conducted an observation in September 2018. However, since the local IRB approval had not been received all data from the

observation is excluded from the data analysis. Table 5 shows the distribution of the data collection for TZ-13. Because two participants completed the leadership courses, only two were sent the survey. Both participants completed the survey.

Table 5

TZ-13 Case Description and Data Collected

Code	Gender	LP or MD*	Interview	Focus Group	Observation	Leadership Course Completion	Survey
TZ-13_4-7	Male	MD	12.28.18	No	N/A	0/10 courses	N/A
TZ-13_1-7	Male	MD	12.21.18	No	N/A	0/10 courses	N/A
TZ-13_2-7	Male	MD	12.21.18	No	N/A	4/10 courses	N/A
TZ-13_7-7	Female	MD	2.5.19	No	N/A	4.7.19	Yes
TZ-13_6-7	Female	MD	1.24.19	No	N/A	0/10 courses	N/A
TZ-13_5-7	Male	LP	1.21.19	No	N/A	3.31.19	Yes
TZ-13_3-7	Female	LP	12.21.18	No	N/A	4/10 courses	N/A
Total			7/7	0/7	0/7	2/7	2/7

* LP = Laboratory Professional; MD = Pathologist Physician

Similarities between the cases. In order to conduct a valid cross-case analysis, it is important that there are similarities between the four cases. In this study, the four cases share multiple characteristics. The main similarity is that all cases are conducted in medical laboratories. This is significant because this study looks at the organizational culture of each case and having all cases conducted in a similar industry allows for a clear comparison. Each case also has between six and seven participants, allowing for easy comparison. Additionally, all four laboratories serve a large population. This means that its employees handle a wide variety of cases and diagnoses. Furthermore, all laboratories

employ both pathologists and laboratory professionals. This is important because even though pathologists and laboratory professionals work closely together, the specific tasks and responsibilities differ. Each case also has a combination of both female and male participants, which ensures the inclusion of both genders and their experiences and perspectives. Furthermore, all four laboratories are led by a female pathologist. This aspect is not specifically analyzed in this study, but the similarity is mentioned and noted. Finally, all four cases were provided with similar support, communication, and requests from the researcher, including, but not limited to, participation in the leadership program, completion of the OCI and LSI assessments, phone interviews, and observations.

Differences between the cases. In addition to the similarities, it is important to mention the differences between the four cases in order to show the unique nature of each. The first main distinction is that each of the laboratories is located in a unique national culture, with the exception of the two laboratories in the United States of America. However, there are still three different national cultures included in this study. Because there are two laboratories participating in the United States, the total number of American participants is thirteen, as compared to six in the United Arab Emirates and seven in Tanzania. Additionally, there are differences in the services offered, although most offer comprehensive laboratory services. Furthermore, there is an expectation that there are differences in both organizational and leadership culture in each of the four cases. Finally, the Tanzanian participants were not finalized until December of 2018, as compared to October of 2018 for the other three sites, meaning that participants were slightly delayed in their participation. It is important to note that the only difference because of that delay was in the time participants had to complete the leadership courses.

However, the Tanzanian participants have completed no additional courses after the April deadline, so there does not appear to be a significance to that shortened timeline.

Instrumentation

For this study, the researcher used multiple instruments to measure the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania. To analyze the leadership style of the laboratory director, the LSI was used. To interpret the organizational culture of each medical laboratory included in this study, the researcher used the OCI assessment. Finally, data from the VSM indicates the national culture of each of the three countries. All these instruments are described in more detail in this section.

The Life Styles Inventory (LSI)

LSI is an assessment that measures an individual's thinking and behavioral patterns to increase self-awareness (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). These insights bring self-awareness to the participant, which, in turn, helps them increase their leadership effectiveness through understanding and changing their thinking patterns and behaviors (Cooke et al., 1987; Human Synergistics International, 2004). The LSI is based on the concept that changing thinking patterns will create behavior changes (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). It measures 12 specific styles of behavior and thinking, namely Achievement, Self-Actualizing, Humanistic-Encouraging, Affiliative, Approval, Conventional, Dependent, Avoidance, Oppositional, Competitive, Power, and Perfectionistic (Cooke &

Rousseau, 1983; Cooke et al., 1987; Human Synergetics International, 2004, 2013, 2015; Klisz, 2005).

These 12 styles are organized along two different dimensions; the people versus tasks, and the satisfaction versus security dimensions (Cooke & Rousseau, 1983, 1988; Cooke et al., 1987; Cooke & Szumal, 1993, 2000, Human Synergetics International, 2013, 2015; Klisz, 2005). Figure 4 illustrates how the circumplex is divided between the two dimensions. The right side of the circumplex indicates a focus on people, the left side of the circumplex reflects a focus on tasks (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergetics International, 2009, 2013, 2015). The lower half reflects a focus on security needs, while the top of the circumplex reflects a focus on satisfaction needs (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergetics International, 2009, 2013, 2015).

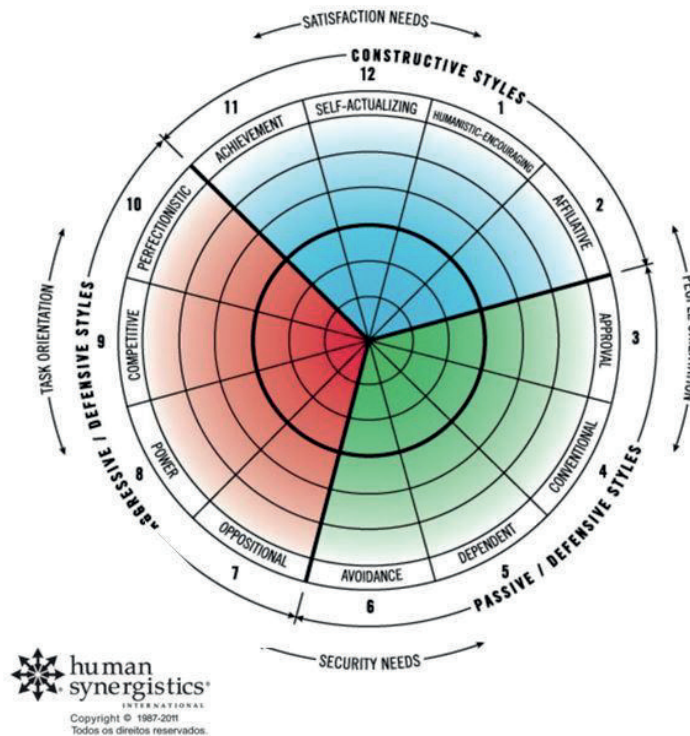


Figure 4. Life Styles Inventory (LSI) circumplex with colors.

Based on these dimensions, the styles are arranged into three clusters:

Constructive, Passive/Defensive, and Aggressive/Defensive (Cooke & Szumal, 1993, 2000, Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005; Kwantes & Boglarsky, 2004; Rovithis et al., 2017; Rovithis, Linardakis, Merkouris, & Philalithis, 2016; Schein, 2017). The two defensive clusters, Passive/Defensive and Aggressive/Defensive, revolve around satisfying lower-order security needs (Cooke & Szumal, 1993, 2000, Human Synergistics International, 2004, 2009, 2013, 2015; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016). The Constructive cluster revolves around higher-order satisfaction needs (Cooke & Szumal, 1993, 2000, Human Synergistics International, 2004, 2009, 2013, 2015; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016). In the next few subsections, each cluster is described in more detail.

The Life Styles Inventory (LSI) assessment. There are two parts of the LSI: LSI Level 1 and LSI Level 2 (Cooke et al., 1987; Human Synergistics International, 2004, 2015). The LSI 1 is a self-assessment, in which the participant rates themselves in the 12 areas (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2013). The LSI 2 is an assessment in which people working closely with the participant rate them in the 12 styles (Cooke et al., 1987; Human Synergistics International, 2004). The LSI 2 thus provides information feedback about the person's leadership behavior and about potential blind spots, especially as the results between the two assessments often differ (Cooke et al., 1987; Human Synergistics International, 2004). In order to encourage open and honest responses and feedback, the LSI 2 is completely confidential and a minimum of three people are needed to create an LSI Level 2 report (Human Synergistics

International, 2004). Because of the discrepancies often found between the LSI Level 1 and 2, it is essential for the validity of the assessment to have high rater agreement and (Cooke et al., 1987; Human Synergistics International, 2015).

Both assessments have 20 questions per style, for a total of 240 questions per assessment (Cooke et al., 1987; Human Synergistics International, 2013; Klisz, 2005). The responses are recorded through a three-item Guttman scale ranging from “0” as “essentially unlike you” to “2” as “strongly like you” (Cooke & Rousseau, 1983; Cooke et al., 1987, p.817; Klisz, 2005). Human Synergistics creates the report and personalized circumplex. In the circumplex, you can see that the Constructive styles are depicted in blue, the Passive/Defensive styles are in green, and the Aggressive/Defensive styles are in red (Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). Generally, lower scores in both the Defensive clusters and higher scores in the Constructive cluster indicates more effective thinking and behavior styles (Human Synergistics International, 2004, 2009, 2013).

Validity of the Life Styles Inventory (LSI). The consensual validity of the LSI is measured by comparing the agreement between the LSI Level and the LSI Level 2 (Cooke et al., 1987; Human Synergistics International, 2015). The average reliability Cronbach’s alpha of the indices of the 20 items per 12 styles is .84 (Cooke et al., 1987). As measured in one study about the consistency between the LSI Level 1 and 2, the inter-rater reliability of all 12 styles is at the .0001 level (Cooke et al., 1987). This indicates that the agreement among raters is stronger than the agreement between raters and self (Cooke et al., 1987). In the same study, the consensual validity had an average of .24 with the scores between .16 to .32 (Cooke et al., 1987). These results indicate that there is

high consensual validity (Cooke et al., 1987). The number of participants required to create a statistically valid report is five participants, which falls within the scope of the study and the scope of the laboratories in the three countries included in this study (Adesina et al., 2013; Cooke et al., 1987).

50th percentile of the Life Styles Inventory (LSI). Typically, the scores from the LSI are compared to the self-assessment of the leader being analyzed. However, for the purpose of this study, the self-assessment is not included. Therefore, it is important to compare the LSI results to the 50th percentile of each of the styles (Skenes and Honig, 2004). For the constructive styles, the goal is to have a score above the 50th percentile to indicate profound constructive behavior of the leader (Skenes and Honig, 2004). For Passive/Defensive and Aggressive/Defensive styles, the result would ideally be below the 50th percentile (Skenes and Honig, 2004). More information about the LSI circumplex and the spread of opinion can be found in Appendix C.

The Organizational Culture Inventory (OCI)

The OCI measures organizational culture along the same two dimensions as the LSI—people versus tasks, and satisfaction versus security (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergistics International, 2004, 2009, 2013, 2015; Rovithis et al., 2016). The OCI arranges the results in 12 different styles that individuals feel are required behaviors in order to belong in the organization where they are employed (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016; Schein, 2017). The behavior of individuals that work in a Passive/Defensive organizational culture will interact with others in such a way as to avoid threats to their

security (Cooke & Szumal, 1993; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016). An Aggressive/Defensive organizational culture is considered forceful and critical, thereby individuals do not engage in high-risk decision making by virtue of fear of risking their status (Cooke & Szumal, 1993; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016).

The Organizational Culture Inventory (OCI) assessment. The OCI assessment consists of 120 questions for both the OCI Ideal and OCI Current that focus on specific behaviors related to the 12 styles (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000; Rovithis et al., 2017). Participants are asked to rate each behavior on a five-point Likert scale (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Rovithis et al., 2017). Within the scale, a number one indicates they feel they are not expected to behave in a certain fashion whereas a number five indicates they feel that they are expected to behave a certain way to a very great extent (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Rovithis et al., 2017). Each of the 12 styles has 10 questions that refer to a particular style (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Rovithis et al., 2017). There are three different formats to administer and score the OCI, namely:

- Paper-based and hand-scored
- Paper-based and computer-scored
- Internet-based and computer-scored.

Ideal and Current culture. The OCI measures the ideal and current cultures of organizations (Cooke & Rousseau, 1988; Cooke & Szumal, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016). The Ideal

Culture refers to the culture that leadership in any organization is attempting to create and foster because they believe that such behaviors create the best performance and longevity of the organization (Cooke & Rousseau, 1988; Cooke & Szumal, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016). The OCI Ideal is based on 560 individual responses across multiple organizations (Human Synergistics International, 2009; Rovithis et al., 2017). The typical OCI Ideal focuses on the satisfaction needs of people and tasks and therefore falls under the four Constructive styles of Achievement, Self-Actualizing, Humanistic-Encouraging, and Affiliative (Cooke & Rousseau, 1988; Cooke & Szumal, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2017, 2016). Furthermore, the Ideal Culture typically has lower scores in both the Passive/Defensive and Aggressive/Defensive styles (Cooke & Szumal, 2000).

The OCI-Current measures how individuals actually experience the culture (Human Synergistics International, 2009). The biggest gaps between the Current and Ideal profiles indicate the development areas of that particular organization (Human Synergistics International, 2009; Rovithis et al., 2017). This method applies for both styles that are lower than the ideal regarding the Constructive styles and those that are higher than ideal in the Passive/Defensive and Aggressive/Defensive styles (Human Synergistics International, 2009; Rovithis et al., 2017). The Internet-based, computer-scored OCI Current assessment is used for this study.

Intensity and direction. When interpreting the OCI Ideal and Current results it is important to pay attention to two factors: intensity and direction (Cooke & Rousseau, 1988). Intensity refers to the degree of consensus among members about which behaviors

are expected and it is indicated by the level of agreement shown in the report (Cooke & Rousseau, 1988). In other words, if the results indicate that one of the behaviors expected in an organization is competitiveness, but there is little agreement among the participants about how much competitiveness is expected then the intensity of that particular item is low. This, in turn, means that this cultural aspect is easier to improve because not everyone has the same experience. Direction refers to the actual content of the culture; the values, thinking styles, and behavioral norms (Cooke & Rousseau, 1988).

Validity of the Organizational Culture Inventory (OCI). The OCI is one of the highest-rated instruments to analyze and study organizational culture (Rovithis et al., 2017). The assessment has shown a consistent validity, internal consistency, and interrater reliability (Cooke and Szumal, 1993; Human Synergistics International, 2009; Rovithis et al., 2017, 2016). The construct validity of the OCI has been measured through a factor analysis (Cooke & Szumal, 1993). The validity scores of all 12 styles range between 0.500.86, which indicates consistent validity of the measures (Cooke & Szumal, 1993). Furthermore, internal consistency measures the consistency of the ratings across the items that are associated with a specific style of the organizational culture (Cooke & Szumal, 1993). This consistency is measured by the alpha coefficient, which reflects reliability if it is greater than .70 (Cooke & Szumal, 1993). The internal consistency of the OCI styles falls between .69 for the Oppositional style to .88 for both the Humanistic-Encouraging and Affiliative styles (Cooke & Szumal, 1993). The interrater reliability measures the stability of the scores across the respondents, which is typically measured by a one-way analysis of variance, ANOVA (Field, 2013). All OCI styles with the exception of the Power style had significant F values at $p < .05$ (Cooke & Szumal, 1993).

Data from 4,890 participants show that the assessment is dependable and reliable (Cooke & Rousseau, 1988; Cooke & Szumal, 1993). It has also been shown to have high test-retest reliability and agreement among raters (Cooke & Szumal, 1993, 2000). In developing the instrument, 1,800 respondents were used to establish a normed profile as the benchmark (Cooke & Rousseau, 1988). A subgroup of 661 individuals was used to create the Cronbach alpha reliability coefficient for the 12 styles, which fall between .67 and .92 with an average of .82 (Cooke & Rousseau, 1988). Furthermore, there is empirical support related to the within-organization agreement, which ranges from .06 to .13 with an average of .10 (Cooke & Rousseau, 1988). The results show that the OCI measures intraorganizational culture (Cooke & Rousseau, 1988).

The researcher used the OCI current survey because it measures the culture that participants are experiencing (Human Synergistics International, 2009; Rovithis et al., 2017). The survey is conducted online and the confidential results will indicate how individuals experience the culture of the organization (Human Synergistics International, 2009; Rovithis et al., 2017). The number of participants required to create a statistically valid report is five participants, which falls within the scope of the study and the scope of the laboratories in Tanzania (Adesina et al., 2013).

The historical ideal of the OCI. The historical ideal of the OCI profiles can be used as a reference point against which to compare an organization's current culture. The historical ideal has been established based on results from hundreds of other organizations as it used as a benchmark to understand which behaviors should be encouraged to maximize employee motivation and performance (Cooke & Rousseau, 1988). More information about the OCI circumplex can be found in Appendix C.

The Values Survey Module

The VSM does not measure personality types, but rather, dimensions of national culture (Hofstede, 2001; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013). The VSM was first published in 1980 and is based on questions used for Hofstede's (2001) IBM study in the 1960s and 1970s (Hofstede, 2001; Hofstede & Minkov, 2013). Hofstede (2001) intended the VSM to have modifications to improve the instrument and to measure national culture more accurately (Hofstede, 2001). There have been multiple versions of the survey, leading up to the latest: VSM 2013 (Hofstede & Minkov, 2013). Up until the VSM94 version, only four of the six dimensions were measured (Blanton, 2005; Hofstede, 2001, 2013a; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013; Mayfield & Mayfield, 2012; Venaik & Brewer, 2016). The VSM08 marked the first instrument of all six dimensions after Indulgence was added (Hofstede & Minkov, 2013). The most current version is VSM 2013, in which six questions were deleted and two questions were added based on revisions to the Long-Term Orientation dimension (Hofstede & Minkov, 2013).

The VSM 2013 consists of thirty questions, of which the last six questions are demographic questions such as age, gender, and nationality (Hofstede, 2013a; Hofstede & Minkov, 2013). Each dimension thus gets four questions, with a total of twenty-four questions for the six dimensions (Hofstede, 2013b; Hofstede & Minkov, 2013). The answers of the twenty-four cultural questions are answered by a Likert-type scale of five options (Hofstede, 2001, 2013b; Hofstede & Minkov, 2013; Malone et al., 2013). The number "1" indicates if a statement is of maximum importance and the number "5" signifies that the statement is of very little to no importance (Hofstede, 2013b). As of

March 2018, the VSM 2013 has twenty-one translations, including Arabic, with the English version serving as the base version (Hofstede & Minkov, 2013).

Validity of the Values Survey Module. The VSM is designed to compare two or more countries along the cultural dimensions (Hofstede, 2001; Hofstede & Minkov, 2013). The challenge with replicating the reliability test is that a matching sample is needed (de Mooij, 2013; Hofstede, 1980, 2001, 2013a; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013; Malone et al., 2013; Rarick et al., 2013). A matched sample are two or more populations that are similar in all measurable aspects except nationality (Hofstede, 1980, 2001, 2013a; Hofstede, Garibaldi de Hilal et al., 2010; Hofstede & Minkov, 2013; Malone et al., 2013). Furthermore, a comparable population size has a minimum of 20 participants but ideally at least fifty (Hofstede, 2001; Hofstede & Minkov, 2013). If fewer participants are used, outliers will affect the results disproportionately (Hofstede & Minkov, 2013).

The reliability of the VSM instrument can only be assessed across a minimum of 10 countries (Hofstede, 2001; Hofstede & Minkov, 2013). Based on Cronbach's alpha, the VSM80 shows an alpha between .715 and .842 across the four dimensions of Power Distance, Individualism versus Collectivism, Masculinity versus Femininity, and Uncertainty Avoidance (Hofstede, 2001; Hofstede & Minkov, 2013).

The VSM requires a minimum of 20 participants per country to conduct a valid survey (Hofstede & Minkov, 2013). Furthermore, the samples in each of the countries has to be matched to allow for valid comparisons (Hofstede & Minkov, 2013). Due to the limited number of pathologists and laboratory professionals in Tanzania, the researcher was not able to replicate the VSM for this study (Adesina et al., 2013; Hofstede &

Minkov, 2013). This research has, therefore, relied on available data on the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

Leadership Course Descriptions

As part of this study, all participants were enrolled and asked to complete 10 courses of the ASCP Leadership Institute. The courses are all conducted as pre-recorded online webinars and the majority include a self-assessment for participants to gain insights into their own leadership competency, behaviors, and preferences. The following section contains a short description of each of the 10 courses. Appendix B provides more detailed information about the courses.

Conflict Prevention and Resolution. The course includes the Thomas-Kilman Conflict Mode Instrument (TKI) and provides theories and insights into different conflict prevention and resolution models. Specifically, this course describes different views of conflict, recognition of conflicts, different approaches to conflicts, and helps participants realize their own preferred conflict resolution methods.

DeCoding American Generations. This course does not include a self-assessment tool but includes opportunities to increase participants' self-awareness and awareness of others. The webinar explains the differences and similarities between the generations, including their preferred work style, their communication methods, and their motivation in the workplace.

Everything DiSC Workplace. A well-established model and assessment, the DiSC self-assessment provides insights into people's behavioral styles and preferences. This course explains the different styles, including their motivations, priorities, and fears in order to work more effectively with everyone.

Groupthink and the Abilene Paradox. This course does not include a self-assessment tool but focuses on describing how groups can have dysfunctional decision-making processes and how to avoid them. Through the use of two videos, participants learn how to recognize and prevent mismanaged agreement in groups.

Listening with a Purpose. The self-assessment in this course provides participants with insights into their own listening behaviors. Specifically, this course covers barriers to listening and how to mitigate them, while recognizing and catering to all five listening styles.

Myers-Briggs Type Indicator (MBTI). This instrument assesses the personality preferences of participants. The course explains the different types, including how to recognize and appreciate them in order to increase work relationships and collaboration.

Organizational Savvy. This course featured the OCI to self-assess participant's interpretation of their organizational culture. This course further explains the model and provides participants with tools to increase their knowledge of their organization and their personal and professional networking skills.

Reacting to Change. This course begins with the LSI assessment to measure their personal leadership style. The course further explains different reactions to organizational change and how to plan for change through additional change theory models.

Team Dynamics. The self-assessment of this course analyzes people's preferred roles in teams in order for participants to understand themselves and others better. Additionally, the course covers the different stages of team development and the attributes of high-performing teams.

Time Mastery, This course includes a self-assessment that analyzes participant's behaviors in 12 time management categories. The course further explains each category and provides participants with a toolkit to improve their behavior and performance. (ASCP, 2017).

Data Collection/Field Procedures

This study has multiple data collection methods, namely assessments, observations, interviews, focus groups, and surveys. All the data was analyzed, which is described in detail in the following section. This section describes each data collection method in detail. To protect the confidentiality of the laboratories and participants, the researcher assigned all laboratories and participants code names. All data of the study was stored on an external hard drive that was not connected to the Internet or network and all files were password protected.

After the eligibility of the participants was confirmed and all consent forms were collected, the researcher requested participants' ASCP Customer IDs, which is an 8-digit number received when creating a free online ASCP account. This customer ID is needed to sign participants up for the ASPC Leadership Institute. Once received, the first step in the data collection process was to sign all participants up for the leadership program. After the participants were signed up for the program, the researcher sent an email explaining how to access the courses.

The next step was to sign participants up for both the OCI and LSI assessments. Once Human Synergistics International sent out the online surveys, the researcher emailed the participants asking them when they could be interviewed over the phone for 45 to 60 minutes. The interviews occurred either through ZOOM, Skype or by phone call.

At the beginning of each interview, the researcher asked if she could audio record the interview and did not start recording until consent was provided.

After all the interviews were completed, the researcher reached out to organize the observation. It is important to note that the Tanzanian laboratory was observed before local IRB approval was received, therefore all data collected during this observation is excluded from this study. The researcher and laboratory director from UA-18 were not able to find a time that worked for the researcher to come to observe, thus no observational data was collected. The U.S. sites were both observed in November 2019. During the observations, the researcher took photographs of as many aspects of each laboratory as possible, without including any of the laboratory personnel. During one site visit, namely US-4, the researcher was also able to conduct a focus group.

As shown in Table 6, the data from US-4 was collected in the span of seven months. Once the researcher had received IRB approval, the month of September was used to recruit participants, answer any of their questions, and collect their consent forms. Once all were collected, the participants were registered for the OCI and LSI assessments, as well as, the ASCP Leadership Institute. Data collection ended in early January of 2019 after the final surveys were sent and completed.

Table 6

Timeline of Data Collected US-4

Data	9/2018	10/2018	11/2018	12/2018	01/2019	02/2019	03/2019	04/2019
Interview			X					
Observation			X					
Focus Group			X					
OCI		X						
LSI		X						
Survey					X	X	X	X
Courses		X	X	X	X	X	X	X

Data from US-14 were collected across a similar timeframe, as indicated by Table 7. A distinct difference is that the completion of both the OCI and LSI assessments occurred from October through December 2018 and that the survey was only completed in March and April of 2019 due to participants not finishing the leadership courses until then. Also, no focus group was conducted at this site due to scheduling conflicts.

Table 7

Timeline of Data Collected US-14

Data	9/2018	10/2018	11/2018	12/2018	01/2019	02/2019	03/2019	04/2019
Interview			X	X				
Observation			X					
Focus Group								
OCI		X	X	X				
LSI		X	X	X				
Survey							X	X
Courses				X	X	X	X	X

At UA-18, there was no observation or focus group data collected due to scheduling conflicts. Additionally, it is worth noting that all OCI and LSI assessments were completed in October of 2018 and that all participants who completed the leadership courses and the survey did so before the initial deadline of March 31, 2019.

Table 8 visualizes the data collected from this site.

Table 8

Timeline of Data Collected UA-18

Data	9/2018	10/2018	11/2018	12/2018	01/2019	02/2019	03/2019	04/2019
Interview		X	X					
Observation								
Focus Group								
OCI		X						
LSI		X						
Survey					X	X	X	
Courses		X		X	X	X	X	

The data collected at TZ-13 are shown in Table 9. At this site, there is also no data from the observation and focus group. The researcher went to TZ-13 in August 2018 after IRB approval was received from the researcher's institution. However, local IRB approval from TZ-13 was not yet finalized and, therefore, all data collected during that time has been excluded. Due to the later local IRB approval, participants were not signed up for this study until December of 2018. This meant that participants had two months less time to complete the leadership programs. However, for those that did not complete it by the extended deadline in April of 2019, none of the participants completed additional courses in the two months following.

Table 9

Timeline of Data Collected TZ-13

Data	9/2018	10/2018	11/2018	12/2018	01/2019	02/2019	03/2019	04/2019
Interview				X	X	X		
Observation								
Focus Group								
OCI				X	X			
LSI				X	X			
Survey								X
Courses				X		X	X	X

Assessments

Once all participants of each laboratory were identified and consented, the researcher signed all participants up for both the OCI and the LSI assessments, making it clear that the OCI assesses the culture of the laboratory and the LSI assesses the leadership style of their laboratory director. The researcher and the publisher/copyright holder of the OCI and LSI assessments, Human Synergistics International, were able to see the number of people who completed the assessment but were not able to identify the individuals. Therefore, scheduled reminder emails were automatically sent by Human Synergistics International. After about two months to allow participants enough time to complete the assessments, Human Synergistics International created the reports and sent the results to the researcher, who is a certified facilitator and interpreter of both the OCI and LSI. Survey results did not include identifying information and are confidential. All participants from all four sites completed the OCI assessments. All participants from US-4, US-14, and UA-18 completed the LSI, six out of the seven participants from TZ-13 completed the LSI. The OCI required a minimum of five participants to create a valid analysis; the LSI requires a minimum of three participants. This means that all OCI and

LSI results are valid. The permissions to use the OCI and the LSI can be found in Appendix F.

Observations

As part of this multiple case study, the researcher tried to conduct observations of each laboratory. To minimize the disruptions and inconveniences to all laboratory professionals, those included and excluded from the study, the observations were conducted in one day. Outside of scheduled interviews, the researcher did not interact with any of the participants or other laboratory employees, but merely observe a regular day at work (Creswell, 2013). Data was recorded through note-taking (Creswell, 2013). Appendix G shows the observation checklist the researcher used when observing the sites.

The site US-14 was the first to be observed, namely on November 15, 2018. The observation lasted a day and the researcher observed multiple sections of the laboratory and took photographs, which excluded all laboratory personal. On November 29, 2018, the researcher observed US-4, which included a focus group with select study participants. The researcher also took photographs without any laboratory personal and was able to observe multiple aspects of the laboratory.

The researcher observed TZ-13 on September 17, 2018. However, even though the researcher has received IRB approval from The Chicago School of Professional Psychology, local IRB approval was still pending. Therefore, all data collected during that observation has been excluded from this study. At UA-18, the researcher and the laboratory director were unable to find a time for the researcher to come to the U.A.E.

that worked for both parties involved. Therefore, no observation occurred and no photographs were taken.

Interviews

In order to obtain information in a one-on-one and semi-structured format, all study the participants were interviewed. The interview was structured around their experiences in the lab regarding the organizational culture, national culture, and leadership style they experience. The interview also covered questions about the leadership courses if they had completed any at that point. If so, participants were asked which courses they found most useful and how they applied the theory and course content to their job. The interview, although structured, consisted of open-ended questions and last between 45 and 60 minutes. All interviews were conducted over the phone, Zoom, and Skype and they were audio recorded in order for the researcher to transcribe them later. Participants were able to stop the interview at any time and were allowed to skip a question if they felt uncomfortable answering it. The researcher did not start recording until each participant at the start of the study gave verbal approval. Once the interview was over, the researcher assigned the participant's code name to the file and all identifying information was removed from the transcription. Once transcribed, the researcher deleted the audio file in order to further protect the individual. The interview questions used are shown in Appendix H.

Focus Groups

The purpose of the focus group was to provide confirmation of the findings of the observation and interviews. However, due to the nature of the work of laboratory professionals and pathologists and their schedules, it was not always possible to arrange a

focus group during the observation. The researcher was able to conduct a focus group at US-4 on November 29, 2018. The focus group lasted one hour and included three participants from the study. Upon approval from the three participants, the session was audio recorded. The focus group was semi-structured and included similar questions to the interview, to allow for clear triangulation. After the focus group, the recorded audio was transcribed and all identifying information was removed. Once the transcription was completed, the audio file was deleted. The interview questions used for the focus group can be found in Appendix I.

Surveys

The final data collection method used in this study was a survey. The purpose of the survey was to analyze the applicability of the 10 leadership courses. The majority of the questions had a five-point Likert scale and focused on ranking the leadership courses of the ASCP Leadership Institute Certificate program in terms of applicability to participants' job and daily work-related tasks. Only the participants who completed the 10 courses were sent the survey link: 7/7 participants from US-4, 4/6 participants from US-14, 5/6 participants from UA-18, and 2/7 participants from TZ-13. A total of eighteen participants received the survey and sixteen were completed, as is shown in Table 10.

The survey questions can be found in Appendix J.

Table 10

Survey Completion Data

Site	US-4	US-14	UA-18	TZ-13
Number of participants who completed the leadership courses	7/7	4/6	5/6	2/7
Number of participants who received the survey	7	4	5	2
Number of participants who completed the survey	6/7	4/4	5/5	2/2

Data Analysis/Triangulation

In this study, data was collected in multiple forms: written, audio, and visual. The written data comes from the LSI and OCI reports and the surveys designed for this study. The audio data was collected through the recorded interviews and focus groups. The visual data was collected through observations, including photographs. The visual data was described in notes to further analyze and code. The coding process will be further explained in the next section.

The multiple methods of data collection indicate that there was evident data triangulation in this study. Data triangulation refers to the combination of multiple sources of data, such as assessments, surveys, interviews, and observations, in order to increase the validity of the study (Fleck, 2018). In addition to data triangulation, this study also incorporated theory triangulation, as the study revolved around a combination of national culture, organizational culture, and leadership style to analyze the cultural applicability of leadership courses. Theory triangulation refers to approaching data collection and analysis through multiple theoretical perspectives (Fleck, 2018).

This study conducts a multimethod, multitrait triangulation procedure (Fleck, 2018). The following tables explain how each construct is measured. The data regarding

the national culture dimensions was not replicated but used from research from Hofstede (2001) and others. However, this existing data was triangulated with the findings from this study's assessments, observations, interviews, and surveys as shown in Table 11.

Table 11

Multimethod Multitrait Triangulation of National Culture

Construct	Method			
	Assessment	Observation	Interview	Survey
Power Distance	Yes	Yes	Yes	No
Individualism/ Collectivism	Yes	Yes	Yes	Yes
Masculinity/ Femininity	Yes	No	Yes	Yes
Uncertainty Avoidance	Yes	No	Yes	No
Long Term- Short-Term Orientation	Yes	Yes	Yes	No
Indulgence/ Restraint	Yes	Yes	Yes	No

Organizational culture was measured through participants' completion of the OCI. Additionally, the data collected was analyzed according to the 12 styles of organizational culture that Table 12 indicates. Each section indicates whether or not the style was found per data type.

Table 12

Multimethod Multitrait Triangulation of Organizational Culture

Construct	Method			
	Assessment	Observation	Interview	Survey
OCI Achievement	Yes	Yes	Yes	Yes
OCI Self-Actualizing	Yes	Yes	Yes	No
OCI Humanistic-Encouraging	Yes	Yes	Yes	Yes
OCI Affiliative	Yes	Yes	Yes	Yes
OCI Approval	Yes	Yes	Yes	No
OCI Conventional	Yes	Yes	Yes	No
OCI Dependent	Yes	Yes	Yes	No
OCI Avoidance	Yes	Yes	No	No
OCI Oppositional	Yes	Yes	Yes	Yes
OCI Power	Yes	Yes	Yes	No
OCI Competitive	Yes	Yes	Yes	No
OCI Perfectionistic	Yes	Yes	Yes	No

Leadership culture was measured through participants' completion of the LSI.

Furthermore, the data collected through observations, interviews, and surveys was

analyzed according to the 12 styles of leadership as shown in Table 13.

Table 13

Multimethod Multitrait Triangulation of Leadership Culture

Construct	Method			
	Assessment	Observation	Interview	Survey
LSI Achievement	Yes	Yes	Yes	No
LSI Self-Actualizing	Yes	Yes	Yes	No
LSI Humanistic-Encouraging	Yes	Yes	Yes	No
LSI Affiliative	Yes	Yes	Yes	No
LSI Approval	Yes	Yes	Yes	No
LSI Conventional	Yes	Yes	Yes	No
LSI Dependent	Yes	Yes	Yes	No
LSI Avoidance	Yes	Yes	Yes	No
LSI Oppositional	Yes	Yes	Yes	No
LSI Power	Yes	Yes	Yes	No
LSI Competitive	Yes	Yes	Yes	No
LSI Perfectionistic	Yes	Yes	Yes	No

Coding Process

Coding is a widely used data analysis tool in case study research (Creswell, 2013; Yin, 2018). Additional methods include writing memos, statistical analyses, and triangulation (Creswell, 2013; Yin, 2018). However, data analysis is one of the aspects of case studies analyses that is least developed (Yin, 2018). There are four general strategies, namely: relying on theoretical propositions, analyzing data bottom-up, creating a description of the case study, and examining other explanations (Yin, 2018).

In this study, all the data was analyzed, coded, and recoded. Furthermore, multiple coding methods were applied, including first cycle coding, second cycle coding, and theoretical coding. All coding was conducted through the NVivo program. NVivo 12 is an application for qualitative data analysis. The coding process used in this study will be described in detail in this section.

First Cycle Coding

First cycle coding, also known as bottom-up coding, occurs during the initial coding process (Saldana, 2016). There are seven different categories of first cycle coding, namely elemental coding, grammatical, affective, exploratory, procedural, language and literary coding, and creating themes (Saldana, 2016). Each approach offers different benefits and it is up to the researcher and the study design to determine the best first cycle coding approach. The researcher used descriptive coding for this study, which is a subcategory of elemental coding (Saldana, 2016). Descriptive coding refers to the process of identifying and linking comparable content across data (Saldana, 2016). This method is applicable to the purpose of this study because there is a wide variety of data form and the study has ethnographic tendencies (Saldana, 2016). The first cycle coding that was conducted included both coding styles to ensure a deep understanding of the different types of data (Saldana, 2016)

The researcher started with coding the interviews. Each interview was coded as if it was the first interview being coded, meaning that no attention was paid to previously created codes or insights. Once all 26 interviews were coded, the researcher had 239 different codes. Of the 239 codes, 68 codes were only used once. The researcher then reviewed all these sixty-eight codes, merging some with other similar codes, deleting

them, or keeping them depending on the meaning of each code. With all remaining codes, the researcher created the first taxonomy/coding tree of this study (see Appendix K). This first review of the codes brought the number down to 183 codes, leaving eight single-used codes.

Based on this first coding tree, the researcher then created the first round of macrocodes or themes. All macrocodes, with the exception of the code *Patient-Centered*, have microcodes. Furthermore, some micro-codes have separate mini codes. The researcher did this to ensure validity and in case the codes needed to be separated later during a deeper analysis of the results. The initial number of macrocodes was 23. However, when the researcher created a separate table for each of these macrocodes, which included the micro- and minicodes, the researcher decided that some macrocodes fit together. The final number of macrocodes was 12.

After discussion with the researcher's Chair, the decision was made to break certain macrocodes into two. For example, the macrocode *Schedule* initially had both *No Typical Day* and *Typical Day* as microcodes underneath it. However, after discussion, it was clear that it was more analytically clear if the codes were broken into two separate codes. The final number of macrocodes based on this first cycle coding was sixteen.

Second Cycle Coding

The purpose of second cycle coding is to reanalyze and reorganize the data coded during the first cycle (Saldana, 2016). This process helped the researcher develop a sense of categorical and/or thematic organization of the data (Saldana, 2016). Therefore, through second cycle coding, some codes might be combined, deleted, or added (Saldana, 2016).

In this study, the researcher re-coded all the interviews through the same elemental processes, namely In Vivo and descriptive coding (Saldana, 2016). Through this process, the researcher did not remove or merge any additional codes. However, the researcher did create one additional macrocode. The purpose of this additional code is to indicate what people stated was the most important aspect of their job. Namely to see whether participants stated that their clinical role or people-oriented side of their work was most important. In other words, the additional code was used to see if participants were more task or people-oriented. The final number of macrocodes is sixteen, as shown in Appendix L. The combined number of macro, micro, and mini codes is seventy-five. The tables with all the codes' definitions are provided in Chapter 4.

Theoretical Coding

There are multiple theories included in this study, namely that of national culture, organizational culture, and leadership style/culture. Therefore, the third cycle of coding involved theoretical coding. Theoretical coding utilizes codes created by the theoretical models used in a study (Saldana, 2016). Theoretical coding was used as a third cycle coding technique to avoid bias during the first and second cycle coding process. Three levels of theoretical coding were conducted in this study.

National culture. The first theoretical coding was conducted using the VSM (Hofstede, 2001). As described earlier in this chapter, this model has six dimensions, namely Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long-Term Orientation, and Indulgence (Hofstede, 2001). However, each dimension has either a "low" or "high" count (Hofstede, 2001). Therefore, 12 codes were created and used to indicate whether behavior and statements aligned with a high or low score on each

dimension. In order to strengthen the validity of this coding process, the researcher did not look at the VSM results of each of the three countries until after this coding process was completed.

Organizational culture. The next phase of theoretical coding revolved around organizational culture and, more specifically, the model of the OCI. As previously described, this model has 12 styles namely Achievement, Self-Actualizing, Humanistic-Encouraging, Affiliative, Approval, Conventional, Dependent, Avoidance, Oppositional, Competitive, Power, and Perfectionistic (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). These 12 styles were used as the codes, indicating whether or not a style was present in the behavioral and verbal data. In order to strengthen the validity of this coding process, the researcher did not look at the OCI results of each of the four sites until after this coding process was completed.

Leadership culture. Finally, the researcher conducted a theoretical coding process around the leadership style and/or culture of each site. The 12 codes used for this were similar to the ones for the organizational culture, as both theories are based on the same theoretical framework. The codes were, therefore, Achievement, Self-Actualizing, Humanistic-Encouraging, Affiliative, Approval, Conventional, Dependent, Avoidance, Oppositional, Competitive, Power, and Perfectionistic (Cooke & Rousseau, 1983; Cooke et al., 1987; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005). In order to strengthen the validity of this coding process, the researcher did not look at the LSI results of each of the four sites until after this coding process was completed.

Validity

This subsection covers numerous aspects of validity, namely credibility, dependability, transferability, and confirmability. This section also covers researcher bias, assumptions, and limitations of this study. From the start of this dissertation in January 2018, until the final manuscript was completed, the researcher maintained a research journal. The purpose of the journal was to reflect on the literature, data collection, and data analysis (Saldana, 2016). Specifically, the coding process and emerging patterns were described to ensure the validity and trustworthiness of the data analysis (Saldana, 2016). The researcher conducted a qualitative analysis of the research journal. Several impressions appeared to be true, but several were not, indicating there were no particular assumptions guiding the researcher in the data analysis process. The final sections of this chapter discuss participant risks and ethical assurances, followed by a chapter summary.

Credibility

Credibility is an essential component of any qualitative or quantitative research. Two of the most important techniques to ensure credibility in qualitative studies are member checking and triangulation (Creswell, 2013). Multirater consensus was established through interrater reliability (Creswell, 2013). An external auditor coded multiple documents while having the researcher's list of macrocodes available. The consensus was established through coding comparison and a discussion.

Triangulation refers to researchers using multiple data sources and theories to provide proof for their interpretations (Creswell, 2013). In this study, theories of national culture, organizational culture, and leadership styles are used. Furthermore, the researcher

used surveys, assessments, interviews, focus groups and observations to collect data, allowing for multiple forms of data (Creswell, 2013).

Dependability and Transferability

There are multiple ways to ensure dependability in qualitative research. In this study, the researcher used the method of code-recode: the researcher coded the data, waited a few weeks, and then re-coded the same data in order to evaluate any inconsistencies (Creswell, 2013). The researcher used detailed descriptions of the observations to ensure dependability and transferability of the study (Creswell, 2013). The more detailed the descriptions, the easier it is for the study to be replicated at a later date, even if an exact replica is impossible (Creswell, 2013). The more accurate and informed the description of the case study and the context, the higher the transferability and thus the validity of the study (Creswell, 2013).

Researcher Bias

An important aspect of the validity of qualitative studies is the researcher's bias and reflexivity (Creswell, 2013). The main researcher bias of this study was that the researcher worked for ASCP as the senior manager of organizational leadership and patient engagement. The researcher was one of the two designers and currently is one of two certified facilitators of the ASCP Leadership Institute. However, the researcher made clear to ASCP that the research is conducted outside the realms of work at ASCP and that results of the study will be made available to the organization. Additionally, the researcher originally comes from the Netherlands and has lived and worked on and off in the United States of America for the past 10 years. The researcher traveled to Abu Dhabi, U.A.E., in November 2016 for a total of 3 days and had not traveled to Tanzania prior to

the beginning of this study. There is, therefore, limited to no exposure to the United Arab Emirates and the United Republic of Tanzania. Furthermore, the researcher's entire professional life has revolved around cross-cultural communication and facilitating leadership. The researcher thus has a mild expectation that not all leadership courses are equally applicable. In order to keep the bias in check, the researcher has kept a weekly research journal since January 2018. The researcher's job and professional prospects at ASCP do not depend on the results of the study and ASCP leadership is aware of all risks and benefits to participants.

Assumptions

The assumptions of this study fall under honesty, equipment, and level of English comprehension. The first assumption of the study is that participants are comprehensive in English to understand the ASCP Leadership Institute course materials, the LSI and OCI assessments, the surveys, and interview questions. In the United Arab Emirates, English is widely spoken and in Tanzania, the official languages are both Swahili and English, and English is the medium of instruction after elementary school, (Peterson & Crystal, 2020; Bryceson et al., n.d.). There is thus an assumption that those participating in the study have a sufficient level of English comprehension. However, to mitigate this assumption, all interest participants were asked to confirm their level of English comprehension prior to enrolling them in the study.

A second assumption is that participants have access to computers and the Internet that enable the opportunity to partake in the ASCP Leadership Institute certificate program. All courses are taken through an Internet-based pre-recorded webinar, meaning that participants can access them at any time (ASCP, 2017). The

assumption is that either at work or at home, participants can access and complete the courses.

Thirdly, the assumption is that participants answer the assessments, surveys, and interview questions honestly. This assumption is somewhat mitigated by explicit and repeated information about the confidentiality of the assessments, surveys, and interview questions and the desire to learn which courses are most culturally applicable. Participants were asked to rate each leadership course on a scale of 1 to 5 in terms of applicability, in addition to ranking the 10 courses in order of applicability to gain information from multiple angles. However, the assumption that people answer honestly remains.

The final assumption is that the multiple case study method is the most appropriate for this research. The multiple case study method is an appropriate method if there are clear boundaries of each case and if the purpose of the study is to compare multiple cases (Creswell, 2013). Therefore, the multiple case study method is pertinent in this research.

Limitations

This study has multiple limitations. The first limitation is that there is a limited number of pathologists in the United Republic of Tanzania (Adesina et al., 2013). This limits the study because it is not possible to replicate the Values Survey Module in a statistically valid way, in which the samples in the three countries are matched (Hofstede & Minkov, 2013). Furthermore, due to the scope of the study, only three countries participated in the research. The scope of the study limits the generalizations that can be made about the Arab and East Africa Regions specifically. Lastly, the participants in the

study are likely to have an interest in increasing their leadership skills as they agreed to take part in the study and in the ASCP Leadership Institute. Their interest in leadership might influence their opinion about the cultural applicability of the leadership courses.

Participant Risks and Mitigations

There are three main risks for the participants of this study. The first one is Opportunity Risk: participants lost time when taking the surveys and when they were interviewed. However, both the LSI and the OCI took about 20 minutes to complete each, the interview took around 45 to 60 minutes, and the survey took up to 10 minutes to complete. The opportunity lost is, therefore, minimal. Furthermore, the participation in the ASCP Leadership Institute certificate program takes between 18.5 to 20 hours. However, participants were provided the program free of charge and received up to 18.5 to 20 CME/CMLE/SAMs credit that can be used towards each individual's maintenance of certification (ASCP, 2017). Finally, participants could stop participating in the study at any time, without losing access to the Leadership Institute and they received additional courses and/or alterations to the current courses based on the results of this study free of charge.

The second risk to participants is a Confidentiality Breach. The publisher and copyright holder of the instruments, Human Synergistics International, rated both the LSI and OCI. The researcher knows whom the assessments were sent to, but neither the researcher nor Human Synergistics knows who has completed the surveys and who has not. To protect the information in this report, the researcher assigned a code name to the laboratory and saved the document that links the code name to the laboratory in a password-protected file on an external hard drive that is not linked to a network or

Internet connection. This code name is on the OCI report instead of the laboratory's name. The LSI report works in a similar way but is linked directly to the Laboratory Director. Therefore, the Laboratory Directors also received a code name, which appeared on the LSI reports instead of the Director's name. To avoid confusion, participants were made clear whom the assessment is about, without mentioning their name. The document that links the code name to the Laboratory Director was saved in a password-protected file on an external hard drive that is not linked to a network or Internet connection.

The third risk to participants is a mild discomfort when answering the survey, assessments, and interview questions. Mild discomfort could have arisen from answering questions, especially about the leadership style of participants' laboratory director. Respondents were afforded to leave the study without penalty if discomfort arose and the researcher offered personal leadership coaching to mitigate any further discomfort.

Ethical Assurances

Ethical issues in qualitative studies fall occur either before, during, or after the study (Creswell, 2013). Prior to the study, the main ethical concerns were that appropriate consent for participation is given and that participants are not pressured into participating (Creswell, 2013). All sites granted permission to take part in the study, including all the laboratories, the ASCP, and Human Synergistics International. Participants were asked to join the study after IRB approvals were received. Each participant was informed about the potential risks and benefits of participation and allowed to withdraw from the study at any point in time. In exchange for participation, individuals were offered the opportunity to matriculate through the ASCP Leadership Institute free of charge. Participants were asked to complete the program within 6 months. All participants could receive

CME/CMLE/SAMs credit for engaging in the program. Participants' and laboratories' names and identifying information were excluded from the data descriptions to ensure confidentiality and only code names are used. All data, including the document with the code names, were saved on an external hard drive that is password protected and not connected to a server, Internet, or network.

While collecting data, the ethical challenge was to disrupt the site as little as possible and to not use participants without providing anything in return for their participation (Creswell, 2013). As stated previously, the researcher provided free access and CME/CMLE/SAMs credit for the ASCP Leadership Institute in exchange for participation in the study. The observations were limited to one day per site in order to limit any possible disruptions to a minimum. Additionally, the participants were not to be interviewed while the researcher was on-site, but at a later date over the phone to reduce the interruptions and to encourage honest feedback.

While analyzing and reporting the data, the ethical issues are only disclosing positive results, siding with the participants, and not respecting the participants' privacy (Creswell, 2013). In order to mitigate these challenges, the researcher did not spend any time in social or leisure activities with the participants (Creswell, 2013). Furthermore, the researcher created code names for all participants and laboratories to ensure privacy and will not divulge identifying information in the study or to other individuals.

When publishing the data found in this study, the researcher ensured compliance with all ethical issues and issue proof that there is no conflict of interest (Creswell, 2013). Results will be provided to all participants and institutions. If any further ethical issues

arise while conducting the study, the researcher will consult appropriate parties to ensure ethical compliance.

Summary

This study is a multiple case study, in which four separate cases are compared to one another to analyze the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania. Each case study was about one specific medical laboratory: two in the United States of America, one in the United Arab Emirates, and one in the United Republic of Tanzania. All participants completed both the OCI and the LSI to analyze the organizational culture and laboratory director's leadership style respectively. Participants also completed a survey about the cultural applicability of the ASCP Leadership Institute, an online leadership certificate program for which the participants are signed up free of charge in exchange for their participation in the study. Lastly, the participants were interviewed over the phone and the researcher observed half of the laboratories included in this study.

All written, audio, and visual data was transcribed and analyzed through a coding system. The researcher used the NVivo 12 software to help organize and code all data. The study is confidential and no identifying information about either the participants or the laboratories are included in the study. The assumptions of the study are that participants are comprehensive in English, that they respond honestly, and that they can access and complete the leadership courses. The limitations of the study are that it is challenging to draw conclusions for the entire Arab and East African regions, that participants might be biased regarding the applicability of leadership courses, and that it was not possible to conduct this study's own VSM due to the number of participants.

Chapter 4: Results

Introduction

The goal of this chapter is to present the data collected in this study. Due to the extensive nature of this study, there is a large amount of data. Therefore, the pertinent data is presented in Chapter 4. All additional data can be found in the Appendices.

The chapter is organized in multiple different data sections. The first section provides the coding tables with exemplary quotes. The next sections are divided per culture type. Each of these sections begins with a discussion of the propositions related to that cultural type, followed by the post-hoc findings. First, the data pertaining to national culture is presented. Next, the results related to laboratory leadership culture and laboratory organizational culture are presented. A section comparing the leadership and organizational culture of each site and the propositions related to that comparison follows this. The final section contains the results related to an overall professional culture of pathology. Throughout these sections, data on the course completion rate and survey results are integrated and presented.

Coding Definitions

Chapter 3 provided the coding tree of the codes used in this study. The total number of macrocodes is 16, and the combined number of macro, micro, and mini codes is 75. Tables 14-21 provide an exemplary quote for each of these codes as a definition.

Table 14

Coding Definitions Accountability Through Collaboration

Code	Definition
Accountability	U.S.A.: “Some of those values are expressed in terms of bringing up problems that they see that could be compromising testing to me or any of the other subordinates below me.”
Accuracy	Tanzania: “The most important part of my job is to make sure that I work properly to make sure that I direct my results to clients, patients, on time and making sure that my results are accurate.”
Adapting Leadership Styles	U.A.E.: “I believe that there are different leadership styles for every situation you know you have to kind of change gears in the way you have those situations because it depends how it goes.”
Advocating	U.S.A.: “I have to be a leader for my trainees and advocate for them.”
Ambition	U.S.A.: “So a lot of them have sought leadership positions early in their career, and then after obtaining them, there’s a lot of focus on making updates and improvements to various parts of the lab in the department.”
Ask Questions	Tanzania: “I’ll ask them to work very closely with their colleagues, to ask as many questions as they can if they are getting stranded, and to find friendship, work together as friends in the lab, and not to be afraid to interrupt if someone is, just ask as many questions as they can.”
Blame-Free	U.S.A.: “When there is a mistake we all work together to figure out what’s wrong at a broader level and don’t blame one person.”
Challenging	U.S.A.: “At the same time, I’m one of those people who always wants to sign myself up for more and more challenges [...]”
Check-Ins	U.S.A.: “Around 9 to 10am I would then head over to the clinical labs to then check in on both the clinical staff in terms of what they need as well as any of the research staff.”
Collaboration	Tanzania: “Our colleagues, my colleagues the pathologists and the students and the lab scientists all have been working together. That unity and that collaboration without a doubt has been the source of how we are to date.”

Table 15

Coding Definitions Collegial through Development

Code	Definition
Collegial	U.A.E.: “The friendly relationship is important also. And if [they have] a good relationship with their team, it will be in the benefit of the work as a whole.”
Communication Skills	U.A.E.: “And we keep pushing for communication all the time because I do believe, I really, really do believe that like if every single problem if you come down to it, the root is always the communication, either I didn’t hear, I didn’t understand, I didn’t say.”
Community	U.A.E.: “I would ask them to respect everybody’s culture and to be nice and try to work in a harmonious manner because we are working together, I have people from diverse backgrounds, so, we do respect each other, and then we try to work for a common goal.”
Conflict Resolution	U.A.E.: “Some people weigh things in their own way and they weigh things in their own standards. And they get upset because why is the other person not doing it this way? Yes, it is your way though, you know you have to see his way too.”
Country of Opportunity	U.S.A.: “I would say that it is certainly still a land of opportunity where if you have an idea and you have the energy and the patience and aspiration, you’ll get to where you [want] to go.”
Decisions	Tanzania: “Being a leader also means making decisions, and sometimes the decision might not be very easy. But here you have to reach at a stage where you have to decide are there pros and cons but you try to calculate what are the cons and then decide a way which you think is best.”
Development	U.S.A.: “We have had somebody appointed as in charge of faculty development and I think what I’ve seen from her having one on one meetings with us junior faculty and really looking through our file and not only letting us know how we’re doing in terms of all the aspects of our work but also giving us suggestions and then really providing and opening up opportunities for us as junior faculty like if she knows about some conference that could be helpful for example, she’ll let us know.”

Table 16

Coding Definitions Difficulty Explaining Own Culture through Hierarchy

Code	Definition
Difficulty Explaining Own Culture	U.S.A.: "I guess, well, how do I describe the United States? Let me think, that's a tough one."
Emotional Intelligence	U.S.A.: "[I focus on] monitoring like tones and body language in the sense that like okay she's not having a good day, let me step away, like give her a moment instead of like pressing, and pressing the issue or something like that."
Equality	Tanzania: "There's no racism, there's no like upper like lower class, like you know just a nation, there's no racism in here, and I guess the respecting people is very important in being they treat you well and all the same."
Family	Tanzania: "In African culture, family is everything. So, if you're at work and anything happen at home or at the family level they have to be there. So, family comes first, and then job."
Feedback	U.S.A.: "Feedback is very important for me as a matter of fact during all of my manager meetings with my direct manager, I always ask him, what could I be doing better, do you have anything you'd like for me to adjust, finetune because at the end of the day I don't want to wait an entire year to get my evaluation to say hey by the way during meetings you do this and you shouldn't be doing that because for a year I was doing that and I was not aware of it."
Follow Rules	U.S.A.: "So, we follow something called a just culture protocol where we have an algorithm that we follow, we make sure that's what applicable to one employee is applicable across the board."
Freedom	U.A.E.: "There are a lot of freedoms here in the UAE, as long as you're you know cultured and it's an economical country but at the same time it is an open environment."
Heterogeneity	Tanzania: "It's a country with a mixed population of people also. It's a wide variety of culture in it."
Hierarchy	U.A.E.: "If he or she has a good relation with the lower level because seeking their benefit and this will not satisfy the higher level and everything that this is leadership, but I'm demanding, requesting, and there is nothing achieved [without involvement

of] the lower level.”

Table 17

Coding Definitions Homogenous through Leadership Role

Code	Definition
Homogenous	U.S.A.: “So, you know a place like [West-coast city], is actually quite non-diverse because everybody’s thinking is essentially the same way.”
Individual	U.S.A.: “You see everyone working hard and really putting in a lot of effort to achieve their goals like looking out for themselves.”
Integrity	U.S.A.: “I believe integrity to make sure that we’re doing everything the way that we should be following policy and procedures [is a value].”
Involvement	U.S.A.: “When given, when asked to be involved in like committees, or given opportunities to work on research projects, or contribute to papers or books, or things like that, to say yes.”
Job Security	U.S.A.: “[What it means to have a job in pathology is] in a snippet, it would be job security.”
Lab Orientation	U.S.A.: “I make a point [to show them] okay here’s the food, here’s coffee, here’s all the various areas, so it’s like if they’re having needs, step away, they know exactly where they can step away.”
Lab Safety	U.A.E.: “If you have the safety, that means your staff are working in a safe condition, you know so you are maintaining their health, which you are maintaining that patient health as well.”
Lack of Pathologists and Lab Pros	Tanzania: “It’s quite an isolated profession with very few practicing people [...] it’s challenging because there are very few number pathologists here in Tanzania.”
Leadership Education	Tanzania: “When you are elected or you are nominated to be a leader, there is no special cause, or some instructions that you are given.”
Leadership Role	U.S.A.: “[Leadership] relates a ton actually, I kind of lead into the different leadership aspects in my role, the first leadership aspect is directing some of the laboratory, working with our laboratory staff that are running so many different processes and procedures on a day to day and those are decisions that [work with] middle management in the laboratory about new processes to bring in, new consistency metrics to develop or new ways to do what we’re doing

every day to help improve things.”

Table 18

Coding Definitions Liaison through Patient-Centered

Code	Definition
Liaison	U.S.A.: “[We are] consultants to the rest of the medical providers.”
Meetings	U.S.A.: “At [US-4] there are a lot of meetings and there are committees for everything so I feel like some of my days can be filled with a lot of meetings at times.”
Mentor	U.A.E.: “And like he lets you reach the solution kind of on your own. He listens, and he listens and he listens and then alright so what do you think we should do? He kind of works with you until you by yourself have reached that you know the solution for the problem you came to him with.”
Most Important Aspect of Job	U.S.A.: “[The most important thing] is probably the clinical service because we’re here for the patients.”
Most Important Aspect of Job: Clinical	U.S.A.: “I think the most important task is rendering diagnoses for my clinical work.”
Most Important Aspect of Job: People	U.S.A.: “I feel like my main role is to train the next sort of graduates and to be fully realized and successful clinical pathologists.”
Most Important Aspect of Job: People-Patients	Tanzania: “The most important thing in our lab is the care for patients, the customer care for the patients.”
Most Important Aspect of Job: People-Teaching	Tanzania: “For me, the most important is the teaching.”
Navigating the Country	U.S.A.: “[I would advise them on] who’s your doctor, who’s your dentist, who’s your realtor, so it’s just offering up suggestions even where to live.”
No Typical Day	Tanzania: “There’s no actually a typical day because every day has different duties.”
Open-Minded	U.A.E.: “To be honest with you without telling you, Emirates are very open. Open and they listen to you.”
Over-Hours	U.S.A.: “A lot of us, if you still want to be productive you have to come in on the weekends, you have to stay you know late in the evenings.”
Patient-Centered	U.A.E.: “We should have, this is the most important that quality, we should give quality services which should be best for the patient, patient safety and

patient diagnosis.”

Table 19

Coding Definitions Physical Description of Country Through Religion

Code	Definition
Physical Description of Country	Tanzania: “Tanzania is an African country in Africa, a nice country for living, and has a lot of attention of possible living, we have a lot of national parts, we have Mount Kilimanjaro, which is the highest mountain in Africa. They have good lakes, like Lake Seneca, Lake Victoria [...], and we have valleys which is attractive for the tourists to come to the village.”
Policies	U.A.E.: “Then [a new employee] goes and logs onto the policy and show them all the policies, general policies like safety, like dye management, we have turnaround time policies, we have injection policies.”
Prestige	U.S.A.: “They have different ranks and so I’m at the assistant rank which is the lowest.”
Professionalism	Tanzania: “Also, your appearance defines you here, so and also it shows how much you respect yourself so we care for, as a professional because they come and they work in the lab they’re new to the lab and they’re new to the country, so professionalism, is the first thing that I’ll advise them.”
Promotion	U.S.A.: “So every two or three years, we as faculty have to run through this process where the Dean’s office reviews the work that we’ve done, the papers that we’ve published, the grants that we’ve brought in, the teaching that we’ve done to make a decision as to whether or not we get to advance to the next rank.”
Public Doesn't Understand Pathology	U.A.E.: “We are working in the labs, closed doors, no one sees us, only if we are signing the results of the test, and it’s usually the physicians they are seeing, there’s no reputation to the patient that who does these tests and they don’t care ever.”
Recognition	U.S.A.: “We have a couple of different ways, we do like rewards, we have a rewards program called X like that’s like kind of a more formal way.”
Religion	U.A.E.: “Religion wise I am also very comfortable because there are so many places we can pray, we

have water for ablutions, so it is our praying also easy, even if I go to a mall, I have a place to pray.”

Table 20

Coding Definitions Research through Typical Day

Code	Definition
Research	U.S.A.: “Research is a big one, anything that bring identity and/or focus to the [US-4] as a research facility is very, very highly valued.”
Respect	Tanzania: “The most important thing, I think it’s a respect for each other, and the respect for oneself and by saying for oneself I mean it means how you appear and also how you behave.”
Safe Country	U.A.E.: “I think growing up here is accepted and feeling safe, this is one of the very safe places to raise children.”
Same Advice to Foreigners and Natives	U.S.A.: “I don’t think it would be any different. I don’t know what additional advice I would give on being in the U.S.”
Self-Policing	U.A.E.: “In the last five or six years we’ve been state reporting all our own errors and our own incidents, so if I make a mistake I should self-report.”
Set Example	U.S.A.: “I think lead by example is always the best. You know, it may not always be practical, because you know as a leader you may not be involved in certain you know aspects of the department but whenever you can I think leading by example is always the best quality for a leader.”
Set Schedule	U.S.A.: “In general I come in around 8:30, 9:00 and ideally I’m usually a little bit more of a late starter [...] then I usually leave, again if it’s a regular average day around 5:00, 5:30 once I’ve finished everything that I can.”
Time Management	U.A.E.: “So, all the results I mean in the lab they have to go out in 30 minutes so we have a turnaround time, like once we receive it in the unit it has to be reported in 40 minutes.”
Training	U.S.A.: “We round through the lab and do kind of a teaching session of each bench and review the different processes that we do for identification of different organisms per bench meaning one bench would be blood, another bench would be respiratory, you know and so forth.”

Typical Day	Tanzania: “Most of the day we’ll be coming in the department, reading slides and then finding time to review the pathologists in the afternoon, and then in the evenings we’ll be signing out results.”
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Table 21

Coding Definitions Understaffed Through Work Relationships

Code	Definition
Understaffed	Tanzania: “I enjoy working, but it’s too demanding because we have very few staff comparative with what we are supposed to.”
Vision	U.S.A.: “I think the biggest [leadership skill needed] is the development of a vision and the communication of a vision.”
Work Environment – Fast-Paced	U.A.E.: “Always I say that the work in UA-18 hospital moves quickly, okay? And you want to work really fast.”
Work Environment – Fulfilling	U.A.E.: “It’s quite fulfilling coming here and I can go consult on the patients best interests in time, so also it’s also a multidisciplinary one [...], so you’re literally saving lives, my friend, it’s very fulfilling to have a pathology job.”
Work Environment – Supportive	U.S.A.: “Also, just helping each other on the benches, you know if I’m, if one of the bench techs is overwhelmed and there’s a lot for whatever reason of patient samples that are being sent in that day, they’re already going to go over their shift, other staff members will see it, if the load is heavy so they’ll go over and help out.”
Work-Life balance	U.S.A.: “I think pathology a lot of people go into because they can have an easier lifestyle than you know somebody who’s operating or doing a specialty that’s not as involved.”
Work Relationships	U.S.A.: “We do birthday parties, like we have once a month like and a couple in my department we celebrate the month of birthdays at like a potluck kind of thing. So, just kind of trying to like bring them together.”

Propositions

As described in Chapter 2, there are four main propositions in this study about the influence of culture on the applicability of leadership training. The propositions were essential to create a robust data collection. As the results in this Chapter will indicate, none of the propositions were confirmed. The propositions and the subpropositions will be discussed in the following sections related to the specific cultures they reference, such as national culture, organizational culture, and leadership culture. The four main propositions are as follows:

P1: National culture influences the cultural applicability of leadership courses in the United States, the United Arab Emirates, and the United Republic of Tanzania.

P2: Organizational culture influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

P3: The leadership style of the Laboratory Director influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

P4: The national culture of the country, the organizational culture of the laboratory, and the leadership style of the Laboratory Director influence the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

National Culture

This section discussed the results of the study related to national culture. Before discussing the propositions, data from the Values Survey Module (VSM) about each of

the national cultures of the countries included in this study will be presented. This data was not collected in this study, but it is presented in this chapter due to its relevance to the propositions and post-hoc findings. Following this data, the propositions related to the national culture will be discussed and it will be explained why no conclusive data was found to support the propositions. In the following sections, post-hoc findings will be shared, specifically relating to the coding results, the course completion of the leadership program, and the results of the survey.

Values Survey Module Results

When looking at Hofstede's (2001) results, there are two dimensions in the U.A.E. and Tanzania that score the same but are different than the U.S.A., namely the Individualism and Power Distance dimensions. In that Individualism dimension, both the U.A.E. and Tanzania score 25, meaning that these countries have a behavioral preference for a collectivist approach (Hofstede, 2001). On the other hand, the U.S.A. scores 91, meaning that there is a preference for a high Individualistic approach (Hofstede, 2001). In the Power Distance dimension, Tanzania and the U.A.E. score high, indicating that these countries expect and accept a strong hierarchical culture, while the U.S.A. scores 40, meaning that there is an expectation of a more egalitarian society (Hofstede, 2001).

Furthermore, the national culture dimension in which both the U.S.A and Tanzania scored similarly and different from the U.A.E. is the Uncertainty Avoidance dimension (Hofstede, 2001). Both Tanzania and the U.S.A. score 50 and 46 respectively, indicating that there is not a high preference for avoiding uncertainty, which is what is present in the U.A.E. with a score of 90 (Hofstede, 2001).

Finally, the one national culture dimension that has significantly different scores between all three countries is the Masculinity dimension (Hofstede, 2001). The U.S.A. scores 62, indicating a high Masculine society in which there is a focus on achievement, Tanzania scores 40, meaning that they are a low Masculine society focused on caring for other people and overall quality of life, and the U.A.E. scores 50, which indicates that they are neither high or low Masculine (Hofstede, 2001).

Table 22

National Culture Data (Hofstede, 2001)

National Culture Dimension	United States of America	United Arab Emirates	United Republic of Tanzania
Power Distance	40	90	70
Individualism	91	25	25
Masculinity	62	50	40
Uncertainty Avoidance	46	80	50
Long-Term Orientation	26	No Data	34
Indulgence	68	No Data	38

Proposition Results Related to National Culture

Tables 23 to 27 show the status and relevant data of Proposition 1 and its subpropositions. There was no data that could confirm the influence of national culture on the applicability of leadership training. However, it is important to note that this does not mean that such influence does not exist. Rather, it means that no evidence was found that could indicate a confirmation of the propositions about the 10 leadership courses included in this study.

The first proposition of this study was that national culture influences the cultural applicability of the leadership courses. This proposition is inconclusive because no

pertinent data was found that provided substantial proof that national culture influenced the applicability of the courses. The following subpropositions will describe in more detail the reasons for the inconclusive data.

Table 23

Proposition 1

#	Proposition	Status	Supporting Data
P1	National culture influences the cultural applicability of leadership courses in the United States, United Arab Emirates, and the United Republic of Tanzania.	Inconclusive	There is no clear data that indicates that national culture influences the applicability of leadership courses.

The subproposition 1a states that in the U.S.A., the courses on time management, change management, and generational differences are most applicable. However, data from this study indicated that participants from all three countries did not anticipate applying the content of the course on generational differences. Furthermore, almost all participants from the three countries stated that they did see themselves applying the content from the time and change management courses. Therefore, this subproposition is inconclusive.

Table 24

Proposition 1a

#	Subproposition	Status	Supporting Data
P1a	In the United States of America, the following courses are most culturally applicable: Time Mastery: due to the highest score in Masculinity; Reacting to Change: due to the lowest score in Uncertainty Avoidance; DeCoding American Generations: due to ingrained overall cultural values, beliefs, and customs	Inconclusive	Participants from all countries indicated that they did not foresee themselves applying Decoding American Generations to their current job. From all participants, only one from a U.S. site indicated that they did not foresee themselves applying Time Mastery, and Reacting to Change either, indicated that this proposition cannot be confirmed.

The next subproposition anticipated that in the U.A.E., the course on organizational awareness and conflict management were most applicable based on the high score on the Power Distance dimension of the Values Survey Module. However, all participants in this study stated that both courses applied to their current job and they anticipated applying the content. There was, therefore, not a specific applicability of these courses related to the U.A.E. and the subproposition is inconclusive.

Table 25

Proposition 1b

#	Subproposition	Status	Supporting Data
P1b	In the United Arab Emirates, the following courses are most culturally applicable: Organizational Savvy: due to the strongest preference for and acceptance of a hierarchy; Conflict Prevention and Resolution: due to the strongest preference for and acceptance of a hierarchy	Inconclusive	All participants from all sites indicated that they foresaw themselves applying Organizational Savvy and Conflict Prevention and Resolution, therefore not indicating a particular influence by the U.A.E. national culture.

Subproposition 1c states that because of a low score in the Individualism dimension, thus indicating a preference for collectivism, the courses on teams, groupthink, and listening would be most applicable in Tanzania. However, data indicates that the three courses were applicable to participants from all three countries. This makes subproposition 1c inconclusive.

Table 26

Proposition 1c

#	Subproposition	Status	Supporting Data
P1c	In the United Republic of Tanzania, the following courses are most culturally applicable: Team Dynamics: due to a strong preference for collectivism; Groupthink and the Abilene Paradox: due to a strong preference for collectivism; Listening with a Purpose: due to a strong preference for collectivism	Inconclusive	Team Dynamics and Listening with a Purpose were both marked by all as applicable, with the exception of one U.S. participant each. The course Groupthink and the Abilene Paradox was marked as applicable by all participants except by one in the U.A.E. This does not confirm this proposition.

Finally, Subproposition 1d stated that the DiSC and MBTI courses were applicable in all three countries. However, there was no agreement across the sites that all were applicable across the nations. In each country, there were participants who marked these courses as inapplicable. This confirms the status of this subproposition as inconclusive.

Table 27

Proposition 1d

#	Subproposition	Status	Supporting Data
P1d	There is no difference in the cultural applicability of the following two courses: Everything DiSC Workplace; MBTI	Inconclusive	Everything DiSC Workplace was marked as inapplicable by participants from both U.S. sites, indicating that it applies better in Tanzania and the U.A.E.; MBTI was marked by participants from both U.S.A. and Tanzania sites, indicating that it is more applicable in the U.A.E.

Macro-Coding Results

When looking at the data gathered in this study, there are some significant differences between the three countries as shown in the following tables. When looking at the code of “Safe Country,” which references how many participants described their own country as safe, there are some interesting differences. Five out of the seven Tanzanian participants stated that their country is safe, while only 2/6 of the U.A.E. participants did, and only 1/13 of the U.S.A. participants. This data does not indicate that Tanzania is safer

than the other two countries, but it indicates that stating that a country is safe is more important to Tanzanians than people living in the U.A.E. or U.S.A.

Table 28

Coding Data on References to Safe Country

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Safe Country	1/13	2/6	5/7	U.S.A.: "Most people value kindness, peace." U.A.E.: "I think growing up here is accepted and feeling safe, this is one of the very safe places to raise children." Tanzania: "Tanzania is a good country, it's very peaceful, it is known as a, it is known in the world as a peaceful part in the world. So, it is nice."

On the other hand, 13/13 U.S.A. participants described their country as a land of opportunity as compared to 2/6 and 1/7 of U.A.E. and Tanzanian participants, respectively. Along similar lines, 7/13 participants from the U.S.A. referenced a sense of freedom compared to 2/6 from the U.A.E. Furthermore, 8/13 of U.S.A. participants referenced a sense of individuality as compared to the 1/6 from the U.A.E. and none of the Tanzania participants made a reference to either freedom or individuality. This could indicate that there is a stronger sense of collectivism in Tanzania than in the U.A.E. and that there is a strong Individualistic culture in the U.S.A. Indeed, when looking at Hofstede's (2001) results, the U.S.A. scores a 91 on the Individualism dimension, meaning that there is a strong Individualistic culture. However, both the U.A.E. and Tanzania score 25, showing their that tendency towards a collectivist mindset is similar.

Table 29

Coding Data on References to Country of Opportunity

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Country of Opportunity	13/13	3/6	1/7	<p>U.S.A.: “I would say that it is certainly still a land of opportunity where if you have an idea and you have the energy and the patience and aspiration, you’ll get to where you [want] to go.”</p> <p>U.A.E.: “They are giving you an opportunity to everyone who can work and who can work hard, they will find themselves here. They need the hard worker in the country, so I’m really enjoying the life here.”</p> <p>Tanzania: “So, achievement in life in Tanzania takes a high attempt compared to most other country.”</p>

Table 30

Coding Data on References to Freedom and Individual

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Freedom	7/13	2/6	0/7	<p>U.S.A.: “Overarching our entire country is a sense of individual freedom and liberty.”</p> <p>U.A.E.: “There are a lot of freedoms here in the UAE, as long as you’re you know cultured and it’s an economical country but at the same time it is an open environment.”</p> <p>Tanzania: N/A</p>
Individual	8/13	1/6	0/7	<p>U.S.A.: “You see everyone working hard and really putting in a lot of effort to achieve their goals like looking out for themselves.”</p> <p>U.A.E.: “I really like the, you know the independence and the cosmopolitan</p>

nature of the work here.”
Tanzania: N/A

Equality, respect, and open-mindedness were all referenced by the majority of U.A.E. participants, namely 5/6 for both equality and respect and 6/6 for open-mindedness. Three out of seven Tanzanian participants referenced equality, indicating a possible stronger hierarchical culture, 5/7 referenced respect, and 6/7 open-mindedness. However, when looking at Hofstede’s (2001) results, the U.A.E. scores a 90 in the Power Distance dimension, indicating the strongest hierarchical culture of the three countries.

Table 31

Coding Data on References to Equality

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Equality	3/13	5/6	3/7	<p>U.S.A.: “I think the key point is in the United States [...] is that everyone has an equal part in this healthcare team that includes all the way down to the janitor and the cafeteria folks all the way up to those physicians and so forth.”</p> <p>U.A.E.: “Third thing I would say, there is no religious discrimination in the place I work in. It’s very open culture. And we are all so diverse like we have staff from all parts of the world so, I think that this acceptance of diversity is very important part of the culture at the UAE.”</p> <p>Tanzania: “There’s no racism, there’s no like upper like lower class, like you know just a nation, there’s no racism in here, and I guess the respecting people is very important in being they treat you well and all the same.”</p>

Table 32

Coding Data on References to Respect and Open-Mindedness

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Respect	1/13	5/6	5/7	U.S.A.: "Respect for the team [is valued]." U.A.E.: "The important thing is that I told you that respect. We respect each other, we respect our cultures." Tanzania: "The most important thing, I think it's a respect for each other, and the respect for oneself and by saying for oneself I mean it means how you appear and also how you behave."
Open-minded	4/13	6/6	6/7	U.S.A.: "I remember people coming and speaking to me you know when I was figuring out what I wanted to do and really finding it nice to identify with people of my similar background. Just kindness, empathy, patience, understanding, things like that." U.A.E.: "To be honest with you without telling you, Emirates are very open. Open and they listen to you." Tanzania: "Yeah, for those who are new in TZ-13 and new in Tanzania, they need to be flexible."

Finally, there appeared to be a stronger ethnocentric culture in the U.S.A. as compared to the other two countries. Table 33 shows that 7/13 of American participants had difficulty explaining their own country to someone who had never been there before, while none of the U.A.E. participants and 6/7 of Tanzanians did not struggle with that. Furthermore, 6/13 of Americans gave the same advice to someone who was new to their laboratory and to someone who was both new to their laboratory and new to their country. Every participant from the U.A.E. and 6/7 of Tanzanians gave different advice.

Table 33

Coding Data on References to Homogeneity

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Difficulty Explaining Own Culture	7/13	1/6	1/7	U.S.A.: "I guess, well, how do I describe the United States? Let me think, that's a tough one." U.A.E.: N/A Tanzania: "Sorry, let me answer this questions I'm finding it difficult."
Same Advice to Foreigners and Natives	6/13	0/6	1/7	U.S.A.: "I don't think it would be any different. I don't know what additional advice I would give on being in the U.S." U.A.E.: N/A Tanzania: "It's almost the same [advice]."

Leadership Courses Completion Results

The course completion rates of the leadership program can also shed some light on the potential influence of national culture. Eleven out of thirteen participants in the U.S.A. completed the leadership courses, 5/6 participants from the U.A.E., and 2/7 Tanzanian participants, which is significantly lower than the other two countries (see Table 34). Furthermore, of the eighteen graduates, the dates of completion varied between the countries. The deadline to complete the leadership program was March 31, 2019. In the U.S.A., 7/13 participants completed the program before March 31, 5/6 of U.A.E. participants, and one of the Tanzanian participants. Furthermore, all participants who had not graduated by the deadline received a 1-week extension. During that week, 1/7 of Tanzanian participants completed the program, 4/13 of U.S.A. participants and none of the participants from the U.A.E., as shown in Table 34. Since all scores were

different across the three countries, this could indicate that national culture played a role in the completion rates of this leadership program. The one national culture dimension that has significantly different scores between all these three countries is the Masculinity dimension (Hofstede, 2001). Specifically, the U.S.A. scores as a high Masculine society that is focused on achievement, Tanzania scores as a low Masculine society, and the U.A.E. do not indicate a preference. This could have influenced the completion rates and dates for each site participating in this study.

Table 34

National Culture Data Leadership Courses

	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)
Course completion rate	11/13	5/6	2/7
Completed the program before March 31	7/13	5/6	1/7
Completed the program during extension	4/13	0/6	1/7

Furthermore, the majority of participants waited until the last couple of weeks before the deadline to complete the leadership courses. Figure 5 shows the average courses completed per person per month. It is clear from the figure that almost everyone waited until March to complete courses, with the initial deadline being March 31, 2019. This delayed completion of courses may indicate a lack of leadership development participation. Furthermore, it is important to note that all participants received monthly updates from the researcher about their course completion status. Without that reminder, it is possible that fewer participants would have finished the leadership program.

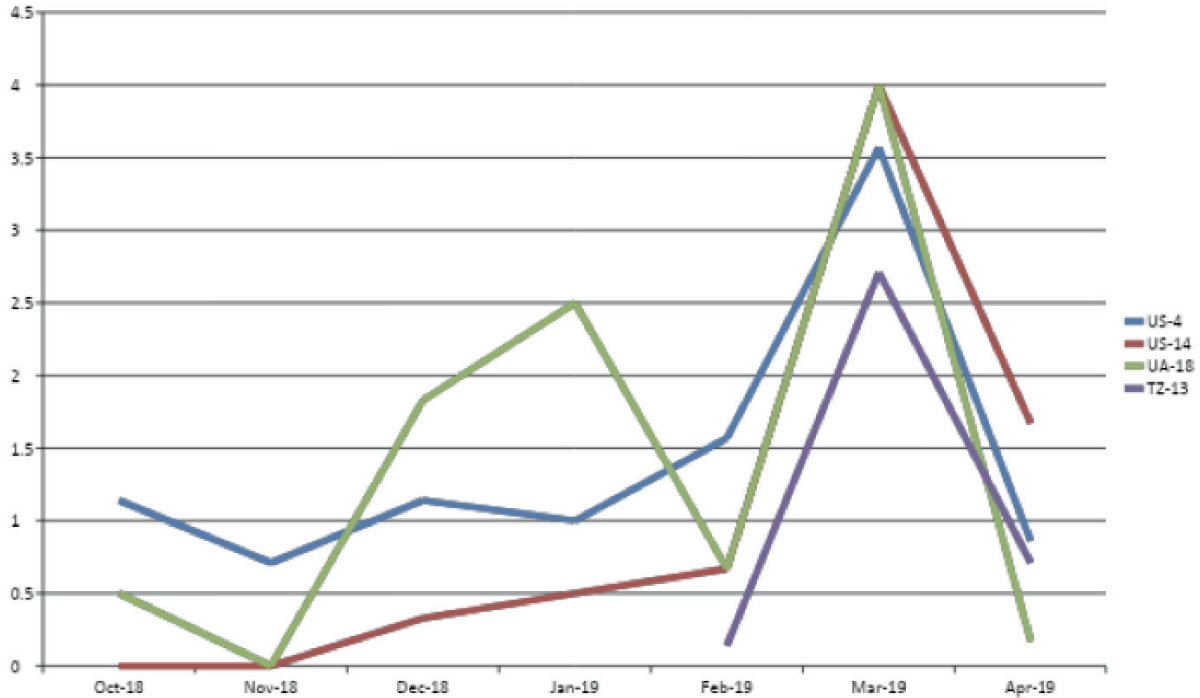


Figure 5. Average courses completed per person per month.

Survey Results

Finally, when looking at the survey results about the applicability of each of the leadership courses, there were a few results related to the national culture of each country. These results are presented with weighted averages, meaning that the average takes into account the relative importance of each data set. The weighted averages of the question “The courses strengthened my leadership skills in the laboratory” was higher in both Tanzania and the United Arab Emirates than in the United States of America: Tanzania and the U.A.E. weighted average was a seven, while it was 6.13 for the U.S.A. This could indicate that there is a cultural difference on a national level between the U.S.A. and the other two countries influenced the applicability of the leadership programs. Furthermore, this could indicate that the Individualism and Power Distance Avoidance dimensions influence the overall applicability of the leadership program.

Table 35

Courses Strengthened Leadership Skills Data

Survey Question	US Sites (n = 10)	UAE Site (n = 5)	Tanzania Site (n = 2)
The courses strengthened my leadership skills in the laboratory	6.13	7	7

Additionally, when looking at which courses graduates stated they were not likely to apply in their current job, the course MBTI was referenced by the U.S.A. and Tanzania sites. This could indicate that the Uncertainty Avoidance dimension influences the applicability of the MBTI course. This is because both the U.S.A. and Tanzania score similarly along the lines of the Uncertainty Avoidance dimension, namely 46 and 50 respectively. The U.A.E. on the other hand, scored 80 on this dimension, indicating a strong preference to avoid uncertainty.

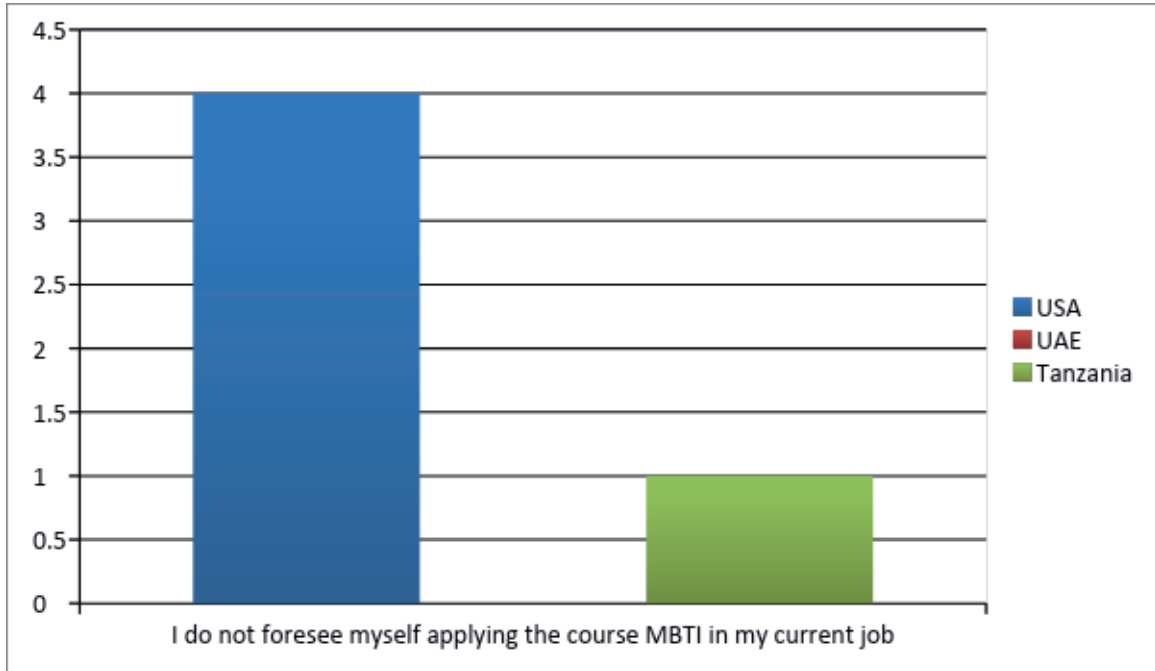


Figure 6. Data on the application of MBTI course from survey. US Sites (n = 10); UAE Site (n = 5); Tanzania Site (n = 2).

Finally, there was a significant difference in the time used to complete the online survey between the countries. Graduates from both U.S.A. sites averaged two minutes to complete the survey, while graduates from the U.A.E. typically spent six minutes and the Tanzanian graduates spent seven minutes to complete the survey. This could indicate that the Individualism and Power Distance Avoidance dimensions influence the time spent on online survey completion. It also possible that internet speed influenced the time it took to complete the survey. However, when the researcher spent time in the U.A.E. and Tanzania, the Internet speed was similar to that in the U.S.A.

Table 36

Survey Completion Time

	US Sites (n = 10)	UAE Site (n = 5)	Tanzania Site (n = 2)
Typical time spent to complete the survey	2 minutes	6 minutes	7 minutes

Laboratory Organizational Culture

As stated in the Introduction, for the purpose of this research, organizational culture is defined as “The agreement within organizations on the behavior that is necessary to fit in and belong in the organization (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Martin, 2002; Rovithis et al., 2016; Schein, 2017).” In this section, first data is presented about the organizational culture of US-4, US-14, UA-18, and TZ-13. This is followed by a discussion of the propositions related to the organizational culture of each of the laboratories, because the organizational culture data has a direct influence on the inconclusiveness of the propositions related to organizational culture. Next, post-hoc data is presented from the coding results, the course completion rate, and the survey results.

The Historical Ideal of the Organizational Culture Inventory

As described in Chapter 3, the historical ideal of the OCI profiles is a reference point against which to compare an organization’s current culture. The historical ideal has been established based on results from hundreds of other organizations as it used as a benchmark to understand which behaviors should be encouraged to maximize employee motivation and performance (Cooke & Rousseau, 1988).

Organizational Culture Inventory (OCI) Results

Tables 37 to 49 present the organizational culture results from the OCI assessment conducted by each site. All participants from US-4 (7/7), US-14 (6/6), UA-18 (6/6), and TZ-13 (7/7), completed the assessment. The following results were analyzed and calculated by Human Synergistics International. The profile figures are presented in Appendix O and P.

One of the main results from this assessment is that there appears to be no interrelationship between the OCI results from the four sites. Table 37 shows the primary and secondary style of each of the sites. The only similarity is between the primary style of US-14 and UA-18. However, all other styles are different ones, indicating that there is no clear interrelationship between the styles

Table 37

OCI Primary and Secondary Styles Per Site

Site	Primary Style	Secondary Style
US-4	Conventional	Avoidance
US-14	Perfectionistic	Humanistic-Encouraging
UA-18	Perfectionistic	Power
TZ-13	Affiliative	Approval

Additionally, the organizational culture at TZ-13 is scored the most constructive. As shown in Table 38, all four constructive styles score 80% and higher at TZ-13, indicating that the organizational culture promotes taking on challenging tasks, self-development, concern for the needs of others, and thinking about the group's satisfaction.

US-4 scores the lowest as all constructive styles are below the historical ideal. This indicates that the organizational culture at US-4 is not very constructive and that improvements can be made to increase the effectiveness of the current culture. Three of the four constructive styles at US-14 score above the historical mean, although Achievement and Affiliative are just above. The Humanistic-Encouraging style at US-14 scores at the 74th percentile, indicating that there is a strong concern for the needs of others and empowering them. UA-18 also has three constructive styles over the historical idea. The only style that is below is Achievement, which indicates that there is not as strong of a focus on challenging tasks, thinking ahead and planning, and working for a sense of accomplishment.

The Achievement style of organizational culture indicates that people openly show enthusiasm, work for a sense of accomplishment, take on challenging tasks, and think ahead and plan (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). As shown in Table 38, none of the sites score at or above the historical ideal. However, it is important to note that TZ-13 scores at 80%, which is the closest to the historical ideal, and US-4 scores the lowest at 10%.

Table 38

OCI Results: Achievement

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Constructive: Achievement	10%	54%	41%	80%	96%	US-4: "But at the same time, everybody is hard-working, everybody knows what they have to do, they're always on task." US-14: "It's exciting, it's challenging, and it can be frustrating [...]. But in the end, I'm still here because I love what I

do and US-14 is a good place.”
 UA-18: “Passion or loving the work that you do, the positive atmosphere, the positive energy, but also the positive feeling, everything that could make the work atmosphere, from the pathologist point of view not coming in there just like someone has a job, just finish and go home. This not happening here anyway, it cannot be the life in the lab.”
 TZ-13: “If you’re new, first off, be focused. What did you come here for? Work as who? Then you target, you make a plan of what you’re going to do.”

Similarly, with the Self-Actualizing style, none of the sites score at or above the historical ideal. Additionally, TZ-13 and US-4 also score the highest and lowest with this style respectively. This style fosters quality over quantity, personal integrity, and being concerned with one’s own development (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Table 39

OCI Results: Self-Actualizing

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Constructive: Self- Actualizing	13%	45%	74%	91%	97%	US-4: “Quality, first and foremost. You know, quality, having critical thinking. I believe integrity to make sure that we’re doing everything the way that we should be.” “The one thing I try to say is keep an open mind, but more importantly when you’re at US-4 you’re going to be a lifelong learner.” US-14: “To you know once they’ve

reached that sort of you know beginning level of comfort, you know to work hard, to take initiative, to you know when given, when asked to be involved in like committees, or given opportunities to work on research projects, or contribute to papers or books, or things like that, to say yes.”
 UA-18: “I think the growth part is important, we should be able to grow in our positions to develop more.”
 TZ-13: “Look for quality not only for quantity, so quality assurance is one of the values that pathologists here work together with the technicians, we work together.”

Table 40 shows the results in the Humanistic-Encouraging style. This style helps others think for themselves, encourages giving positive rewards and being a listener, and promotes an overall concern for the needs of others (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). None of the sites score at or above the historical ideal, but TZ-13 comes closest at 90%.

Table 40

OCI Results: Humanistic-Encouraging

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Constructive: Humanistic- Encouraging	28%	82%	72%	90%	98%	US-4: “I think for the most part it’s just, as far as leading and you know what I define as a good leader, to be a good leader, is just kind of encompassing a couple of the skill sets of listening, kind of empathizing with the employees, kind of seeing both the laboratory side and also the patient side, the clinician side and figure out what kind of the best solution is.”

US-14: “In the past academic years or so we have had somebody appointed as in charge of faculty development and I think what I’ve seen from her having one-on-one meetings with us junior faculty and really looking through our file and not only letting us know how we’re doing in terms of all the aspects of our work but also giving us suggestions and then really providing and opening up opportunities for us as junior faculty like if she knows about some conference that could be helpful for example, she’ll let us know. I think that’s a good leader, just kind of keeping in touch with us throughout the year and then also opening up opportunities or giving us opportunities to build on our own careers.”

UA-18: “He lets you reach the solution kind of on your own. He listens, and he listens and he listens and then alright so what do you think we should do? He kind of works with you until you by yourself have reached that you know the solution for the problem you came to him with. I like that.”

TZ-13: “I’ll ask them to work very closely with their colleagues, to ask as many questions as they can if they are getting stranded, and to find friendship, work together as friends in the lab, and not to be afraid to interrupt if someone is, just ask as many questions as they can.”

The Affiliative style is the only Constructive style in which one of the sites scored above the historical ideal. As shown in Table 41, TZ-13 scores above the historical ideal with 95%. This style encourages motivating others through friendliness, being concerned for others, and thinking about the group’s satisfaction (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Table 41

OCI Results: Affiliative

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Constructive: Affiliative	23%	58%	70%	95%	88%	<p>US-4: “We also try to do like a buddy system where when a new employee comes in, whether it’s within the U.S. or from outside the U.S. we try to partner them with somebody who can kind of take them around and help them have a more successful onboarding experience.”</p> <p>US-14: “I think when it comes to collegiality everyone, so we often ask each other for help in terms of covering a service, or if there’s a difficult diagnosis and everyone is always willing to do that. I think that that is a pretty characteristic behavior.”</p> <p>UA-18: “The most important task for me is the time that I will be involved with, I cannot say my technicians, they are not working for me, but they are my unit technicians.”</p> <p>TZ-13: “You can, even as an outsider, if you are here, people won’t treat you as an outsider they treat you as one of their own. And even if you like work along with them, or if you have any troubles, people are ready to help you out like they don’t know how to treat people different from the others, so that’s one thing you can see everywhere even from the lower class to the upper, you find them working along together trying to build up for someone, so that’s like all I can say.”</p>

The Passive/Defensive styles further explain the organizational culture at the four sites. TZ-13 and UA-18 score the highest, with both scoring all four Passive/Defensive

styles well above the historical ideal. This indicates that both sites have a strong Passive/Defensive culture in which people are expected to back up people with authority, always follow policies and practices, check decisions with superiors or push the decisions upward. Furthermore, US-4 has two styles that are above the historical ideal, namely Conventional and Approval. This means that there is an organizational culture that promotes conforming behavior and doing things for approval. Finally, US-14 does not have any Passive/Defensive styles score above the historical ideal, meaning that there is not a strong Passive/Defensive culture present.

All four sites score high above the historical ideal of the Approval style. However, TZ-13 scores at 92%, indicating a very high level of the approval culture. This style encourages employees to agree with everyone and to do things for approval (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). It also promotes staying on people's good side and backing up those who have authority (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). It is important to note that no approval data was found in the data analysis of the interviews from US-14. There is, therefore, no quote included from that site in Table 42.

Table 42

OCI Results: Approval

	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Passive/ Defensive: Approval	37%	28%	77%	92%	11%	<p>US-4: “[If] they came from the outside and they’re not a normal or regular US-4 employee, it is different and so I guess to try and just embrace the university environment, learn as much as they can definitely, try to just, I don’t want to say change, but to, trying to see how I want to say that.... day by day, I would just say day by day you know, and just try to find a positive.”</p> <p>US-14: XX</p> <p>UA-18: “I would give an advice on how they succeed in their career if it is in UA-18, how to deal with that, who is in charge and their supervisors and how they can communicate with them, facilities and the proper channel.”</p> <p>TZ-13: “[Few] people come and speak boldly and without hesitation about the feelings they have, [...] taking care of not damaging the feelings of the person. So probably that will make somebody to not understand the real situation that is going on because they like to make sure that the peace prevails and the relationship continues.”</p>

The Conventional style encourages employees to conform and to always follow policies and procedures because rules are considered as more important than people (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). Additionally, this style focuses on avoiding confrontations (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz,

2005). All four sites score high above the historical ideal, with UA-18 scoring the highest at 89%.

Table 43

OCI Results: Conventional

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Passive/ Defensive: Conventional	67%	33%	89%	74%	5%	<p>US-4: “It’s basically the administrative day-to-day operations as far as finance, as far as people, as far as service, community growth, so those are kind of the regulatory quality compliance issues that I deal with.”</p> <p>US-14: “So it’s like, the biggest thing would be you know kind of funny but cell phones, you like I have a couple of my older generational employees who are like always on their phones and I kind of, I say like I’m sorry that but there’s actually an HR policy.”</p> <p>UA-18: “I thought in the beginning that leadership was all about following the rules and I was too strict in the first two or three years of my leadership in the lab.”</p> <p>TZ-13: “Yeah, the only thing is to know the protocol, there is a lot of protocol about the laboratory medicine in our country. Especially for those who are foreign and are talking in the laboratory the thing is to know the protocol, local protocol.”</p>

The Dependent culture warns employees to never challenge superiors and to check decisions with them (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). It also fosters predictability and to ask everybody what they think before acting (Cooke & Rousseau, 1988; Human Synergistics

International, 2004, 2009, 2013, 2015; Klisz, 2005). The only site that scores below the historical ideal is US-14, indicating that there is only a slight Dependent culture. All other sites score above, with US-4 only slightly at 17% and UA-18 and TZ-13 at 76% and 67% respectively.

Table 44

OCI Results: Dependent

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Passive/ Defensive: Dependent	17%	9%	76%	67%	11%	<p>US-4: “If there are decisions that can’t be made by someone they look to myself and our Lab Director, and I’m talking Administrative Lab Director not Clinical Lab Director, to help guide them on decisions or if there’s maybe some barriers to getting certain things accomplished at the lab section level, then they look to me as a leader to help facilitate the items that they need to have changed.”</p> <p>US-14: “Anyone new coming in also has to go through a joint commission requirement now, any physician, some do it more rigorously, I do which is called focused practice evaluation, so I kind of hold their hand for about six weeks before I let them sign all alone and by that time I’m not only checking that you know they can diagnose and write reports etcetera correctly but also that they get to know the clinicians, the way we practice, and familiarize themselves.”</p> <p>UA-18: “I don’t think yes, in the end, there is one decision-maker, which is me, however, I never make a decision without the feedback of all six of them.”</p> <p>TZ-13: “But I think that has been our, I can say maybe my achievement but</p>

supposed by all people who are surrounding me but also my seniors who allow when I ask if we can do something in the department because we need to get permission from your seniors.”

All sites score above the historical norm for the Avoidance style, although US-14 only very slightly. The other three sites indicate a significant avoidant culture, which encourages people not to get involved, to push decisions upwards, to take few chances, and to put things off (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). It is important to note that no avoidant data was found in the data analysis of the interviews from US-14. There is, therefore, no quote included from that site in Table 45.

Table 45

OCI Results: Avoidance

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Passive/ Defensive: Avoidance	65%	11%	84%	86%	10%	US-4: “I would tell them to not make any like sudden movements, like they need to kind of observe and take in the environment first.” US-14: XX UA-18: “In the first three months [...] be very cautious when you read any results.” TZ-13: “Generally, the bad thing is that those doctors, the clinicians, are the people working in the lab, they know nothing about phlebotomy. So, they, for example, in the department, if you want a good history, consider making your own diagnosis, you will be cut out of it because most of the surgeons and

physicians they know nothing.”

The site with the strongest Aggressive/Defensive culture is UA-18, with all four styles scoring well above the historical ideal. Such a strong Aggressive/Defensive culture encourages people to point out flaws, to never relinquish control, to compete, and to never make a mistake (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). TZ-13 also scored all four styles above the historical ideal, but as shown in Tables 46-49, the scores are not as high as UA-18. At US-4, only the Perfectionistic style is above the ideal and at US-4 all styles are below the ideal, although Perfectionistic is right at the historical ideal, therefore still indicating a significant tendency towards perfectionistic expectations.

An organizational culture with a strong Oppositional style encourages employees to point out flaws, oppose new ideas, look for mistakes, and to question decisions made by others (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). As Table 46 shows, the two U.S.A. sites score below the historical ideal, which UA-18 and TZ-13 score above it at 70% and 57% respectively. No oppositional data was found in the data analysis of the interviews from US-14 and TZ-13. There are, therefore, no quotes included from those sites in Table 46.

Table 46

OCI Results: Oppositional

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Aggressive/ Defensive: Oppositional	11%	7%	70%	57%	42%	US-4: “Whenever I go out to meetings, a lot of the clinicians are like well how come you’re not doing this test already, you know this other place is already

doing it, how come we don't do it?"
 US-14: XX
 UA-18: "Some people weigh things in their own way and they weigh things in their own standards. And they get upset because why is the other person not doing it this way?"
 TZ-13: XX

The Competitive style fosters competition instead of cooperation among people, to strive to be the center of attention, and to out-perform peers (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). Only US-14 scores below the historical ideal, indicating that there is not a strong organizational competitive culture. The other three sites score above, with UA-18 the highest at 93%.

Table 47

OCI Results: Competitive

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Aggressive/ Defensive: Competitive	42%	25%	93%	73%	33%	<p>US-4: "My personal view is we are the stewards of the diagnostic researchers that we have in medicine so we are responsible for making sure that the tests are the best possible that we can provide within reason."</p> <p>US-14: "They have different ranks and so I'm at the assistant rank which is the lowest, and then over time as you build your academic portfolio you gain rank and you can go from assistant to associate to full professor."</p> <p>UA-18: "I am proud to say that I was the first person in [XX] to start or to launch this analyzer in [XX], you know, in the laboratory."</p> <p>TZ-13: "I think maybe my achievement, my greatest achievement</p>

which I will count is the ability to be able to attract students to come and join pathology to be their profession after finishing their general medicine. Back when we didn't have any students, and during my position, I managed to have initially like only one and he was from outside, but later on, we had two, later on we had four, and last year we had a total of 21 residents in the department, that never happens."

As Table 48 shows, only US-14 scores below the historical ideal of the Power style; all other sites score above the historical ideal. This indicates that these sites encourage employees to use the authority of their position, to act forceful, to never relinquish control and to personally run everything (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Table 48

OCI Results: Power

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Aggressive/ Defensive: Power	38%	14%	94%	69%	17%	US-4: "I mean I think he does it because somebody has to do it. And he just, he's kind of a no-nonsense kind of guy and he says you know if somebody's got to do it he'll just do it, it's just easier to get it done if people are going to complain and whine about it." US-14: "The idea has been thrown around of sending cases to other institutions while we're extremely short-staffed because it's a lot for the remaining faculty to handle, and that's often been vetoed at a higher level with this idea that no it's okay we can

handle it we can just double up on our services, which has definitely been a source of contention with many of the faculty.”

UA-18: “Some of them [the leaders] lead by micromanaging. Like, you know they will do, they will basically do everything.”

TZ-13: “First of all, being a pathologist it is leading some people below me. I’m leading the residents, I’m leading the lab scientists, I be leading the staffs and the secretaries, and I’ll be giving them some, I’ll ask for some of the things to be done as I’m ordering them.”

Finally, the Perfectionistic style encourages employees to never make a mistake, to work long and hard hours, and to personally take care of every detail (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). All sites scored well above the historical ideal, as indicated by Table 49. UA-18 and US-14 score the highest at 95% and 85% respectively, indicated a strong perfectionistic culture.

Table 49

OCI Results: Perfectionistic

Code	Percentile Score					Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	Hist. Ideal	
Aggressive/ Defensive: Perfectionistic	51%	85%	95%	62%	13%	US-4: “She feels like she should work harder or do things to protect them from burnout or from being stressed out and happy to keep the morale up and so I see her very frequently jumping in to do the job.” US-14: “The people in the lab try hard to understand every case to make sure

they know what's going on and don't make any mistakes.”

UA-18: “I just feel that the pathologists here are already cautious in a way, you know they don't want to, all don't want to make mistakes, but I think there is an over-cautiousness in the way they practice pathology.”

TZ-13: “I would tell them to mostly to give a, to be ready to spend a lot of time in the lab because there is a lot of work to do, so I think time and commitment is the first thing that I'll advise them.”

When looking at the organizational culture scores across all four sites, it is important to note that all sites have a significant tendency towards perfectionism. Such a culture encourages employees to personally take care of every detail, to work long hours, to never make a mistake, and to appear independent and competent.

Proposition Results Related to Organizational Culture

The next tables, Tables 50 to 53, show the results of this study related to the second set of propositions that deal with organizational culture and its influence on the applicability of leadership courses. This proposition and its subpropositions could not be confirmed. However, this does not indicate that organizational culture does not influence the applicability of leadership courses. The results in these merely show that this type of culture did not influence the applicability of the courses in the specific ways outlined in the subpropositions.

The second proposition of this study is that organizational culture influences the cultural applicability of the leadership courses. This proposition is inconclusive because no pertinent data was found that provided substantial proof that organizational culture

influenced the applicability of the courses. The following subpropositions will describe in more detail the reasons for the inconclusive data.

Table 50

Proposition 2

#	Proposition	Status	Supporting Data
P2	Organizational culture influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.	Inconclusive	There is no data that indicates that organizational culture influences the applicability of leadership courses.

The first subproposition states that in laboratories with a people orientation in their organizational culture, specific courses are more applicable. These courses are about generational differences, listening, personality differences, and teams. However, data indicates that the courses about listening skills and teams were applicable to participants from all sites, not merely to the site with the strongest people orientation, namely TZ-13. Furthermore, participants from TZ-13 did not indicate that the courses on generational and personality differences were more applicable than the other courses. More specifically, both of these courses were marked as not applicable to their current jobs. This subproposition is, therefore, inconclusive.

Table 51

Proposition 2a

#	Subproposition	Status	Supporting Data
P2a	In laboratories with an organizational culture that indicates an orientation on people instead of on tasks, the following courses are most culturally applicable: <ol style="list-style-type: none"> 1. DeCoding American Generations 2. Listening with a Purpose 3. MBTI 4. Team Dynamics 	Inconclusive	The site that has a stronger people than task orientation in terms of the OCI results is TZ-13. However, participants marked the course DeCoding American Generations and the MBTI course as not applicable to their jobs. Listening with a Purpose was marked as applicable by all participants from all sites; Team Dynamics was similarly rated with the exception of one participant at US-4 who marked is as inapplicable. Therefore, this proposition cannot be confirmed.

The next subproposition assumes that in laboratories with a task orientation, the course that is most applicable is about time management. Data showed that the site with the stronger task orientation is UA-18. However, when looking at the data regarding the applicability of the courses, participants from all sites stated that this course is applicable. Therefore, this subproposition is inconclusive.

Table 52

Proposition 2b

#	Subproposition	Status	Supporting Data
P2b	In laboratories with an organizational culture that indicates a task instead of a people orientation, the following course is most culturally applicable: 1. Time Mastery	Inconclusive	The site that has a stronger task than people orientation in terms of the OCI results is UA-18. However, Time Mastery was marked as applicable by all participants from all sites, with the exception of one participant at US-4. The proposition is, therefore, inconclusive.

The final subproposition is regarding the laboratories that do not indicate a strong people or task orientation. In these laboratories, courses on work style differences, organizational awareness, change and conflict management, and groupthink are most applicable. Data from the study shows that the two laboratories that have neither a strong people or task orientation are US-4 and US-14. However, some participants from these sites did not mark the course on work style differences, DiSC, as applicable. Additionally, participants from all four sites stated that the content from the courses on organizational awareness, and change and conflict management was applicable. Finally, even though 4/5 people from UA-18 marked Groupthink as not applicable, no participants from TZ-13 stated that. This could indicate that a strong task orientation could influence the lack of applicability of the Groupthink course more. This subproposition is, therefore, inconclusive.

Table 53

Proposition 2c

#	Subproposition	Status	Supporting Data
P2c	In laboratories with an organizational culture that indicates neither a people or task orientation, the following courses are most culturally applicable: <ol style="list-style-type: none"> 1. Everything DiSC Workplace 2. Organizational Savvy 3. Reacting to Change 4. Conflict Resolution and Prevention 5. Groupthink and the Abilene Paradox 	Inconclusive	The sites that did not indicate a strong people or task orientation in terms of the OCI results are US-4 and US-14. However, Everything DiSC Workplace was marked as not applicable by participants from both these sites, Organizational Savvy and Conflict Prevention and Resolution were marked as applicable by all participants from all sites, Reacting to Change was marked by all participants from all sites as applicable with the exception of one person at US-4. This proposition is, therefore, inconclusive.

Macro-Coding Results

In addition to the OCI assessment results, this study found additional insights about specific organizational behaviors, tendencies, and expectations. Tables 54-60 show this additional data on the organizational culture of US-4, US-14, UA-18, and TZ-13.

One of the main differences found about the organizational culture of the sites was surrounding the notion of a blame-free environment. The majority of participants at UA-18 referenced the importance of such an environment most frequently, namely 4/6 of participants. None of the Tanzanian participants mentioned it, while only one person at

both the U.S. sites did. This could indicate a strong constructive culture at UA-18 with a focus on development of self and others and of accountability. Indeed, UA-18 scores high in the constructive styles of Self-Actualizing and Humanistic-Encouraging. However, TZ-13 scores the highest, so there does not appear to be a direct relationship between the two. On the other hand, when looking at the macro code *Accountability* in Table 54, 5/6 participants from UA-18 referenced accountability in their data, 4/7 participants from US-4, and only one and two people from US-4 and TZ-13 respectively.

Table 54

Coding Data on References to Accountability

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Accountability	4/7	1/6	5/6	2/7	<p>US-4: “Some of those values are expressed in terms of bringing up problems that they see that could be compromising testing to me or any of the other subordinates below me.”</p> <p>US-14: “If there’s a mistake, if somebody makes a mistake she treats it as if it’s not a personal error, there’s something wrong with the system or something that we all need to work together to fix.”</p> <p>UA-18: “We should have accountability. Accountability of the behaviors, accountability for themselves.”</p> <p>TZ-13: “In the behavior -wise, like you have to make sure that you work is complete, you become responsible for your own work just to make sure that the patient in the end does not suffer.”</p>

Furthermore, when looking at the references to a blame-free environment, as shown in Table 55, there are some slight similarities between the references to blame-free and accountability. This could indicate that there is an interrelationship between high levels of accountability and high levels of blame-free organizational culture.

Table 55

Coding Data on References to Blame Free

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Blame-Free	1/7	1/6	4/6	0/7	US-4: “We don’t rush into judgment, we don’t you know react to everything.” US-14: “When there is a mistake we all work together to figure out what’s wrong at a broader level and don’t blame one person.” UA-18: “We have an open no-blame culture in our laboratory. If we try to look at the root cause of any issue other than you know blaming the junior staff when you can look at, it will happen that you have incidents, or sometimes the patient, other staff safety might be compromised, so we look at all the root causes and then try to prevent it in the future.” TZ-13: N/A

Furthermore, the majority of participants at US-14 mentioned the importance of asking questions, namely 5/6. However, when referencing the OCI result, US-14 scores the lowest in the Dependent style of the four sites, indicating that people do not ask everybody what they think before they act. This could show that there is an expressed

need to ask questions because the current organizational culture does not indicate that necessity.

Table 56

Coding Data on References to Asking Questions

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Ask Questions	3/7	5/6	2/6	3/7	<p>US-4: "I would add in ask lots of questions if there's something that you don't understand."</p> <p>US-14: "Just probably the first thing is to never be afraid to ask questions."</p> <p>UA-18: "Well the first thing I tell them you know, ask as many questions as possible, really, really focus in the orientation period, and if you don't know something just say I don't know."</p> <p>TZ-13: "I'll ask them to work very closely with their colleagues, to ask as many questions as they can if they are getting stranded, and to find friendship, work together as friends in the lab, and not to be afraid to interrupt if someone is, just ask as many questions as they can."</p>

Additionally, when looking at how many participants from each site mentioned advocating for others was a part of their role, 4/6 participants at US-14 mentioned it. Participants at UA-18 and TZ-13 did not reference it, while only one participant at US-4 did. Interestingly, when looking at the OCI results above, this could correlate with the avoidance tendencies at each site. UA-18 and TZ-13 scored high in the Avoidance style, indicating that people are not expected to get involved. On the other side, US-14 scored low in avoidance, meaning that there could be an expectation of advocating behavior.

Table 57

Coding Data on References to Advocating

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Advocating	1/7	4/6	0/6	0/7	US-4: "I think the current values are [...] always working together to achieve you know the same common goal." US-14: "I have to be a leader for my trainees and advocate for them." UA-18: N/A TZ-13: N/A

Work-life balance appeared the most important for the participants at UA-18. As Table 58 shows, 5/6 of UA-18 participants referenced it, compared to 4/7 participants of UA-4, 1/6 of US-14, and none at TZ-13. This could indicate that having a work-life balance is more important in the United Arab Emirates. Interestingly, however, the UA-18 also scores high in the Perfectionistic style, which indicated that employees work long, hard hours. However, on average, the UA-18 participants stated that they worked seven hours a day, while other participants often referenced that they work 10-12 hours a day. This could indicate that work-life balance is especially important at UA-18, because of the national culture score of low Individualism, a.k.a. collectivism, which promotes a strong family orientation (Hofstede, 2001).

Table 58

Coding Data on References to Work-Life Balance

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Work-Life Balance	4/7	1/6	5/6	0/7	US-4: “The work lifestyle is great. It’s a normal somewhat, somewhat normal schedule.” US-14: “I think pathology a lot of people go into because they can have an easier lifestyle than you know somebody who’s operating or doing a specialty that’s not as involved.” UA-18: “Happiness art is okay you have been working, for a long time, you are working every time, you have done good work, go and take a happiness, two or three hours time off. This is one organization where we are allowed to see times, to have the time off per month.” TZ-13: N/A

The need for leadership education was mentioned across the four sites. However, it was mentioned by significantly more participants from UA-18 and TZ-13 as compared to US-4 and US-14. This could indicate that there are more opportunities for pathologists and laboratory professionals in the United States of America to participate in leadership training than in Tanzania and the United Arab Emirates. Additionally, when looking at the OCI results, the two U.S. sites score the lowest in the Self-Actualizing style, which encourages a concern about one’s own growth. These scores could also potentially explain why the need for education in leadership was referenced by more participants of UA-18 and TZ-13.

Table 59

Coding Data on References to Leadership Education

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Leadership Education	1/7	1/6	4/6	4/7	<p>US-4: “So, one of the things I’m trying to get our team to be better at is effective communication and not necessarily communicate more through multiple mediums but really trying to hone the point, less is more, but through effectiveness and efficiency.”</p> <p>US-14: “I think a lot of leadership, existing leadership here at US-14, it’s probably haven’t had much education on leadership.”</p> <p>UA-18: “I wish I discovered a lot of ideas or a lot of things I don’t know [about leadership].”</p> <p>TZ-13: “I think that is something which probably we lack because when you are elected or you are nominated to be a leader, there is no special cause, or some instructions that you are given.”</p>

Finally, lab safety was mentioned by almost all UA-18 participants, namely 5/6, while only by 2/7 participants from TZ-13, and not by the participants from US-4 and US-14. When looking at the Conventional style, which promotes the need to always follow procedures and policies, TZ-13 and UA-18 indeed score the highest at 74% and 89% respectively. However, US-4 also scores above the historical ideal at 67%, which was not found in the other data.

Table 60

Coding Data on References to Laboratory Safety

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Lab Safety	0/7	0/6	5/6	2/7	US-4: N/A US-14: N/A UA-18: “If you have the safety, that means your staff are working in a safe condition, you know so you are maintaining their health, which you are maintaining that patient health as well.” TZ-13: “Another thing is to take a precaution in TZ-13, because you know that you’re about to work in that area. We, in the, I’m in the most, we live in the sub-southern country so most of the people are common here. So, precaution is very important”

Leadership Courses Completion Results

There are some potential interrelationships between the completion rate of the leadership courses for each site and their organizational culture. For example, 5/6 of participants at UA-18 completed the leadership courses (see Table 61) and 4/6 referenced the need for leadership education (see Table 59). However, there does not appear to be an interrelationship with TZ-13, as 4/7 referenced the importance of leadership education, while only 2/7 completed the courses. Additionally, all participants of US-4 completed the leadership program, while only 1/7 mentioned leadership education.

Table 61

Completion of Leadership Courses

	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)
Course	7/7	4/6	5/6	2/7
completion total				

Survey Results

When looking at the survey data from the four sites, participants from US-4 mention the most courses when asked which courses they do not foresee themselves applying, as shown in Table 62. This could potentially be related to leadership education references mentioned previously. For instance, only the smallest number of participants at US-4 indicated the need for leadership education and when looking at Table 62, they indicated the largest number of courses that they did not foresee themselves applying. Furthermore, the largest numbers of participants from UA-18 and TZ-13 referenced leadership education and they indicated that most courses were applicable to their current job. This could mean that the more participants see a need for leadership education, the more courses are applicable in their jobs. However, it is important to note that not a single participant ranked a course as “not applicable”; they merely stated that they did not foresee themselves applying it.

Table 62

Which Courses Are Not Applicable to Current Job

Course	US-4 (n = 6)	US-14 (n = 4)	UA-18 (n = 5)	TZ-13 (n = 2)
Conflict Prevention and Resolution				
DeCoding American Generations		2/4	4/5	1/2
Everything	3/6	1/4		
DiSC Workplace				
Groupthink and the Abilene Paradox			1/5	
Listening with a Purpose	1/6			
MBTI	3/6	1/4		1/2
Organizational Savvy				
Reacting to Change	1/6			
Team Dynamics	1/6			
Time Mastery	1/6			
TOTAL	6 courses	3 courses	2 courses	2 courses

Laboratory Leadership Culture

As stated in the Introduction, for the purpose of this research leadership is defined as “The process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives within an environmental context shaped by cultural values and norms (Perruci, 2011; Yukl, 2013). In this section, first, data is presented about the leadership culture of US-4, US-14, UA-18, and TZ-13. This is followed by a discussion of the propositions related to the leadership culture of each of the laboratories because the leadership culture data has a direct influence on the inconclusiveness of the propositions

related to leadership culture. Next, post hoc data is presented from the coding results, the course completion rate, and the survey results.

50th Percentile of the Life Styles Inventory (LSI)

As described in Chapter 3, the scores from the LSI are usually compared to the self-assessment of the leader being analyzed. Because the self-assessment component is not included in this study, the LSI results are compared to the 50th percentile of each of the styles (Cooke & Rousseau, 1988). For the constructive styles, it is recommended that they score above the 50th percentile to indicate profound constructive behavior of the leader (Cooke & Rousseau, 1988). For Passive/Defensive and Aggressive/Defensive styles, the result would ideally be below the 50th percentile (Cooke & Rousseau, 1988).

Life Styles Inventory (LSI) Results

Tables 63 to 75 present the leadership culture results from the LSI assessment conducted by each site. All participants from US-4, US-14, and UA-18 were signed up for the online assessment in October 2018 and all completed it by December. Participants from TZ-13 were enrolled in December 2018 and six out of the seven participants completed it by March 2019. The following results were analyzed and calculated by Human Synergistics International. The profile figures are presented in Appendix O and P.

One of the main results from this assessment is that there appears to be no interrelationship between the LSI results from the four sites. Table 63 shows the primary and secondary style of each of the sites. It is important to note that US-4 and TZ-13 have the same style, even though the styles are flipped in terms of primary and secondary. However, there is not a clear interrelationship between any of these styles.

Table 63

LSI Primary and Secondary Styles Per Site

Site	Primary Style	Secondary Style
US-4	Conventional	Approval
US-14	Competitive	Power
UA-18	Humanistic-Encouraging	Perfectionistic
TZ-13	Avoidance	Conventional

One of the main results from this assessment is that the leadership style at UA-18 is scored as the most constructive. As shown in Tables 64 to 67, all four constructive styles score 75% and higher at UA-18, indicating that the leadership style focuses on the development of self and others, while also promoting a strong focus on accomplishing tasks. Participants at US-14 and TZ-13 indicated the least strong constructive cultures, with all four styles scoring below the 50th percentile. This indicates that there is a potential need for change in leadership culture to increase the constructive and decrease the Defensive behaviors. US-4 has three constructive styles above the 50th percentile, with the Self-Actualizing constructive style falling slightly below.

Table 64 shows that UA-18 scores the highest in the Achievement style, at 87%, and TZ-13 scores the lowest. A score higher than the 50th percentile in Achievement indicates a focus on accomplishment, challenges, and setting and completing realistic and attainable goals (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016; Skenes and Honig, 2004). Participants

from both US-4 and UA-18 indicate that their respective laboratories have such a leadership culture.

Table 64

LSI Results: Achievement

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Constructive: Achievement	64%	24%	87%	11%	<p>US-4: “The attitude here is ‘I can do’ attitude and I think that is something very unique to teaching hospitals because the question we ask ourselves every day is what more can we do or what are we not doing enough of?”</p> <p>US-14: “I would, the biggest thing that resonates in what I try to embody mostly in myself is to, so like I started off here on the bench, like you know I had a little cubicle on the cytotech room and I worked my way up and so I understand what it’s like to be inside the cubicle, I understand what it’s like to be busy in the lab.”</p> <p>UA-18: “Dr. X she move quickly. She wants to improve, improve the work, and also in Dubai, especially with doctors head of department, really, she works very, very fast and in case she wanted to improve the work and she’s really taken with the work.”</p> <p>TZ-13: “As a pathologist, but also being a leader, I’ve been with the department for some time, I think maybe my achievement, my greatest achievement which I will count is the ability to be able to attract students to come and join pathology to be their profession after finishing their general medicine.”</p>

The Self-Actualizing style of leadership culture focuses on self-development, developing and fostering interest, and a desire to experience things (Cooke & Szumal, 1993, 2000; Human Synergistics International, 2009; Kwantes & Boglarsky, 2004; Rovithis et al., 2016). In this style, only UA-18 scores above the 50th percentile, even though US-4 is very close at 49%. This indicates that these sites have a leadership culture that embodies this style.

Table 65

LSI Results: Self-Actualizing

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Constructive: Self-Actualizing	49%	12%	86%	31%	<p>US-4: “I think that professional development is one of those things that make me want to stay at a job or make me want to look for another job because when people ask me like why did you not stay somewhere, why did you leave this place, the answer is often like you know I didn’t see where my career was taking me or there wasn’t anything there for me to grow professionally.”</p> <p>US-14: “I would, the biggest thing that resonates in what I try to embody mostly in myself is to, so like I started off here on the bench, like you know I had a little cubicle on the cytotech room and I worked my way up.”</p> <p>UA-18: “I think the growth part is important, we should be able to grow in our positions to develop more. Isn’t it? Development, and like education-wise we should be given some capable, we should be given some forum, do some research.”</p> <p>TZ-13: “People keep on tracking to see which [competencies] you have completed and you are all ready to</p>

work on your own. And that's when you are given a certificate from there, now the other competencies can be like lab managers."

In the constructive style of Humanistic-Encouraging, again US-4 and UA-18 score above the 50th percentile. This leadership style leads through inspiration, motivation, thoughtfulness and a willingness to help others (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Table 66

LSI Results: Humanistic-Encouraging

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Constructive: Humanistic- Encouraging	60%	35%	90%	24%	<p>US-4: "I always try to motivate people to find a positive you know in what they do every day and take their time and just lean on, as a team, to make sure that we're doing a good job."</p> <p>US-14: "Two months after I became Operations Coordinator my manger left, but I actually felt although I was sad because I really enjoyed her and her leadership, I actually felt fine because she had always included me. She never left me out so that's the same thing I try to like do."</p> <p>UA-18: "For me as a leader, the most important leadership skill would be you know, motivation and mentoring of the staff. So, I think that if you find there is some staff they have potential but they are holding back or maybe he's scared, or he's a new staff and you need to have a positive talk with him, like okay these are your strengths and I see a lot of potential in you."</p> <p>TZ-13: "I guess [what is important]</p>

would be like to, part to motivate others and work the, bring out the best in those people. I guess that would be one thing that people would like.”

The Affiliative style is focused on diplomacy and creating and sustaining interpersonal relationships (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). US-4 and UA-18 score above the 50th percentile, indicating a leadership culture that is Affiliative. Additionally, TZ-13 scores 48% meaning that they are almost at the recommended percentile and thus have a significant affiliative leadership culture.

Table 67

LSI Results: Affiliative

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Constructive: Affiliative	63%	21%	75%	48%	<p>US-4: “I think that the staff would value positive feedback, interactions amongst each other are pretty valued, it’s like we’re one big family.”</p> <p>US-14: “My door is always open that’s like what my team knows explicitly they can always come and talk to me about anything, any magnitude of small or big, or anything like that.”</p> <p>UA-18: “The leadership for me, it means to be friendly with your staff. The leadership, it doesn’t have that meaning for me that I am a leader as Head of Unit. It means for me that to be a leader that I should be an example for my staff. That’s first thing.”</p> <p>TZ-13: “Okay, so a good leadership, a great leader maybe I’ve seen so far is the one who have been in, how can I say, the leader who gives the, who</p>

communicates, very good communication skills, they communicate prior to events, they communicate prior to everything else, making sure that everyone has been phoned.”

When looking at the Passive/Defensive styles, US-4 has the lowest, with all four of these styles falling below the 50th percentile. TZ-13 has the highest, with all four styles being marked as very high, indicated a strong Passive/Defensive leadership culture. Both US-4 and UA-18 have the Approval style below the 50th percentile and all three other styles above the 50th percentile. This indicates that there is a strong Passive/Defensive leadership culture that promotes a concern with being well-liked, reduced initiative, and a need to rely on guidance from others.

Table 68 shows that three sites indicate a strong approval-based culture, namely US-4, UA-18, and TZ-13. Additionally, US-14 scores 45% meaning that this style is also higher than recommended. Leadership cultures that focus on approval indicate a preoccupation with the opinions of others, a concern with being well-liked, and a need for acceptance (Cooke & Rousseau, 1988; Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Table 68

LSI Results: Approval

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Passive/Defensive: Approval	78%	45%	80%	92%	US-4: “My advice is to like get the kind of feel for the work environment and how we all interact with each other.” US-14: “There’s some of us, myself

included, who are generally more on the nice sides of hard to give negative feedback, so I think that skill, not just me but probably a handful of us could really use some help on.”

UA-18: “Honest, I’m always smiling, I’m a ray of sunshine whether I’m depressed, I have a smile so that people are happy, they are not depressed.”

TZ-13: “Few people come and speak boldly and without hesitation about the feelings they have, [...] taking care of not damaging the feelings of the person.”

The Conventional style indicates the need for rules as a source of security, reduced initiative-taking, and an expectation that employees are obedient to authority figures (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). As shown in Table 69, US-4, UA-18, and TZ-13 all have a strong conventional leadership style.

Table 69

LSI Results: Conventional

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Passive/Defensive: Conventional	86%	23%	82%	94%	US-4: “Whatever you’re going to do make sure you think about how it will look tomorrow morning on the front page of the Wall Street Journal. Are you going to be a hero or are you going to be someone who you know look like you’re going to go to jail?” US-14: “I have a couple of my older generational employees who are like always on their phones and I kind of, I say like I’m sorry that but there’s

actually an HR policy.”

UA-18: “I thought in the beginning that leadership was all about following the rules and I was too strict in the first two or three years of my leadership in the lab.”

TZ-13: “You will be reading the policy of the department, policy of the university or hospital that you have to follow, and make sure that you are subordinate and also following it.”

The same three sites also score high in the Dependent leadership style. This style fosters compliance, an eagerness to please, passivity, and a need to rely on guidance from others (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Table 70

LSI Results: Dependent

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Passive/Defensive: Dependent	69%	20%	82%	92%	<p>US-4: “I’m not the final say as far as the decision, so it may be the Chair’s decision or you know the CEO or other people’s decisions to make.”</p> <p>US-14: “Sometimes they feel stressed and strapped and stuff like that but that’s like my task to escalate to the leadership if I need more staffing or flex in staffing, so I’m like their advocate.”</p> <p>UA-18: “I never make a decision without the feedback of all six of them, because they know their business better than me from a technical point of view.”</p> <p>TZ-13: “So probably that will make somebody to not understand the real</p>

situation that is going on because they like to make sure that the peace prevails and the relationship continues.”

The last Passive/Defensive leadership style is Avoidance. This style promotes avoidance of risk and decision-making, self-doubt, and withdrawal (Cooke & Rousseau, 1988; Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005). Three sites score between 32-35%, with one site scoring very high in this style, namely TZ-13 at 95%.

Table 71

LSI Results: Avoidance

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Passive/Defensive: Avoidance	35%	35%	32%	95%	<p>US-4: “I would tell them to not make any like sudden movements like they need to kind of observe and take in the environment first.”</p> <p>US-14: “And then there’s some of us, myself included, who are generally more on the nice sides of hard to give negative feedback, so I think that skill, not just me but probably a handful of us could really use some help on.”</p> <p>UA-18: “And some of them you know, they are you know relaxed. I’m like okay, you kind [...] supposed to make decisions, and this is where I come in and we need to make the decisions here and we need to let go over there. So, if I have a wish, I wish that this can be done on their own, basically.”</p> <p>TZ-13: “If it’s a certain case sometimes we have consult the pathologists and then again witness the specimens, we call the pathologists,</p>

and [they] sign out the results.”

Finally, the Aggressive/Defensive styles at TZ-13 are also the highest, with all four styles scoring high above the 50th percentile. This indicates that the leadership culture at TZ-13 has strong Aggressive/Defensive tendencies and promotes a competitive environment, comparing oneself to others, and having an excessive concern with avoiding mistakes. US-14 has three styles above the 50th percentile, which indicates a significant Aggressive/Defensive culture, especially focused on competition, being overly critical, and a lack of confidence in others. UA-18 also has three styles above the 50th percentile, although the Oppositional style is only slightly. The other two styles are Perfectionistic and Competitive, which indicates a leadership style that is excessively concerned with avoiding mistakes and comparing oneself to others.

The Oppositional leadership style in the Aggressive/Defensive cluster indicates a need for attention, craving recognition, a sense of cynicism and a habit to look for flaws (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). There are three sites that score above the 50th percentile, namely US-14, UA-18, and TZ-13.

Table 72

LSI Results: Oppositional

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Aggressive/ Defensive: Oppositional	25%	62%	55%	94%	US-4: “I think pathology is one of the I mean typically as it’s always been, kind of a field that people don’t know too much about and may not get the respect it maybe deserves, I guess.” US-14: “I’ve experienced throughout

like my leadership, like being a leader, it's just a misunderstanding, a miscommunication, they're saying the same things, they might even have the same outlook, they're just simply not like you know communicating the same way and they go even more opposed.”

UA-18: “And they get upset because why is the other person not doing it this way? Yes, it is your way though, you know you have to see his way too.”

TZ-13: “The bad thing is that those doctors, the clinicians, are the people working in the lab, they know nothing about phlebotomy. So, they, for example, in the department, if you want a good history, consider making your own diagnosis, you will be cut out of it because most of the surgeons and physicians they know nothing.”

The Competitive leadership style fosters comparison, wanting to win and to be seen as the best, an extreme fear of failure, and a need to impress others (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). All four sites score above the 50th percentile, as indicated in Table 73. However, it is important to notice the difference in scoring, as there is variation across the sites, with US-4 scoring the lowest with 52% and TZ-13 scoring the highest at 90%.

Table 73

LSI Results: Competitive

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Aggressive/ Defensive:	52%	72%	86%	90%	US-4: “So, to have that state-of-the-art innovative spirit, and with a hint of

Competitive	<p>competitiveness, I think it's truly paving the path for a lot of our competitors.”</p> <p>US-14: “[There is] a sort of macho attitude of we can handle it no matter what.”</p> <p>UA-18: “As a pathologist, there is very limited space to get a reputation or to increase your finance in comparison with the other specialties in physicians that's what I mean. If you would be a surgeon or psychologist or a neurosurgery, or rheumatologist or even general resident that is a doctor, you will get a reputation among the people but pathologists, no one knows it's them.”</p> <p>TZ-13: “In some aspects, we are considered as leaders [...] because we work and we lead, we interact, also we compete with others.”</p>
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Both US-4 and TZ-13 score above the 50th percentile in the Power leadership style. This style promotes a sense of aggressiveness, a lack of confidence in others, and a need to control others (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Table 74

LSI Results: Power

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Aggressive/ Defensive: Power	37%	65%	41%	83%	<p>US-4: “People tend to take advantage of the new people who are junior.”</p> <p>US-14: “I have to organize the meetings and make sure everybody is where they are supposed to be.”</p> <p>UA-18: “I think, the first thing I said in this investigation, I said well, you</p>

know we identified our staff is responsible for this error and this is one of the few times I can share with you that this was not a system error. It is an individual error.”
 TZ-13: “You know, sometimes it’s difficult to get close to your leader or your supervisor.”

Finally, the Perfectionistic style adheres self-worth to completion of tasks, is concerned with detail, and excessively concerned with avoiding mistakes (Cooke & Rousseau, 1988; Human Synergistics International, 2004, 2009, 2013, 2015; Klisz, 2005). Both the US sites score just below the 50th percentile, while UA-18 scores the highest at 88% and TZ-13 at 72% as shown in Table 75.

Table 75

LSI Results: Perfectionistic

Code	Percentile Score				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 6)	
Aggressive/ Defensive: Perfectionistic	47%	46%	88%	72%	<p>US-4: “My advice I would give them [that has been] passed down to me, many generations is no test is better than an inaccurate test, that’s the most important element that has been passed down to me because you can easily make a very bad decision by getting a result that’s inaccurate and possibly worse than not having a result.”</p> <p>US-14: “I have a tendency to try to take on, try to do everything myself because you know I feel like I know exactly how I want things, and even though that might not be the most efficient use of time I’m confident that the outcome will be exactly how I like it.”</p>

UA-18: “I can see the different leaders that I have. Some of them lead by micromanaging. Like, you know they will do, they will basically do everything.”

TZ-13: “I have to do more than what [my staff] are supposed to do.”

One thing to note is that all four sites indicate a high Approval style, even though TZ-13 scores just below the 50th percentile. Furthermore, all four sites have a higher score than the 50th percentile in the Competitive style, even though US-4 only scores just above the 50th percentile. This can indicate that all leadership cultures in the pathology and laboratory medicine are concerned with the opinions of others and that they focus on comparison and competition (Cooke & Rousseau, 1988; Human Synergetics International, 2004, 2009, 2013, 2015; Klisz, 2005).

Proposition Results Related to Leadership Culture

The third set of propositions references the influence of leadership culture on the applicability of leadership training. However, none of these propositions were confirmed, as shown in Tables 76 to 79. However, this does not indicate that leadership culture does not influence the applicability of leadership training. Rather, it indicates that the way it was anticipated that leadership culture would influence the applicability is unconfirmed.

The third proposition of this study is that leadership culture influences the cultural applicability of the leadership courses. This proposition is inconclusive because no pertinent data was found that provided substantial proof that leadership culture influenced the applicability of the courses. The following subpropositions will describe in more detail the reasons for the inconclusive data.

Table 76

Proposition 3

#	Proposition	Status	Supporting Data
P3	The leadership style of the Laboratory Director influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.	Inconclusive	There is no data that indicates that leadership culture influences the applicability of leadership courses.

The first subproposition assumes that laboratories with a leadership culture focused on people, that the courses on generational differences, listening skills, personality differences, and teams are most applicable. Data indicates that the sites with a strong people-oriented leadership culture are US-4 and UA-18. However, participants from those sites marked the course about personality differences, the MBTI, as not applicable. Additionally, some participants from UA-18 stated that the course on generational differences was not applicable. Furthermore, participants from all sites marked both the listening and team courses as applicable. The subproposition is, therefore, inconclusive.

Table 77

Proposition 3a

#	Subproposition	Status	Supporting Data
P3a	In the laboratories with a leadership style that indicates a people instead of a task orientation, the following courses are most culturally applicable: <ol style="list-style-type: none"> 1. DeCoding American Generations 2. Listening with a Purpose 3. MBTI 4. Team Dynamics 	Inconclusive	The sites that have a stronger people than task orientation in terms of the LSI results are US-4 and UA-18. The MBTI was marked as not applicable by participants from US-4, US-14, and UA-18;

DeCoding American Generations was inapplicable at US-14, TZ-13, and UA-18; Listening with a Purpose and Team Dynamics were marked as applicable by all participants from all sites, with the exception of one person from US-4. This proposition is, therefore, inconclusive.

The second subproposition stated that the course on time management would be most applicable laboratories with a stronger task-oriented leadership culture. The site that has the strongest task-oriented leadership culture is US-14. However, participants from all four sites referenced the applicability of the time management course. The subproposition is thus inconclusive.

Table 78

Proposition 3b

#	Subproposition	Status	Supporting Data
P3b	In the laboratories with a leadership style that indicates a task instead of a people orientation, the following course is most culturally applicable: 1. Time Mastery	Inconclusive	The site that has a stronger task than people orientation in terms of the LSI results is US-14. The data, however, does not indicate that Time Mastery is more applicable at US-14 than the other three sites as all participants from all sites, with the exception of 1 participant from US-4, indicated that the course was applicable.

The final subproposition is regarding the leadership cultures that do not have a strong people or task orientation. In these sites, the subproposition assumes that the courses on work style differences, organizational awareness, change and conflict management, and groupthink are most applicable. The site that has neither a strong people or task orientation is TZ-13. However, participants from TZ-13 and US-18, which has a strong people-oriented leadership culture, marked Everything DiSC Workplace as equally applicable. Furthermore, participants from all four sites stated that the courses on organizational awareness, conflict and change management were applicable. Finally, everyone from TZ-13, US-4, and US-14 marked the course on groupthink as applicable. This subproposition is, therefore, inconclusive.

Table 79

Proposition 3c

#	Subproposition	Status	Supporting Data
P3c	In the laboratories with a leadership style that indicates neither a task or a people orientation, the following courses are most culturally applicable: <ol style="list-style-type: none"> 1. Everything DiSC Workplace 2. Organizational Savvy 3. Reacting to Change 4. Conflict Resolution and Prevention 5. Groupthink and the Abilene Paradox 	Inconclusive	The site that did not indicate a strong people or task orientation in terms of the LSI results is TZ-13. Everything DiSC Workplace was marked as equally applicable in TZ-13 and US-18 by the participants, Organizational Savvy and Conflict Prevention and Resolution were marked as applicable by all participants from all sites, Reacting to Change was marked as applicable by all participants from all sites with the exception of 1 participant at US-4,

and Groupthink and the Abilene Paradox was referenced as applicable by everyone from TZ-13, US-4, and US-14. This proposition is thus inconclusive.

Macro-Coding Results

Looking at the codes created in this study, there are a number of codes that correlate with the leadership culture styles described previously. Table 80 shows the codes and the respective quotes from each of the four sites. The codes Follow Rules and Policies both relate to a Conventional leadership culture. Indeed, when looking at the codes and how often they were referenced by the site's participants and the results from the LSI assessments, there appears to be an interrelationship between the two data sets. The majority of participants from UA-18 referenced the need for policies and for following rules.

Table 80

Coding Data on References to Follow Rules

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Follow Rules	3/7	1/6	5/6	4/7	<p>US-4: "So, we follow something called a just culture protocol where we have an algorithm that we follow, we make sure that's what applicable to one employee is applicable across the board."</p> <p>US-14: "There's actually an HR policy I can't mandate for cell phones not to be on them like they're supposed to use in the lab."</p> <p>UA-18: "We have a checklist in the laboratory of all things we work, like</p>

the staff have to note that they are following what's on the checklist, or looking to deliver for the lab so this is new they have done the proper maintenance.”

TZ-13: “You will [have to] be reading the policy of the department, policy of the university or hospital that you have to follow, and make sure that you are subordinate and also following it.”

When looking at the LSI results, UA-18 also scores high in the Conventional style, which indicates a leadership style of conforming and seeing rules a source of security. US-14 and TZ-13 also score high in that style and about half of the participants mentioned the need to follow rules and policies. Finally, US-4 scores the lowest in the Conventional style and its participants referenced following rules and policies the least amount of time. Specifically, only one person mentioned each, which similarly indicated in the LSI in which US-14 scored 23%, well below the 50th percentile.

Table 81

Coding Data on References to Policies

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Policies	4/7	1/6	5/6	3/7	US-4: “I believe [that one of the values of our laboratory is] integrity to make sure that we’re doing everything the way that we should be following policy and procedures.” US-14: “I’m mainly on administrative duties, and with administrative duties it’s a lot of computer work, reviewing policies, reviewing protocols.” UA-18: “Then [a new employee] goes and logs onto the policy and show them all the policies, general policies

like safety, like dye management, we have turnaround time policies, we have injection policies.”
 TZ-13: “The only thing is to know the protocol, there is a lot of protocol about the laboratory medicine in our country.”

Additionally, the macrocode of *Liaison*, in which participants mentioned that their role was to serve as a liaison to other departments or colleagues could have an interrelationship with the LSI style of Affiliative, which revolves around a commitment to sustaining relationships and interpersonal skills. US-4 scored high in the Affiliative style and also in the references to acting as a liaison, while UA-18 scored high in Affiliative as well as 3/6 participants referencing liaisons. Both US-4 and TZ-13 scored below the 50th percentile in Affiliative while also having 2/6 and 1/7 of their participants referencing liaisons respectively.

Table 82

Coding Data on References to Liaison

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Liaison	7/7	2/6	3/6	1/7	US-4: “It’s kind of like the liaisons between the laboratory department and the rest of the hospital for any interactive type project.” US-14: “[We are] consultants to the rest of the medical providers.” UA-18: “We try to give the clinicians the guide, guide them on what they want because at the end clinicians don’t know what we are growing or what we are growing and what is it because they don’t see the place or sometimes it is very difficult for them

because they don't write the diagnosis, so we always communicate."
 TZ-13: "But the pathologist is mainly saving that clinician to give the diagnosis."

Furthermore, mentoring and training are linked to the Humanistic-Encouraging style as both refer to developing others. UA-18 scored the highest in that style, while also all participants referenced mentoring and training. TZ-13 scored the lowest in Humanistic-Encouraging and the fewest participants referenced mentoring as an aspect of their leadership culture.

Table 83

Coding Data on References to Mentor

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Mentor	5/7	5/6	6/6	3/7	US-4: "I'm trying to be kind of a teacher and mentor and a colleague to him." US-14: "I also have a lot of mentoring meetings with the junior faculty to get them ready for promotions so I do a couple of those a week." UA-18: "And like he lets you reach the solution kind of on your own. He listens, and he listens and he listens and then alright so what do you think we should do? He kind of works with you until you by yourself have reached that you know the solution for the problem you came to him with. I like that." TZ-13: "I have a mentor who would be a, I met him when I joined his laboratory, and he was very great. I learned a lot and he's been my mentor throughout."

In the U.S. sites, training and mentoring was referenced by the vast majority of participants, while US-4 scored higher in the Humanistic-Encouraging style than US-14, indicating that there is a stronger professional development culture at US-4.

Table 84

Coding Data on References to Training

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Training	7/7	5/6	6/6	6/7	<p>US-4: “We round through the lab and do kind of a teaching session of each bench and review the different processes that we do for identification of different organisms per bench meaning one bench would be blood, another bench would be respiratory, you know and so forth.”</p> <p>US-14: “Education. Everyone educates. Even our prep-techs are star prep-techs, everyone’s involved in the education of our trainees. Education is a huge part of the laboratory.”</p> <p>UA-18: “And [if we have] bigger for any kind of updates, we have to educate our staff to have read and understood the document that they have written or has been endorsed to them by the lecture, by the presentation, by guidance.”</p> <p>TZ-13: “Leadership relate to my job as a teacher, I’m really a leader because I’m coordinating with the graduates so, most of the time you contact students from different programs so you should talk to different students, how to lead them.”</p>

Finally, there is a clear desire to be recognized at US-4 based on the coded data from the participants. At US-4, 5/7 participants referenced recognition, while only 1/6 of participants from UA-18 and nobody from both US-4 and TZ-13 referenced it. When looking at the LSI data, US-4 scores the lowest in the Oppositional style, as shown in Table 72. This style promotes leadership that craves recognition. This could indicate that because there is not a strong leadership culture of craving recognition and that participants at US-4 mentioned it explicitly because they want to increase it.

Table 85

Coding Data on References to Recognition

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Recognition	5/7	0/6	1/6	0/7	US-4: “We have a couple of different ways, we do like rewards, we have a rewards program called XXX like that’s like kind of a more formal way.” US-14: N/A UA-18: “I feel that when we as leaders try to recognize the most unit staff, this is the most important leadership skill.” TZ-13: N/A

Leadership Courses Completion Results

The leadership cultures of these four sites might also shed some light on the course completion rate of the leadership courses. Table 86 shows the completion numbers of each site overall, before the initial deadline on March 31, and after the 1-week extension until April 7, 2019.

Table 86

Total Courses Completed Before the Deadlines Per Site

Deadline	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)
March 31, 2019	64/70 total courses	33/60 total courses	58/60 total courses	23/70 total courses
April 7, 2019	6/6 courses left	7/27 courses left	1/2 courses left	5/47
Courses Left	0 courses	20 courses	1 course	42 courses

As is clear from the data, US-4 and UA-18 performed the highest in terms of leadership program completion. However, when looking at the leadership culture data, there does not appear to be a clear interrelationship. For example, US-4 does not score the highest in the Achievement, Self-Actualizing, Constructive, or Competitive styles, which could have predicted the high completion rate. UA-18 scored the highest in the Self-Actualizing style and the participants showed a strong inclination towards program completion. In fact, the only participant who did not complete the program at UA-18 was under the impression that only nine courses out of the 10 were required, therefore assuming that she did indeed complete it. However, TZ-13 performed the lowest in completion rates and also scored the lowest in the Achievement style at 11%. This indicates that there is not a strong focus on accomplishments and ambition, which could have influenced the program completion rate.

Table 87

Leadership Culture Data on Leadership Courses Completion Rates of Participants

	US-4 (n = 7)	US-14 (n = 4)	UA-18 (n = 6)	TZ-13 (n = 7)
Course completion rate	7/7	4/6	5/6	2/7

Completed the program before March 31	5/7	2/6	2/6	1/7
Completed the program during extension	2/7	2/6	0/6	1/7

More specifically, at the end of the six months, five out of seven participants from US-4 had completed the 10 courses. The other two both had completed six courses and both were given a 1-week extension. As is clear from Figure 7, some participants took multiple courses per day, for example, participant US-4_7-7 who completed two courses on March 25, four courses on March 27, two courses on March 30. However, one participant from US-4 completed the courses over a span of four months: from October 2018 through January 2019. By the extension, seven out of seven participants completed the leadership program.

At US-14, two participants completed the courses by the March deadline, two had completed six out of seven courses, and two had not completed any courses. They were all given a 1-week extension. Most participants took multiple courses per day. For example, one participant from US-14 completed four courses on February 24, three courses on March 9, and three courses on March 25. Two of these three days were weekend days. By the extended deadline, four out of six participants completed the leadership program.

Five out of six participants from UA-18 completed the program. However, one participant thought she only needed to complete nine courses instead of ten. She received a 1-week extension to complete the final course but did not end up completing the tenth course. Most participants at UA-18 only took one course per day. For example, one

participant from UA-18 took every course on a different day, with the exception of March 14 when two courses were completed. By the extension, five out of six participants completed the leadership program.

At TZ-13 none had completed the courses by the March 31 deadline. Of the seven participants, three participants had completed four courses and one had completed nine courses. They were all given a 1-week extension. At TZ-13, one participant took eight courses in two days, namely the final two days before the deadline. Others appeared to spread the courses out slightly, though mainly all towards the end of March. By the extension, two out of seven participants completed the leadership program.

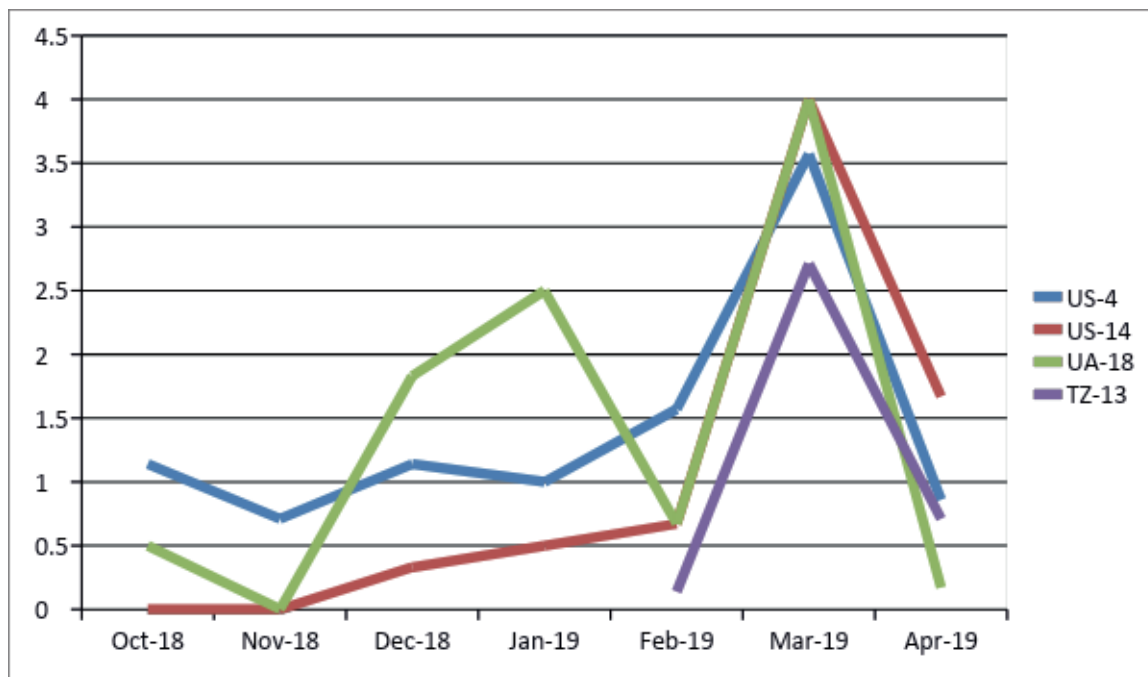


Figure 7. Average course completion per person per month per site: US-4 (n = 7); US-14 (n = 6); UA-18 (n = 6); TZ-13 (n = 7).

This could indicate an interrelationship between the leadership culture of each site and the rate at which participants completed the leadership courses. Specifically, there could be an interrelationship between the Humanistic-Encouraging leadership style and the course completion behaviors of the participants. Indeed, UA-18 scores the highest in

the Humanistic-Encouraging leadership style, and the participants from that site were the ones who completed the courses the fastest. Furthermore, US-4 scores the second-highest and 7/7 of their participants completed the courses, although two completed it with a 1-week extension. Furthermore, TZ-13 scored the lowest and only 2/7 participants completed the leadership program.

Additionally, there were a number of courses that participants stated they applied to their current jobs. The following figures show the differences in the application of each of the courses per country. As Figure 8 shows, half of the participants stated that they had already applied the content of the Conflict Prevention & Resolution, Reacting to Change, and Time Mastery courses to their job. The other half did not indicate that they had applied these courses. Additionally, 3 out of the 13 participants did not answer because they either did not complete the survey or they were never sent the survey because they had not completed the courses.

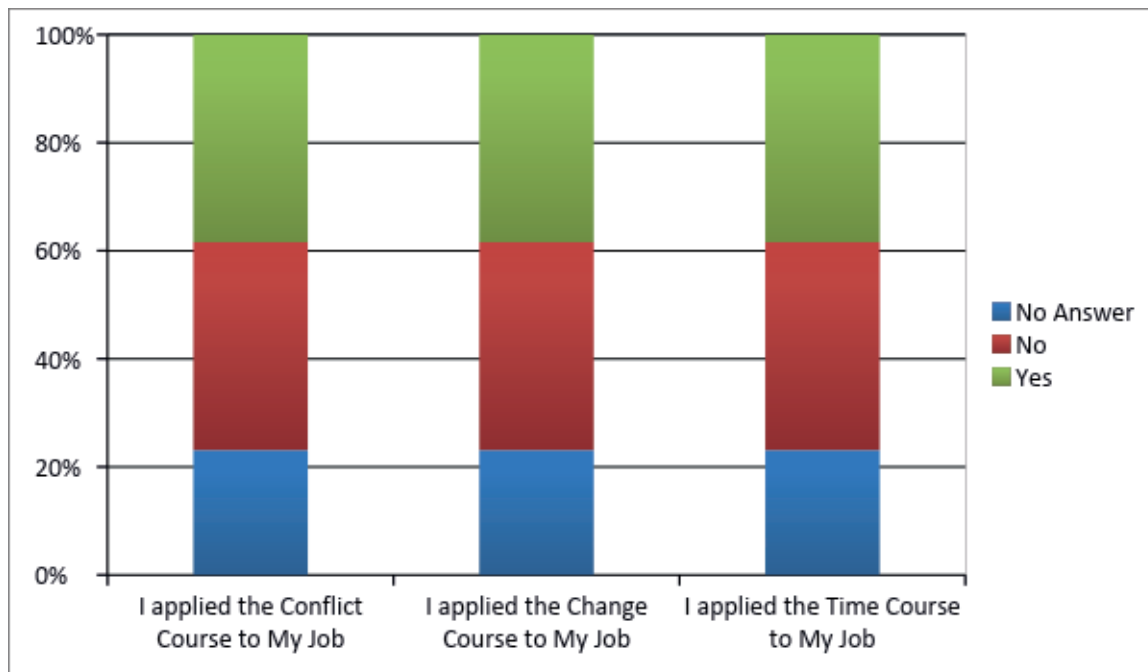


Figure 8. USA data on course application (n = 13).

In the UAE, everyone who completed the survey stated that they had already applied the content of the Reacting to Change and Time Mastery courses. Additionally, four out of the five participants who completed the survey stated that they had applied the Conflict Prevention & Resolution course to their job. There was one person who did not provide an answer, as they were not sent the survey because they had not completed the program.

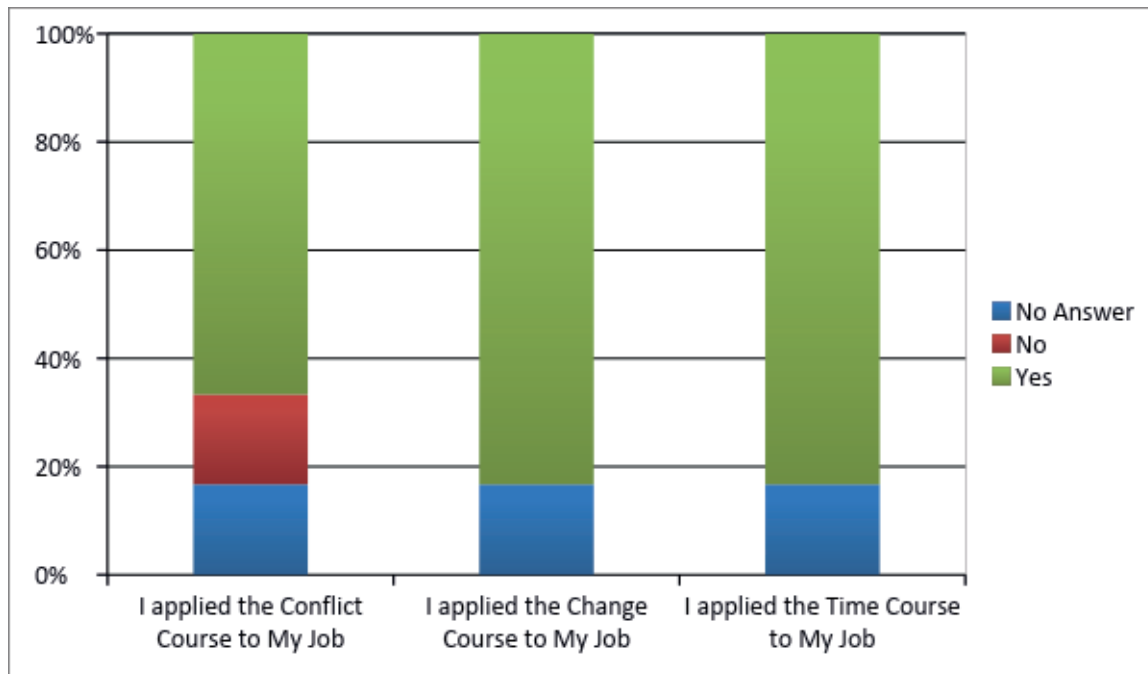


Figure 9. UAE data on course application (n = 6).

Finally, only two participants were emailed the survey link because they were the only ones who completed the leadership program. However, both participants stated that they had already applied the content of the three courses, as shown in Figure 10. This could potentially indicate that the content applied similarly as it did in the U.A.E.

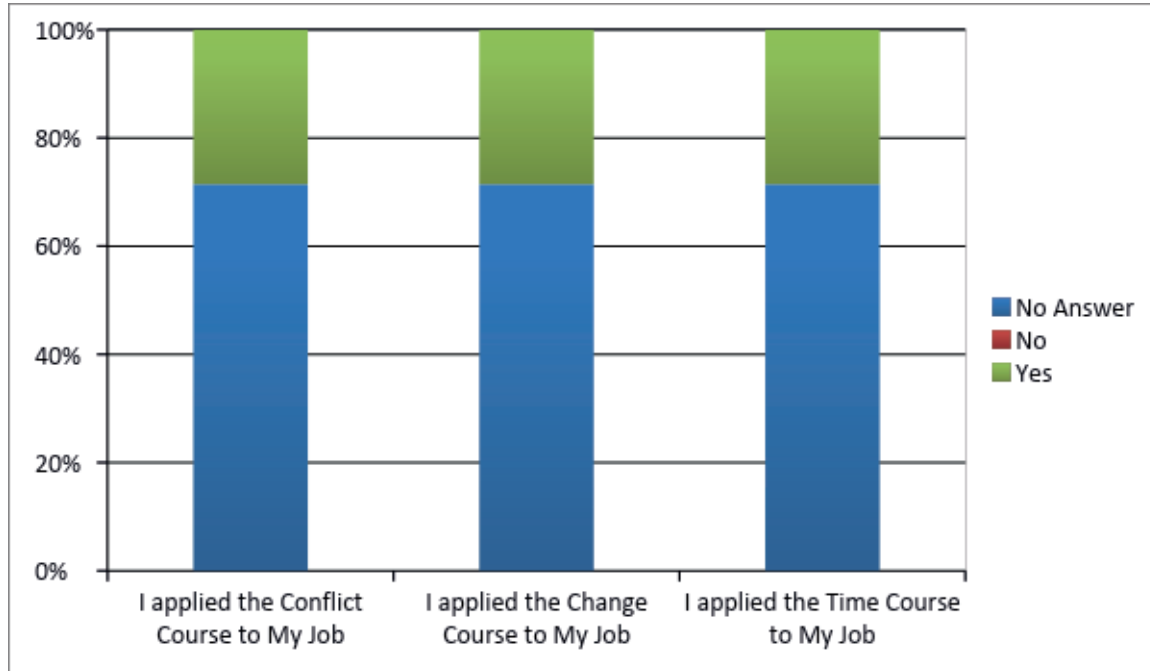


Figure 10. UAE data on course application (n = 7).

Comparison of Organizational and Leadership Culture

In this section, first, data is presented about the comparison between the organizational and leadership culture of US-4, US-14, UA-18, and TZ-13. This is followed by a discussion of the propositions related to the interrelationship of organizational and leadership culture of each of the laboratories, because this interrelationship has a direct influence on the inconclusiveness of the propositions.

No Interrelationship Between Organizational and Leadership Culture

One of the findings of this study is that there was no correlation between the leadership and organizational culture of the four sites included in this study. Both the OCI and the LSI assessments utilize the same circumplex (Cooke & Rousseau, 1988; Cooke & Szumal, 1993, 2000, Human Synergistics International, 2004, 2009, 2013, 2015; Rovithis et al., 2016). This allows for a comparison between the results of the OCI and LSI of each site.

As the following table shows, there is no clear interrelationship between the orientation of the organizational and leadership culture of each of the four sites. For example, US-4 has a people-oriented leadership culture but does not have a strong people or task orientation when it comes to the organizational culture. On the other hand, UA-18 also has a people-oriented leadership culture but has a task-oriented organizational culture.

Table 88

People Versus Task Orientation Per Site Per Assessment

Site	People Orientation	Task Orientation	Both People nor Task Orientation
US-4	LSI Results		OCI Results
US-14		LSI Results	OCI Results
UA-18	LSI Results	OCI Results	
TZ-13	OCI Results		LSI Results

More specifically, the only similarities found were between the Primary leadership and organizational style at US-4 and the Perfectionistic style being represented as the Primary and Secondary organizational and leadership style by UA-18 respectively, as shown in Table 89. All other primary and secondary styles of both the organizational and leadership culture of each site are not related to one another.

Table 89

OCI and LSI Primary and Secondary Styles Per Site

Site	OCI Primary Style	LSI Primary Style	OCI Secondary Style	LSI Secondary Style
US-4	Conventional	Conventional	Avoidance	Approval
US-14	Perfectionistic	Competitive	Humanistic-Encouraging	Power
UA-18	Perfectionistic	Humanistic-Encouraging	Power	Perfectionistic
TZ-13	Affiliative	Avoidance	Approval	Conventional

US-4 organizational and leadership culture comparison. All seven participants from US-4 completed both the OCI and LSI. Both primary styles of the organization and leadership culture is Conventional, but the secondary style of the leadership culture is Approval and the secondary style of the organizational culture is Avoidance. However, the differences between the two cultures become even more apparent when comparing their circumplexes. Figure 11 indicates that the leadership culture is more Passive/Defensive than the organizational culture. However, the leadership culture is also more Constructive and slightly more Aggressive/Defensive. It is clear that even though both cultures have the primary style of Conventional, the entire cultures US-4 are very different from one another.

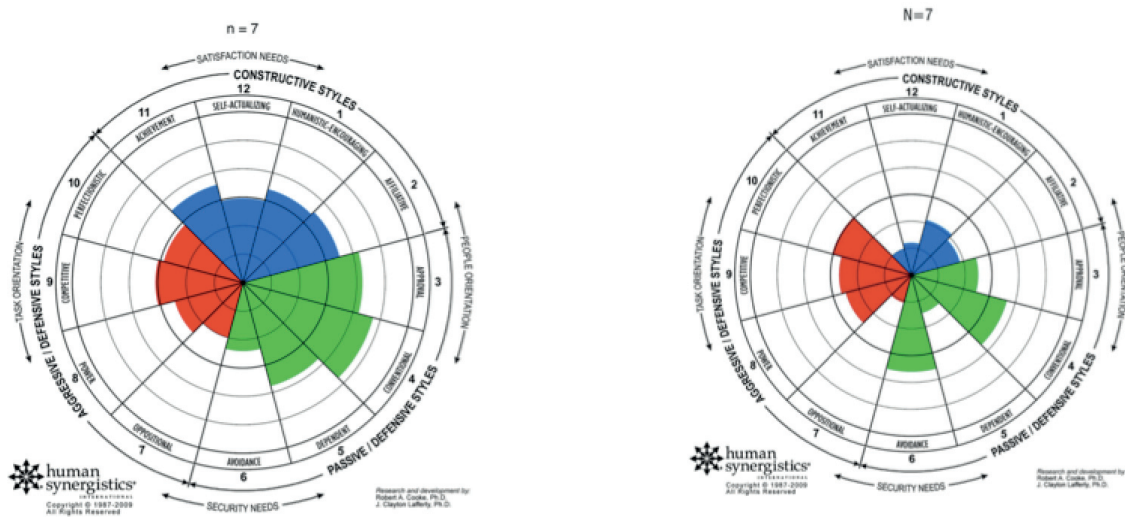


Figure 11. US-4 Life Styles Inventory (LSI; left) and Organizational Culture Inventory (OCI; right) results.

US-14 organizational and leadership culture comparison. At US-14, all six participants completed both the LSI and OCI. The primary leadership style is Competitive and the primary organizational style is Perfectionistic. The secondary leadership style is Power and the organizational style is Humanistic-Encouraging. Furthermore, the leadership culture is stronger in the Aggressive/Defensive styles and the organizational culture is stronger in Constructive, with a surge in the Power style of the Aggressive/Defensive cluster. Figure 12 shows both profiles from US-14 side-by-side.

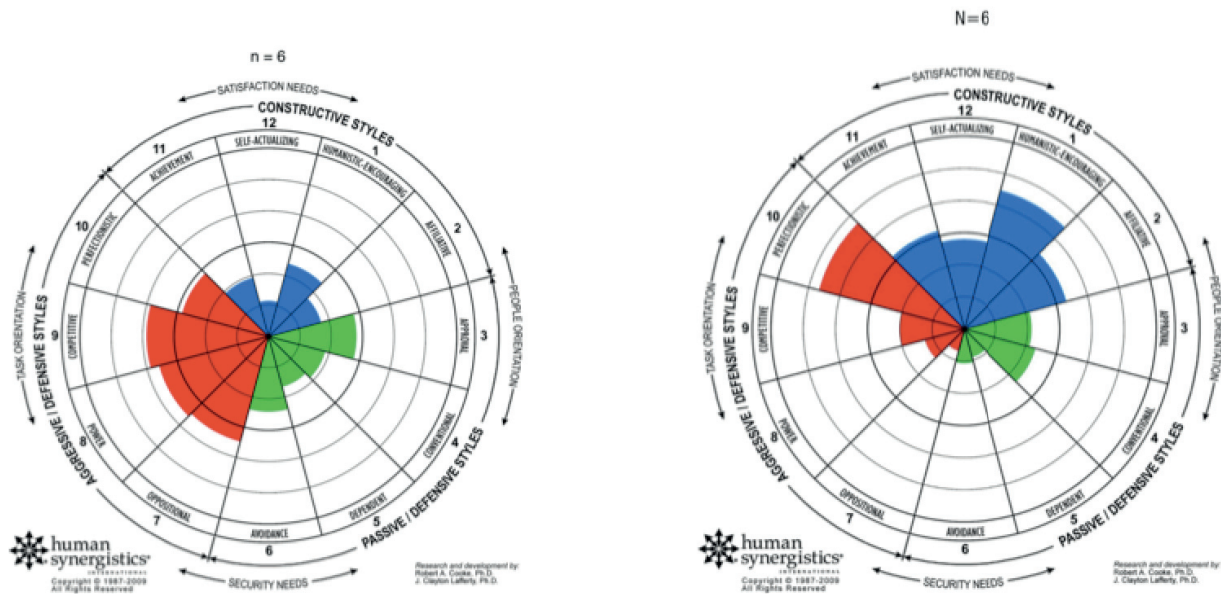


Figure 12. US-14 Life Styles Inventory (LSI; left) and Organizational Culture Inventory (OCI; right) results.

UA-18 organizational and leadership culture comparison. All six participants from UA-18 completed both the LSI and OCI assessments. The primary leadership style is Humanistic-Encouraging while the primary organizational style is Perfectionistic. The secondary leadership style from UA-18 is Perfectionistic, while the secondary organizational style is Power. Overall, the leadership culture is more Constructive, while the organizational culture is more Aggressive/Defensive. Both are significantly Passive/Defensive, though the organizational culture slightly more than the leadership culture. However, the organizational culture has significantly more Avoidance than the leadership culture.

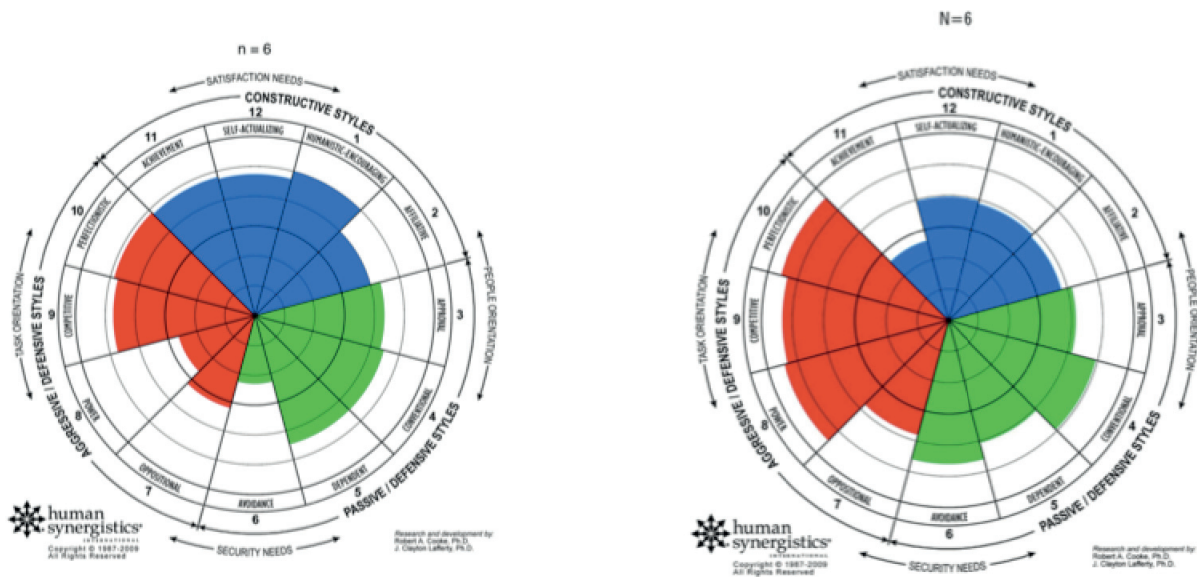


Figure 13. UA-18 Life Styles Inventory (LSI; left) and Organizational Culture Inventory (OCI; right) results.

TZ-13 organizational and leadership culture comparison. Six out of the seven participants from TZ-13 completed the LSI and all seven completed the OCI. The primary leadership style is Avoidance and the primary organizational style is Affiliative. The secondary leadership style Conventional the primary organizational style is Approval. Overall, the leadership culture is significantly more Aggressive/Defensive and Passive/Defensive, while the organizational culture is more Conventional, as shown in Figure 14.

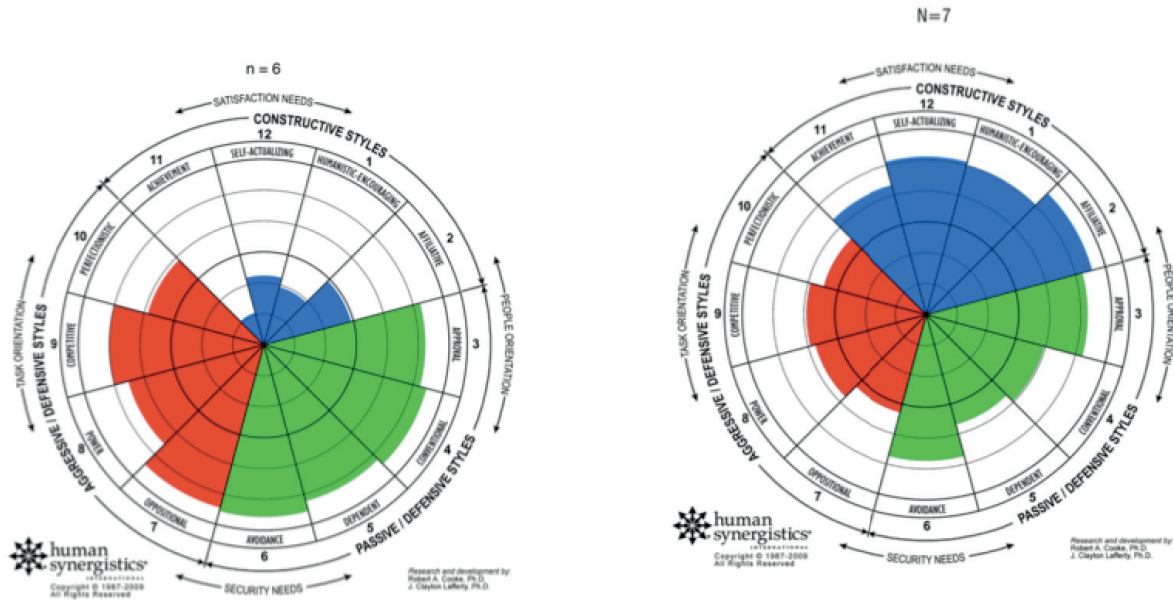


Figure 14. TZ-13 Life Styles Inventory (LSI; left) and Organizational Culture Inventory (OCI; right) results.

Propositions Results Related to Leadership and Organizational Culture

The fourth and final proposition of this study is that national, organizational, and leadership culture influences the cultural applicability of the leadership courses. This proposition is inconclusive because all subpropositions assume that there is an interrelationship between organizational and leadership culture, which was not found.

The following subpropositions will describe in more detail the reasons for the inconclusive data.

Table 90

Proposition 4

#	Proposition	Status	Supporting Data
P4	The national culture of the country, the organizational culture of the laboratory, and the leadership style of the Laboratory Director influence the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture were aligned per the OCI and LSI results.

Subproposition 4a assumes that countries with a strong Masculine national culture and an organizational and leadership culture that focuses on tasks, that the time management course is most applicable. Based on the data collected in this study, there is no site in which both the organizational and leadership culture have a task orientation. The subproposition is, therefore, inconclusive.

Table 91

Proposition 4a

#	Subproposition	Status	Supporting Data
P4a	In countries with Masculine national culture and an organizational culture and leadership director style with task orientation, the following course will be most applicable: 1. Time Mastery	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture both have a task orientation per the OCI and LSI results.

The next subproposition states that countries with a strong *Collectivism* national culture and an organizational and leadership culture that focuses on people, that the listening and team courses are most applicable. Based on the results of the OCI and LSI,

there is no site in which both the organizational and leadership culture have a people orientation. This subproposition is thus inconclusive.

Table 92

Proposition 4b

#	Subproposition	Status	Supporting Data
P4b	In countries with a collectivist national culture and an organizational culture and leadership director style with people orientation, the following courses will be most applicable: <ol style="list-style-type: none"> 1. Listening with a Purpose 2. Team Dynamics 	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture both have a people orientation per the OCI and LSI results.

This subproposition assumes that the groupthink course is most applicable in countries with a strong *Collectivism* national culture and an organizational and leadership culture with both a people and task orientation. However, this subproposition is inconclusive because there is no site where both the organizational and leadership culture are similarly oriented towards people and tasks.

Table 93

Proposition 4c

#	Subproposition	Status	Supporting Data
P4c	In countries with a collectivist national culture and an organizational culture and leadership director style with people and task orientation, the following course is most applicable: <ol style="list-style-type: none"> 1. Groupthink and the Abilene Paradox 	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture both have a people and task orientation per the OCI and LSI results.

Subproposition 4d states that sites with an organizational and leadership culture oriented towards both people and tasks and a national culture with a high Power Distance score, that the courses about organizational awareness and conflict management are most applicable. The data for this subproposition was inconclusive based on no site having both an organizational and leadership culture that is oriented towards both people and tasks.

Table 94

Proposition 4d

#	Subproposition	Status	Supporting Data
P4d	In countries with a high Power Distance Index and an organizational culture and leadership director style with people and task orientation, the following courses are most applicable: <ol style="list-style-type: none"> 1. Organizational Savvy 2. Conflict Prevention and Resolution 	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture both have a people and task orientation per the OCI and LSI results.

The next subproposition assumes that countries with a low Uncertainty Avoidance and a people- and task-oriented organizational and leadership culture, the course about change management is most applicable. Data collected in this study shows no site in which both the organizational and leadership culture are similar. Therefore, this subproposition is inconclusive.

Table 95

Proposition 4e

#	Subproposition	Status	Supporting Data
P4e	In countries that accept uncertainty as part of the national culture and an organizational culture and leadership director style with people and task orientation, the following course is most applicable: 1. Reacting to Change	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture both have a people and task orientation per the OCI and LSI results.

Subproposition 4f states that in all types of national culture and in sites that have a people- and task-oriented organizational and leadership culture, the course on work style differences titled Everything DiSC Workplace, is most applicable. Since no site has a similar organizational and leadership culture, this subproposition is inconclusive.

Table 96

Proposition 4f

#	Subproposition	Status	Supporting Data
P4f	In all national cultures and in laboratories with an organizational culture and leadership director style with people and task orientation, the following course is most applicable: 1. Everything DiSC Workplace	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture both have a people and task orientation per the OCI and LSI results.

The next subproposition references that the MBTI course is most applicable to sites in which the organizational and leadership culture have a people orientation.

However, the data in this study shows that there is no site in which both the

organizational and leadership culture are aligned in terms of their people or task orientation. Therefore, this subproposition is inconclusive.

Table 97

Proposition 4g

#	Subproposition	Status	Supporting Data
P4g	In all national cultures and in laboratories with an organizational culture and leadership director style with a people orientation, the following course is most applicable: 1. MBTI	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture both have a people orientation per the OCI and LSI results.

The final subproposition stated that at sites in the U.S.A. that have people-oriented organizational and leadership culture, the course on generational differences is most applicable. Since neither of the U.S. sites have an organizational and leadership culture that is oriented towards people, this subproposition is inconclusive.

Table 98

Proposition 4h

#	Subproposition	Status	Supporting Data
P4h	In the national culture of the United States of America and in laboratories with an organizational culture and leadership director style with a people orientation, the following course is most applicable: 1. DeCoding American Generations	Inconclusive	This proposition is inconclusive because there is no site where the organizational culture and leadership culture both have a people orientation per the OCI and LSI results.

Professional Culture

Based on the data from the study, there appear to be certain cultural aspects that are shared across all participants from all four sites. This indicates that there is a professional culture of pathology. Such a culture crosses national boundaries, leadership styles, and organizational borders. Especially on the macrocode level, many codes indicate an overall professional pathology culture, as is clear in the following tables and subsections.

Macro-Coding Results

There are certain cultural aspects that are applied across the four sites, regardless of national culture, leadership style, or organizational culture. These professional similarities revolve around a number of areas: accuracy, work relationships, and leadership. For example, when looking at the code of accuracy, the table shows that all 26 participants mentioned that it is important.

Table 99

Coding Data on References to Accuracy

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Accuracy	13/13	6/6	7/7	U.S.A.: “[The most important thing is] definitely diagnostic accuracy.” U.A.E.: “So, the quality and the safety. These are the two most important things.” Tanzania: “The most important part of my job is to make sure that I work properly to make sure that I direct my results to clients, patients, on time and making sure that my results are accurate.”

As shown in Table 100, all participants from the three countries stated that leadership is important to their role, irrespective of their job title, tenure, educational background, or status at the organization.

Table 100

Coding Data on References to Leadership

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Leadership Role	13/13	6/6	7/7	<p>U.S.A.: “[Leadership] relates a ton actually, I kind of lead into the different leadership aspects in my role, the first leadership aspect is directing some of the laboratory, working with our laboratory staff that are running so many different processes and procedures on a day to day and those are decisions that [work with] middle management in the laboratory about new processes to bring in, new consistency metrics to develop or new ways to do what we’re doing every day to help improve things.”</p> <p>U.A.E.: “I think leadership is very important, and I think leadership is not a one-person job, like I call it my leadership team you know most of the team you are talking to, and I think there are leaders in all locations.”</p> <p>Tanzania: “First of all, being a pathologist it is leading some people below me. I’m leading the residents, I’m leading the lab scientists, I be leading the staffs and the secretaries, and I’ll be giving them some, I’ll ask for some of the things to be done as I’m ordering them.”</p>

All participants from the U.S.A. and U.A.E. sites and 6/7 participants from Tanzania referenced the importance of establishing and fostering good work relationships with colleagues and coworkers.

Table 101

Coding Data on References to Work Relationships

Code	# of Participants			Quote
	US Sites (n =13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Work Relationships	13/13	6/6	6/7	U.S.A.: “We do birthday parties, like we have once a month like and a couple in my department we celebrate the month of birthdays at like a potluck kind of thing. So, just kind of trying to like bring them together.” U.A.E.: “We are here to work and we’re here to yes, make good social relationships, but we are here to work. So, I make sure that this is loud and clear especially with someone new and with other cultures and respect you know your colleagues and be sensitive to their differences.” Tanzania: “We depend on each other, it is as process goes because for any form of such an event, we find us work as coming together to help each other, so, I think in terms of behavior is really openness to be more together and work together and other things to work there.”

Similar to fostering work relationships, a sense of a collegial environment was referenced by the majority of participants in all four sites. As shown in Table 102, 10/13 participants from the U.S.A. sites referenced a collegial environment, 6/6 from the U.A.E., and 4/7 from Tanzania. This indicates that being collegial is considered

important across all four sites, which indicates that it relates to an overall professional culture attribute.

Table 102

Coding Data on References to Collegial

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Collegial	10/13	6/6	4/7	<p>US-4: “I think from a couple years to now it’s you know, upbeat, the thing I’d say is everybody works very well together, the staff that we have now, they’re very collegial.”</p> <p>US-14: “I think when it comes to collegiality everyone, so we often ask each other for help in terms of covering a service, or if there’s a difficult diagnosis and everyone is always willing to do that. I think that that is a pretty characteristic behavior.”</p> <p>UA-18: “The friendly relationship is important also. And if [they have] a good relationship with their team, it will be in the benefit of the work as a whole.”</p> <p>TZ-13: “So you find that in TZ-13 of the kind that we live and we stay together, social and work for living and work on matters together, openness in a respectful manner.”</p>

Additionally, their own personal development was referenced by almost all participants, namely by 12/13 participants from the U.S.A., 6/6 participants from the U.A.E., and 6/7 from Tanzania.

Table 103

Coding Data on References to Development

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Development	12/13	6/6	6/7	<p>U.S.A.: “We have had somebody appointed as in charge of faculty development and I think what I’ve seen from her having one-on-one meetings with us junior faculty and really looking through our file and not only letting us know how we’re doing in terms of all the aspects of our work but also giving us suggestions and then really providing and opening up opportunities for us as junior faculty like if she knows about some conference that could be helpful for example, she’ll let us know.”</p> <p>U.A.E.: “[Someone new] should use the probation period for learning. He should learn about everything, not only about the technical or the technical things, he should learn everything, how the nature of the work, how the time of the work from an associate point of view.”</p> <p>Tanzania: “It is like apprenticeship whereby you have to supervise your student and if they follow the rules or if they abide to what is been agreed, and then you say okay this is okay now, they can work on their own, but this is how it goes.”</p>

Furthermore, 22 participants referenced having a patient-focus. In other words, all participants focus on producing accurate test results to help and support patients.

Table 104

Coding Data on References to Patient-Centered

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Patient-Centered	12/13	5/6	5/7	<p>U.S.A.: “It’s just a good environment to come to every day, and everybody is here to work, and they’re all here for the same thing which is the patients.”</p> <p>U.A.E.: “We should have, this is the most important that quality, we should give quality services which should be best for the patient, patient safety and patient diagnosis.”</p> <p>Tanzania: “So, we value patients, and because we have specimen we question them as patients so we value patient care.”</p>

Another example of a professional pathology culture is the supportive, collaborative, fast-paced, and fulfilling work environment. Twenty-four out of 26 participants referred to having and creating a sense of community across the four sites and the same number of participants mentioned collaboration as an essential component of the pathology work culture.

Table 105

Coding Data on References to Work Environment

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Work Environment - Fast-Paced	9/13	6/6	5/7	<p>U.S.A.: “Of our laboratory, everyone works long hours and goes through a high volume of cases mostly without complaint, so I think that is how they act on the hard work value.”</p> <p>U.A.E.: “Always I say that the work in UA-18 hospital moves quickly, okay?”</p>

Work Environment - Fulfilling	8/13	6/6	5/7	<p>And you want to work really fast.”</p> <p>Tanzania: “I would tell them to mostly to give a, to be ready to spend a lot of time in the lab because there is a lot of work to do, so I think time and commitment is the first thing that I’ll advise them.”</p> <p>U.S.A.: “Pathology is kind of the basis of kind of the starting point where all the clinicians kind of turn to in order to treat their patients, so I think it’s kind of like the cornerstone of how all the other specialties practice medicine.”</p> <p>U.A.E.: “It’s quite fulfilling coming here and I can go consult on the patients’ best interests in time, so also it’s also a multidisciplinary one [...], so you’re literally saving lives, my friend, it’s very fulfilling to have a pathology job.”</p> <p>Tanzania: “[It is] very involving. It is interesting. I like, I enjoy being a pathologist.”</p>
Work Environment - Supportive	13/13	6/6	4/7	<p>U.S.A.: “Also, just helping each other on the benches, you know if I’m, if one of the bench techs is overwhelmed and there’s a lot for whatever reason a patient samples that are being sent in that day, they’re already going to go over their shift, other staff members will see it, if the load is heavy so they’ll go over and help out.”</p> <p>U.A.E.: “If she wants any help and any consult, I am ready to help her.”</p> <p>Tanzania: “I’ve seen that they really show that and they never leave you out of that, they will support you until the end and they manage to finish up their work along with their time, you know?”</p>

Additionally, a potential aspect of a pathology culture is a deficit of pathologists and laboratory professionals. Twenty out of the 26 participants mentioned the deficit when asked to describe the field of pathology in general. Even though only 3/6 of

participants in the U.A.E. referenced this as compared to 7/7 of Tanzanians and 10/13 of Americans. Overall, this indicates a deficit in pathologists and laboratory professionals in these three countries.

Table 106

Coding Data on References to Lack of Pathologists and Laboratory Professionals

Code	# of Participants			Quote
	USA Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Lack of Pathologists and Lab Pros	10/13	3/6	7/7	U.S.A.: “We have a lot of openings right now and we’re trying to fill them up.” U.A.E.: “The most important task of my job is my clinical work because there are very, very few medical pathologists here in the UAE.” Tanzania: “It’s quite an isolated profession with very few practicing people [...] it’s challenging because there are very few number pathologists here in Tanzania.”

Furthermore, an interesting data point was that nineteen participants stated that they do not have a typical day, while 20 did still describe a typical day. This can mean that even though every day is unique, there are some typical tasks, assignments, and work experiences that are similar from day-to-day.

Table 107

Coding Data on References to Typical and No Typical Day

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
No Typical Day	10/13	4/6	5/7	U.S.A.: “Every day is a little different. I could be doing mostly manuscript writing one day, another day it’s all teaching, another day you know an emergency kind of comes up in the lab and kind of dealing with that.” U.A.E.: “Ok, so I have a flexible work schedule like I clock in work around anytime between 7 to 8:30 in the morning and I work typically 7 hours and thirty [minutes].” Tanzania: “There’s no actually a typical day because every day has different duties.”
Typical Day	9/13	5/6	6/7	U.S.A.: “So usually you know scattering of meetings, they might be in a sense of meetings with myself, and the other managers with our director we have that twice a week, or meetings with myself and my operations coordinator team in one-on-ones I have pretty much a one-on-one every, weekly, and it’s like Mondays and Tuesdays and Thursdays and Fridays, so that’s kind of like set standard I always meet with my team throughout the week both my team below me but also above me. And then rounding, I always round and see my staff every day throughout [...]. And then emails, listening to voicemails, that kind of thing.” U.A.E.: “All the days are similar for me.” Tanzania: “Most of the day we’ll be coming in the department, reading slides and then finding time to review the pathologists in the afternoon, and then in the evenings we’ll be signing out results.”

Furthermore, there are two areas that appear across the four sites, even though not all participants referenced them. The first is a need for communication skills. As shown

in Table 108, 6/6 of participants from the U.A.E. and 12/13 from the U.S.A. referenced a need for communication skills and 4/7 of Tanzanian participants mentioned it. Despite these differences across the four sites, there is an overall understanding across the sites that communication skills can be increased among pathologists and laboratory professionals.

Table 108

Coding Data on References to Communication Skills

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Communication Skills	12/13	6/6	4/7	<p>U.S.A.: “I think the ability to have a difficult conversation [is important], and to have a productive conversation in the face of an emotional reaction.”</p> <p>U.A.E.: “Like I don’t know what’s going on, so instead of me saying oh this specimen is late and this person know this, just communicate. Communication is key. And we keep pushing for communication all the time because I do believe, I really, really do believe that like if every single problem if you come down to it, the root is always the communication, either I didn’t hear, I didn’t understand, I didn’t say.”</p> <p>Tanzania: “I think most of the leaders I’ve seen around the institution they are lacking communication skills and the knowledge, for example, yeah the most important thing is communication.”</p>

Finally, all participants from the four sites referenced the importance of community in their day-to-day work and almost all (13/13 from the U.S.A., 6/6 from the U.A.E., and 6/7 from Tanzania) referenced collaboration as a crucial component of high-quality work.

Table 109

Coding Data on References to Collaboration and Community

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Collaboration	13/13	6/6	6/7	<p>U.S.A.: “I think the current values are [...] always working together to achieve you know the same common goal.”</p> <p>U.A.E.: “If there is no real team with teamwork we will not finish these tests in the way that in plenty amount of time, but the quality of the results will not be good and as well as the whole test will not be perfect as there is no good thing without teamwork.”</p> <p>Tanzania: “Our colleagues, my colleagues the pathologists and the students and the lab scientists all have been working together. That unity and that collaboration without a doubt has been the source of how we are to date.”</p>
Community	13/13	6/6	7/7	<p>U.S.A.: “I keep like a running list on my phone of restaurants with all different you know genres and stuff like that just so they can like find the same thing I guess, find what makes them happy.”</p> <p>U.A.E.: “I would ask them to respect everybody’s culture and to be nice and try to work in a harmonious manner because we are working together, I have people from diverse backgrounds, so, we do respect each other, and then we try to work for a common goal.”</p> <p>Tanzania: “In terms of behavior, a lot of people have a good idea of working, also</p>

they are very attentive to other people. They are directive to each other, especially for the foreigner who comes to visit them. They are ready to accept the morals and give assistance to the people who need it.”

The final important aspect of the professional culture is that the three courses that all participants from all sites marked as applicable to their current job were Conflict Prevention and Resolution, Listening with a Purpose, and Organizational Savvy. These courses cover skills to increase collaboration, communication, and organizational awareness. These three courses were, therefore, most applicable to the different national, organizational, and leadership cultures.

Leadership Courses Completion Results

When looking at the completion rate of the leadership courses, there are some additional similarities across the four sites. The main behavior is that almost all participants took the majority of their courses in March, which was the sixth and final month they had to complete the courses. All participants who had not completed the 10 courses by the March 31 deadline were given a 1-week extension until April 7, 2019. Table 34 shows that by April 7, 18 out of the 26 participants completed the program in six months. It is important to note that the majority of participants completed the courses in the last couple of weeks before the deadline, with only two of the participants, one from US-4 and one from UA-18, completing the program in January, and one participant from US-4 completing the program in February.

In fact, from the 18 participants who completed the program by the extension of April 7, only four participants did not take any courses in March or April. In other words,

14/26 participants took a course in the last few weeks leading up to the deadline. The behavior across the four sites is thus that participants waited until the last moments to complete their leadership courses. Of the eight participants who did not complete the program, five did not take any courses, while the other three all completed four courses. This could also indicate that starting the program was the most challenging aspect because 18/21 of participants who started ended up completed the program.

Table 110

Leadership Courses Completion Rate

Participant	Listening	Time	Group think	DiSC	Team	Conflict	Generati ons	Change	Org Savvy	MBTI	Comple ted
US-14 2-6	3.21.19	3.21.19	3.14.19	3.14.19	3.21.19	3.11.19	3.11.19	4.1.19	4.1.19	4.1.19	4.1.19
US-14 1-6	1.19.19	4.7.19	12.31.18	4.1.19	1.19.19	3.13.19	12.31.18	1.19.19	4.5.19	4.2.19	4.7.19
US-14 6-6											0/10
US-14 4-6											0/10
US-14 5-6	3.18.19	3.21.19	3.18.19	3.18.19	3.21.19	3.17.19	3.17.19	3.19.19	3.19.19	3.19.19	3.21.19
US-14 3-6	2.24.19	2.24.19	2.24.19	2.24.19	3.9.19	3.9.19	3.25.19	3.9.19	3.25.19	3.25.19	3.25.19
US-4 5-7	2.24.19	3.31.19	2.24.19	2.24.19	3.31.19	1.5.19	2.18.19	4.1.19	4.1.19	2.25.19	4.1.19
US-4 4-7	11.19.18	2.27.18	11.19.18	11.13.18	2.5.19	10.1.18	10.1.18	12.26.18	12.26.18	1.31.19	2.5.19
US-4 1-7	12.19.18	12.28.18	10.23.18	10.22.18	12.28.18	10.19.18	10.22.18	12.28.18	12.27.18	10.22.18	12.28.18
US-4 6-7	3.11.19	3.11.19	3.11.19	4.5.19	4.5.19	2.4.19	2.4.19	3.11.19	4.1.19	4.1.19	4.5.19
US-4 2-7	1.8.19	1.14.19	1.16.19	11.14.18	3.12.19	10.22.18	11.14.18	2.4.19	1.23.19	1.23.19	3.12.19
US-4 7-7	3.29.19	3.29.19	3.29.19	3.30.19	3.29.19	3.25.19	3.25.19	3.27.19	3.30.19	3.31.19	3.31.19
US-4 3-7	3.30.19	3.19.19	3.19.19	2.8.19	3.31.19	2.8.19	3.10.19	3.30.19	3.30.19	3.10.19	3.31.19
UA-18 2-6	3.17.19	3.14.19	3.25.19	3.26.19	3.16.19	1.12.19	1.7.19	3.14.19	1.14.19	3.27.19	3.27.19
UA-18 6-6	1.1.19	1.15.19	12.24.18	1.1.19	1.13.19	12.3.18	12.24.18	12.25.18	12.25.18	12.24.18	1.15.19
UA-18 4-6	3.17.19	3.18.19	3.25.19	3.29.19	3.30.19	3.17.19	3.17.19	3.30.19	3.30.19	3.30.19	3.30.19
UA-18 1-6	3.26.19	4.5.19	3.2.19	2.18.19	3.29.19	2.12.19	1.23.19	3.29.19		3.26.19	9/10
UA-18 5-6	12.23.18	1.17.19	12.26.18	3.12.19	1.2.19	12.24.18	2.4.19	12.30.18	1.31.19	3.26.19	3.26.19
UA-18 3-6	10.3.18	10.5.18	10.19.18	12.2.18	1.16.19	1.11.19	1.9.19	1.26.19	2.8.19	2.13.19	2.13.19
TZ-13 3-7	3.8.19					12.29.18		12.30.18	3.9.19		4/10
TZ-13 1-7											0/10
TZ-13 2-7	3.26.19	3.27.19	3.27.19			12.25.18					4/10
TZ-13 4-7											0/10
TZ-13 7-7	3.29.19	3.31.19	4.5.19	4.6.19	3.30.19	3.28.19	4.5.19	3.30.19	4.6.19	4.7.19	4.7.19
TZ-13 6-7											0/10
TZ-13 5-7	3.30.19	3.31.19	3.31.19	3.31.19	3.30.19	2.5.19	3.31.19	3.30.19	3.31.19	3.31.19	3.31.19
TOTAL	21/26	20/26	20/26	19/26	19/26	21/26	19/26	20/26	19/26	19/26	18/26

Looking at the individual courses, the courses Listening with a Purpose and Conflict Prevention and Resolution were completed most often, by 21 of 26 participants.

This could indicate the desire for communication skills, as was mentioned by 22 participants in their interviews (see Table 108).

Survey Results

Finally, when looking at the survey results about the applicability of each of these courses, there were some additional indicators of a professional pathology culture. All participants indicated that the educational value of the leadership courses was around seven out of ten. Additionally, most participants indicated that they applied the content of the courses Listening with a Purpose and Time Mastery in their current job. This could be related to the fact that the professional pathology culture is both fast-paced and that there is a need for communication skills as shown in Table 108. Furthermore, participants from all countries indicated that they did not foresee themselves using the DeCoding American Generations course. However, it should be mentioned that US-4 did not indicate such a statement.

Participants from all sites were either likely or very likely to recommend other people in their laboratory to take these leadership courses. This can indicate a need for leadership education in the field of pathology and laboratory medicine. Similarly, across the four sites, participants agreed that they can apply the content of the leadership program to their job. Finally, of the eighteen participants who received the survey, seventeen people filled it out. This can indicate that there is a professional pathology culture of completing certain tasks, such as surveys, on a frequent and efficient basis.

Table 111

Professional Culture Survey Data

Survey Question	US Sites (n = 11)	UAE Site (n = 5)	Tanzania Site (n = 2)
The content has educational value	6.62	7.00	7.00
I applied the Listening Course to my job	6/11	3/5	2/2
I applied the Time Course to my job	5/11	5/5	2/2
I will not apply the Generations course content to my job	4/11 (US-14 only)	4/5	1/2
I am likely or very likely recommend others to take these courses	9/11	5/5	2/2
I agree or strongly agree that I can apply the content to my job	9/11	5/5	2/2

Summary

This chapter presented the data that was collected in this study. However, due to the extensive nature of this study, only pertinent data was presented in this chapter. For all additional data collected, please see the appendices.

The data collected and analyzed in this study indicate that there is a professional culture of pathology and laboratory medicine. Specific cultural aspects of such a culture include a focus on accuracy, collegial work relationship, and an importance of leadership regardless of specific roles and/or duties in the laboratory. Additionally, pathology culture is collaborative, supportive, fast-paced, and seen as fulfilling. Furthermore, there appears to be a need for an increase in the workforce of pathologists and laboratory professionals and a need for communication skills. Regarding the completion of the

leadership courses, the majority of all study participants completed the courses in the last few weeks, even though they were all provided six months to complete the courses. Finally, all participants indicated that the courses had an educational value and that they were likely to recommend the curriculum to others in the field of pathology and laboratory medicine.

In terms of the national culture of each of the three countries, there appeared to be some significant differences. Tanzanian participants referenced that their country is safe most often, while all U.S.A. participants described their country as a land of opportunity. These participants also mentioned a sense of freedom and individualism more often than participants from the U.A.E or Tanzania. The data also suggested that the national culture of each of the countries influences how likely participants were to make changes in their jobs based on the leadership courses, as participants from the U.A.E. and Tanzania indicated that they were more likely to do so than participants from the U.S.A.

The leadership culture of each of the four sites was unique. However, the main similarity was that all sites had a high Approval and Competitive style. UA-18 was scored as most constructive, TZ-13 as most Passive/Defensive and as most Aggressive/Defensive. Furthermore, there appeared to be some interrelationships between the coded data from the study and the LSI results. The sites whose participants referenced the importance of following rules and policies scored higher in the Conventional style; the sites whose participants referenced mentoring the least scored less high in Humanistic-Encouraging; the sites whose participants referenced recognition scored lower in the Oppositional leadership style. Finally, in terms of leadership course completion, there does not appear to be an interrelationship between the completion of

the courses and scores in Achievement, Self-Actualizing, Constructive, or Competitive styles. However, the rate of the course completion could have an interrelationship with the Humanistic-Encouraging style, as indicated by UA-18.

The organizational culture of each of the sites had distinguishing features. In terms of the results from the OCI, TZ-13 was measured as most constructive, UZ-18 as most Aggressive/Defensive, and both TZ-13 and UA-18 as most Passive/Defensive. US-4 scored the lowest in terms of constructive culture with none of the four constructive styles scoring above the historical ideal. However, all four sites indicated that they had a significant tendency towards perfectionism. The additional data from this study indicated that those sites whose participants referenced blame-free environments also referenced accountability. Additionally, advocating for others could have a negative interrelationship with the Avoidance style, meaning that the higher the avoidant tendencies in the organizational culture the less likely its participants reference advocating as an integral aspect of their job. Finally, the more participants referenced the need for leadership education, the more likely the participants were to complete the leadership courses included in this study. Additionally, the sites whose participants referenced leadership education also indicated more courses as applicable in their jobs.

The next and final chapter will discuss the implications of these results for the field of pathology, laboratory medicine, and leadership, practitioners, and scholarship. The chapter will also discuss the limitations of this study and recommendations for further research.

Chapter 5: Discussion

Introduction

The purpose of this chapter is to discuss the results of the study, including the implications of the results and the recommendations for further research. The first section will discuss the propositions of the research and how the findings relate to the existing literature. The following sections will discuss additional results consistent with the literature about the national, organizational, and leadership, culture. The next sections discuss additional findings that will add to the literature related to the national, organizational, and leadership, and professional culture. This is followed by a description on the limitations of the study and a discussion about the implications of the findings to the field of leadership, training, and pathology and implications to practitioners and scholarship. The final section described recommendations for further research before the summary concludes the chapter.

Discussion

This section provides a discussion of the results provided in Chapter 4 and the Appendices. The section is divided into multiple separate sub-sections, focusing on national culture, leadership culture, organizational culture, and professional culture. The first section discusses the propositions of this research as described in Chapter 4.

Propositions

The four main propositions of this study all revolved around the notion of culture influence the applicability of leadership training. The propositions were as follows:

P1: National culture influences the cultural applicability of leadership courses in the United States, the United Arab Emirates, and the United Republic of Tanzania.

P2: Organizational culture influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

P3: The leadership style of the Laboratory Director influences the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

P4: The national culture of the country, the organizational culture of the laboratory, and the leadership style of the Laboratory Director influence the cultural applicability of leadership courses in the United States of America, the United Arab Emirates, and the United Republic of Tanzania.

As previously stated in Chapter 4, these four propositions and their subproposition were inconclusive. There were multiple reasons the propositions were inconclusive. The majority of the subpropositions assumed that there was an interrelationship between the leadership and organizational culture of each site. Specifically, the subpropositions assumed that there would be similarities between the two. However, as described in Chapter 4, that was not the case. Additionally, the data did not specifically indicate whether each specific type of culture, namely national, organizational, or leadership culture, influenced the applicability of the leadership courses. The subpropositions revolved around the notion that certain courses were applicable in certain specific cultural circumstances, but no data was found to make these conclusions. Finally, this study found that there was a strong professional culture of pathology and laboratory medicine. This type of culture was not included in any of the propositions, which meant that many findings were not related to the proposed propositions. The following sections first

discuss findings that were consistent with the literature followed by a section that discusses additional findings that add to the literature.

Additional Results Consistent With the Literature

Given the nature of qualitative research and the robust data collection of this study, there are numerous insights that are supported by the data collected despite the inconclusive propositions. The purpose of the next sections is to highlight and discuss these insights.

Additional Results Consistent With the Literature: National Culture

Based on the national culture results from Hofstede's (2001) study, there were certain data points that were expected to be found in this study. Specifically, there was an expectation that certain national cultural traits interacted with one another, based on similar or complementary behaviors. For example, national cultures with a high Masculinity score, which promotes a strong focus on work, assertiveness, competition, and performance, could have a low score in terms of Indulgence, which promotes little leisure time and restraining of actions (Hofstede, 2001). Indeed, when looking at the data from this study, countries that scored high in Masculinity referenced their country as a place of opportunity, both of which are focusing on accomplishments. Specifically, the U.S.A. scored 62 in Masculinity and all thirteen out of thirteen participants explained the U.S.A. as a country of opportunity, as compared to only three out of six participants from the U.A.E. and one out of seven from Tanzania. Both these latter two countries scored as not having a preference or as Feminine respectively (Hofstede, 2001).

Additionally, a low score in Masculinity, thus a Feminine national culture, can have an interrelationship with low Individualism. In other words, a country that scores as

low Masculine, thus more Feminine, encourages caring for other people and overall quality of life (Hofstede, 2001). A country that scores low in Individualism encourages a collectivist approach to society, work, and family (Hofstede, 2001). Both the U.A.E. and Tanzania score 25 on Individualism, thus scoring as a collectivist society and neither have a high Masculine score. Furthermore, participants from these two countries did not refer to opportunities as often, thus behaving in a feminine way, and instead referenced equality, respect, and open-mindedness more as shown in Tables 31 and 32 in Chapter 4. Furthermore, participants from Individualistic countries also made more references to freedom and individualism. In other words, countries that are low in Masculinity and low in Individualism focus more on work-life balance, equality, respect, and open-mindedness.

Due to the high score in Individualism, it was expected that participants from the two U.S.A. sites would have difficulty explaining their own culture. Additionally, the expectation was that those participants would also give the same advice to someone who was new to their laboratory and to someone who was both new to their laboratory and new to their country. About half of the participants had difficulty explaining their own culture, namely seven out of thirteen, and had the same advice regardless if the new person was also new to the U.S.A. or not, namely six out of thirteen. In the U.A.E. and Tanzania only one person from each site, one out of six and one out of seven, had difficulty explaining their own culture and only one person from Tanzania would give the same advice, but none from the U.A.E.

Additional Results Consistent With the Literature: Organizational Culture

Based on the literature, there were a number of expected results regarding the organizational culture. Organizational culture influences the quality of health care provided to patients and impacts patient safety, employee turnover, management, and overall satisfaction (Rovithis et al., 2017). Pathology and laboratory medicine must implement quality control and quality assurance measures for the entire health care diagnostics system, particularly related to appropriate orders and the quality of testing (Fleming et al., 2017). Therefore, it was expected to find a strong conventional organizational culture, since the Conventional style promotes a need to always follow procedures and policies, which are created to promote quality. The historical ideal of this style is 5%, but the conventional style of each of the laboratories is scored between 33% to 89%, which indicates a very high conventional culture.

Additionally, because of the positively correlated organizational culture styles of Competitive with Approval and Perfectionistic with Conventional (Cooke and Rousseau, 1988), it was expected to see a similar correlation in the OCI results of this study. Indeed, with US-4, both the Perfectionistic and Conventional styles were above the historical ideal, while the Competitive and Approval styles were below the historical ideal. At TZ-13 and UA-18 both positively correlated sets were above the historical ideal. However, at US-14, Perfectionistic was higher than the historical ideal, but not Conventional. On the other hand, both Competitive and Approval were below the historical ideal.

However, there were some aspects of the literature that were not found in this study. Firstly, because those making hiring decisions expect new pathologists to be highly proficient in diagnostics (Brimhall et al., 2007; Horowitz, 2006), it was expected

to find a strong organizational culture of both the Achievement and Perfectionistic styles in all four sites. However, even though all four styles scored above the historical ideal of Perfectionistic, not all four scored at or above the historical ideals in the Achievement style.

Furthermore, there are a number of potential interrelationships between organizational culture and national culture. For example, in the Power Distance dimension of national culture, the U.A.E. scores the highest, while UA-18 also scores the highest in the Dependent style of the organizational culture. Furthermore, the U.S.A. scores the lowest in the Power Distance dimension and both U.S. sites also score the lowest in the Dependent style. Additionally, there appears to be an interrelationship between the Power Distance dimension and the Power style. The UA-18 scores the highest in the Power style, followed by TZ-13, and then US-4 and US-14. This follows the same transgression for the results of the Power Distance dimension of national culture.

Additional Results Consistent With the Literature: Leadership Culture

Based on the literature review, there were some expected findings that confirmed previously researched data. Firstly, high-performing health care teams rely on physician leadership to implement and foster effective collaboration across disciplines (Frich et al., 2014; Lobas, 2006; Majmudar et al., 2010). Therefore, there was an expectation that this study would confirm a focus on training and helping others. Findings confirmed a leadership focus on training and mentoring their staff, with participants from all sites referencing it. Along similar lines, because of the collaborative nature of pathology and laboratory medicine, it was also expected that there were many meetings and that

important decisions were made by including multiple people. All participants from US-14 referenced their meetings, namely six out of six, while six out of seven from US-4 mentioned meetings, five out of six from UA-18, and two out of seven from TZ-13. As one participant from US-4 stated “At US-4 there are a lot of meetings and there are committees for everything so I feel like some of my days can be filled with a lot of meetings at times” as shown in Table 146 in Appendix N.

Additionally, pathology is critical to ensure high-quality health care (Fleming et al., 2017; Graves, 2007; Isouard, 2013). Therefore, it was expected that there was a strong dependent and conventional leadership culture that promotes compliance and obedience to people in authority. Indeed, all four sites score above 50% in both these leadership styles, indicated that there is a strong conforming leadership style that ensures people follow rules, policies, procedures, and directives from people higher up in the hierarchy.

Furthermore, because leadership is a personal journey there was an expectation that all four leadership styles of the Laboratory Directors were different. As shown in Chapter 4 and in IH, all four leadership styles vary significantly, with UA-18 as the most Constructive and TZ-13 as the most Passive/Defensive and Aggressive/Defensive.

Additional Results that Add to the Literature

Due to the comprehensive data collection in this study, there were additional findings that will add to the literature. These findings relate to the national, organizational, leadership, and professional culture. The purpose of the next sections is to highlight and discuss these insights.

Additional Results that Add to the Literature: National Culture

Noticeably absent from the research findings were references to the physical safety of foreigners. Specifically, based on the low scores in the Individualism dimension, it was expected that the participants from the U.A.E. and Tanzania would make more references to their country being safe. However, the only almost all participants from Tanzania referenced it, namely five out of seven, but only two from the six participants from the U.A.E. as compared to one out of the thirteen from the U.S.A. The reference to safety also could have had an interrelationship to the Uncertainty Avoidance dimension, but the U.A.E. scores the highest there as well, with a score of 80, but those participants do not reference safety more often than in Tanzania, which scores 50 on that dimension.

Additionally, it was expected to find an interrelationship between accountability and low Power Distance. However, the country with the lowest Power Distance score, the U.S.A. at 40, did not have the most participants reference accountability, namely only five out of thirteen. As a comparison, the U.A.E. scored 90 on that dimension, indicating a strong hierarchical culture (Hofstede, 2001) and most of their participants referenced accountability, namely five out of six.

Additional Results that Add to the Literature: Organizational Culture

Regarding the organizational culture, there were some findings that were not found in the literature. There is a significant deficit of leadership training within the specialty of pathology and laboratory medicine (Brimhall et al., 2007; Caldwell, 2014; Fleming et al., 2017; Horowitz, 2006). However, even though participants were provided free access to the ASCP Leadership Institute, there were multiple participants who did

not take any courses or who did not complete the programming in six months. Specifically, there were five participants who did not complete a single course, three people who did take courses but who did not complete the program. Additionally, there were five people who completed the courses in the week of the extension. In other words, only 13 out of the 26 participants completed the leadership courses within six months.

Furthermore, it was surprising to find that participants from both the US-4 and US-14 stated that they did not foresee themselves to apply the content of the DiSC course, especially considering the established validity in the U.S.A. (Wiley, 2018). Participants from both the U.S. sites and Tanzania stated that they did not foresee applying the MBTI course content either.

Finally, the international application of the OCI has been clearly established (see Chapter 2) (Cooke & Szumal, 2000). Figure 15 shows the ideal profiles of some of the international regions.

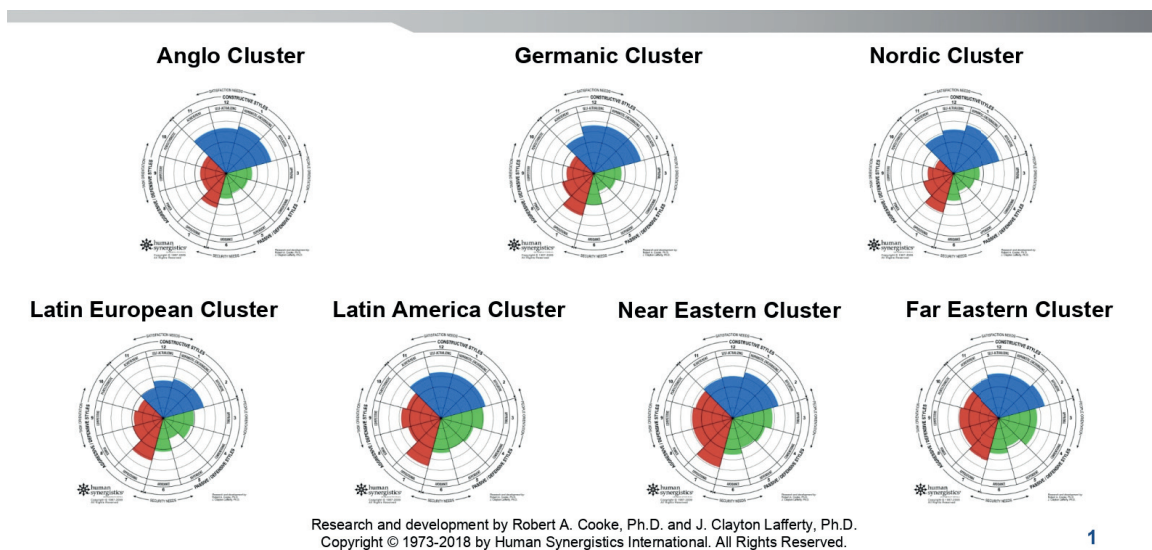


Figure 15. Ideal Organizational Culture Inventory (OCI) profiles of international clusters.

The Near Eastern Cluster has some similarities with the results from UA-18, as shown in Figure 16. However, the profile from UA-18 has higher Passive/Defensive and Aggressive/Defensive styles. Additionally, the Constructive styles are not as high as in the Near Eastern Cluster. Furthermore, the primary style of the Near Eastern Cluster is Oppositional, while at UA-18 it is Perfectionistic.

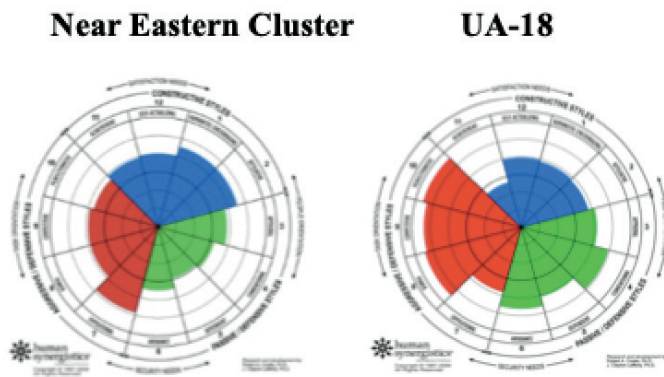


Figure 16. Near Eastern cluster compared to Organizational Culture Inventory (OCI) profile from UA-18.

In terms of the Anglo Ideal Cluster and the results from UA-4 and US-14, there are no similarities. As you can see in Figure 17, there are no similarities between the three profiles. The Anglo cluster is significantly more constructive than US-4 and US-14, with the exception of the Humanistic-Encouraging style. Additionally, US-4 has more Passive/Defensive styles and US-14 scores significantly higher in the Perfectionistic style.



Figure 17. Anglo cluster compared to Organizational Culture Inventory (OCI) profiles from US-4 and US-14

There is currently no African or East-African Ideal cluster. Therefore, no comparison can be made between such an Ideal cluster and the results from this study about the OCI Current profile of TZ-13.

Additional Results that Add to the Literature: Leadership Culture

Regarding the leadership culture, this study provided some additional findings that add to the current literature on leadership. This study showed that there was a slight difference between references to recognizing their staff: five out of seven participants from US-4 referenced recognition, while only one out of six from UA-18 mentioned it and no participant from US-14 or TZ-13. This was surprising because effective laboratory leadership also increases visibility and recognition for the profession as a whole (Caldwell, 2014; Graves, 2007). Furthermore, as stated under the professional culture section, the need to follow rules and policies and act as a liaison was not equally referenced by the participants from each site. Since laboratory medicine both relies on cross-departmental collaboration and on accuracy, it was expected that most, if not all, participants referenced these concepts.

Furthermore, because the deficiency of leadership education in pathology and laboratory medicine is well known (Brimhall et al., 2007; Horowitz, 2006; Weiss et al., 2014), it was expected that the leadership styles of the Laboratory Leaders emphasized leadership education to their staff and through their Humanistic-Encouraging leadership style. However, only two Laboratory Directors, the ones from US-4 and UA-18 scored higher than the 50th percentile in Humanistic-Encouraging. The US-14 Laboratory Director was scored at the 35th percentile and at TZ-13 at the 24th percentile, indicating that there can be an increase in that particular leadership style.

Also, because of the focus on outcomes in the field of pathology and laboratory medicine, the expectation was that leaders would be highly rated in terms of their Achievement style. However, only the Laboratory Directors of US-4 and UA-18 scored above the 50th percentile, while US-14 was at 24th and TZ-13 at the 11th percentile, which indicates a developmental opportunity in terms of leadership behavior.

Finally, there were some unexpected findings in this study related to leadership style. Specifically, since competency in leadership may chart the success of pathologists, it was expected to that leaders foster working relationships among their teams and between all medical specialties and departments (Branda et al., 2014; Brimhall et al., 2007; Fleming et al., 2017; Horowitz, 2006; Kemp & Bowser, 2004). The finding that everyone stated that leadership applied to their job was, however, unexpected because not all participants currently had official leadership roles.

Additional Results that Add to the Literature: Professional Culture

There are multiple insights related to the existence of a professional culture that crosses national, organizational, and leadership boundaries. In terms of the professional

culture, without accurate pathology and laboratory medicine systems, the entire health care system would fail and economic and personal loss would ensue (Fleming et al., 2017; Graves, 2007; Isouard, 2013). It was, therefore, not surprising to find that accuracy was a notion that spanned across the four laboratories and the three countries included in this study. For optimal efficiency, quality, and patient-driven outcomes, the medical field must ensure pathologist-leaders have appropriate skills in communication, emotional intelligence, and team dynamics (Branda et al., 2014; Brimhall et al., 2007; Fleming et al., 2017; Graves, 2007; Horowitz, 2006; Isouard, 2013). Since communication skills are an essential component of leadership, it was also expected to find significant references to communication skills in the data. Indeed, one participant from TZ-13 stated that the most important skill they wished a leader had was communication skills.

Pathologists are expected to foster working relationships among their teams and between all medical specialties and departments (Branda et al., 2014; Brimhall et al., 2007; Fleming et al., 2017; Horowitz, 2006; Kemp & Bowser, 2004). Because of this collaborative nature of pathology, the importance of good working relationships, collaborations, being collegial, and a supportive work environment was expected to cross national boundaries. Additionally, because pathology and laboratory medicine is a specialty of medicine referring to the study of disease and the underlying causes of patient's symptoms (Fleming et al., 2017; Graves, 2007), it was expected to find a patient-centric view. Indeed, 22 out of 26 participants referenced patients in their interviews.

Furthermore, there is a shortage of pathologists and laboratory professionals in the United States of America, the United Arab Emirates, and in Tanzania (Bennett et al.,

2014; Rambau, 2011; Robboy et al., 2013, 2015). Twenty out of the 26 participants referenced this deficit, which confirmed the need for an increase in awareness of and recruitment into the field of pathology and laboratory medicine. Because of this shortage or laboratory personnel, the expectation was that the work itself is fast-paced and demanding. Indeed, 20 out of 26 referenced the high volume of cases, such as one of the American participants who stated that “everyone works long hours and goes through a high volume of cases mostly without complaint.” One of the long-term solutions to increase recruitment into the field of pathology and laboratory medicine is leadership (Kaschula, 2013; Mosha et al., 2011). Furthermore, in order to maximize medical training, leadership training is critical (Nakanjako et al., 2015). The more leadership training and leaders within pathology and laboratory medicine, the more awareness is brought to the field, which increases resources, recruitment, and overall patient care (Adesina et al., 2013; Andiric & Massambu, 2015; Fleming et al., 2017; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015).

Additionally, because of the maintenance of certification standards for both pathologists and laboratory professionals through Continuing Medical Education (CME) and Continuing Medical Laboratory Education (CMLLE) credits respectively, it was expected for participants to reference their professional developmental opportunities. As one participant from Tanzania stated, “It is like apprenticeship whereby you have to supervise your student and if they follow the rules or if they abide by what is been agreed, and then you say okay this is okay now, they can work on their own, but this is how it goes.” Increasing leadership and awareness of pathology and medicine increases resources and funding (Adesina et al., 2013; Andiric & Massambu, 2015; Fleming et al.,

2017; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015). This funding, in turn, will increase continuing medical education opportunities (Adesina et al., 2013; Kaschula, 2013; Mosha et al., 2011; Nakanjako et al., 2015).

Pathology and laboratory medicine must implement quality control and quality assurance measures for the entire health care diagnostics system, particularly related to appropriate orders and the quality of testing (Fleming et al., 2017). Therefore, a conventional pathology style was expected. Overall, there is a significant conventional organizational culture across the four sites. The historical ideal of the Conventional style of the Passive/Defensive cluster is 5% or below. However, all sites scored between 33% and 89% conventional, which is significantly higher than the ideal. This is expected due to the importance of following the rules, quality assurance, and accuracy. Additionally, because of the collaborative nature of pathology and laboratory medicine, there was an expectation that there were lower levels of masculine behavior, even if that was part of the national culture. The U.S.A. is the only country of in this study that scored as Masculine, with a score of 62 (Hofstede, 2001). The U.A.E. did not indicate a preference with a score of 50 and Tanzania scored 40, which indicates a low Masculine thus Feminine society (Hofstede, 2001). However, because of the collaborative nature of the laboratory field, 13 out of 13 of American participants referenced collaboration, which is a feminine behavior. Low Masculinity, also known as Feminine national culture, is indicated by caring for others, work-life balance, shared decision-making, compromising, and equality (Hofstede, 2001). Almost all other participants from the U.A.E. and Tanzania also referenced collaboration, namely 6 out of 6 and 6 out of 7 participants respectively. Indeed, all 26 participants made some reference to helping one another out,

answering questions, and covering shifts. Furthermore, decisions are collaborative. As a participant from UA-18 stated, “I never make a decision without the feedback of all six of them because they know their business better than me from a technical point of view.”

Noticeably absent from my research findings were references to the need for leadership education by participants across the four sites. There is a significant deficit of leadership training within the specialty of pathology and laboratory medicine (Brimhall et al., 2007; Caldwell, 2014; Fleming et al., 2017; Horowitz, 2006). However, only one out of seven participant from US-4, one out of six from US-14, four out of six from the UA-18, and four out of seven from TZ-13 referenced the need for education in leadership. This indicates that there might be a need for a mindset shift from only focusing on medical education to one that includes leadership development skills. Since all 26 participants stated that leadership applies to their current role but not all completed the leadership program and five never took any courses, it appears that a mindset shift would help increase leadership effectiveness. Additionally, the majority of the eighteen participants that did complete the leadership program all stated that the courses strengthened their leadership skills and that they were likely to make changes to their practice as a result of the leadership courses. This indicates that the most challenging aspect is getting pathologists and laboratory professionals to take leadership courses, but once they start a program they are likely to finish them and apply them to their work.

Additionally, despite the collaborative work environment and expectation in pathology and laboratory medicine, not all participants referenced their role as a liaison between the laboratory and the other hospital departments. Laboratory directors are invaluable when liaising between the laboratory and other hospital departments (Branda

et al., 2017). However, the only site in which all participants referenced liaison was US-4, where seven out of seven participants made that reference. In comparison, only one out of seven from TZ-13, two out of six from US-14, and three out of six from UA-18 made that connection explicitly. Furthermore, even though there was a clear conventional finding in both the literature, as well as, the data from this study, not all participants referenced the need to follow rules and policies. Five out of six participants from UA-18 referenced both, while only one out of six from US-14. Finally, even though there is an understanding that practicing as a pathologist provides an excellent work-life balance (Hung et al., 2011), none of TZ-13 referenced it, only one out of six from US-14, four out of seven from US-4, and five out of six from UA-18. Indeed, it was clear from the interviews and the work schedules at UA-18 that there is a more profound work-life balance in the U.A.E. than in the other countries.

On the other hand, there were also some data points found in this study that were not expected to be found based on the literature. Firstly, the literature stated that despite the fact that half of medical students are female, only 15.4% of pathology Department Chairs are female, even though there is no gender difference in terms of leadership ambition (Bickel, 2007; Howell et al., 2015). However, a female Director and/or pathology Chair led every laboratory in this study. This was not a design of the study and no gender roles were included in this study. However, future research can look at the impact of female leadership in pathology and laboratory medicine in terms of the organizational and leadership culture of a laboratory.

Additionally, there was both a low and a high Uncertainty Avoidance in the three countries (Hofstede, 2001). Specifically, both Tanzania and the U.S.A. score 50 and 46

respectively, indicating that there is not a high preference for avoiding uncertainty, but the U.A.E. scores 90, indicated that there is a high tendency towards avoiding uncertainty. This indicates that people in the U.A.E. on a national level feel the need for structure, clarity, and rules in order to avoid ambiguity (Hofstede, 2001). Such an orientation towards uncertainty avoiding also means a propensity for set schedules (Hofstede, 2001). However, the data shows that there is both a sense of avoiding and not avoiding uncertainty when looking at the typical days of each of the participants. Twenty out of 26 and 19 out of 26 participants described both typical and non-typical aspects of their days respectively. In other words, there is not a set schedule each day, because there is a lot of variety. However, there are certain aspects of each day that are set, such as set meetings with residents, set meetings with directors, processing specimens and making diagnoses. Additionally, starting times appeared to be flexible overall, but there was significant mention of working overtime, especially in US-4, US-14, and TZ-13.

Finally, this study found that there was an overall sense of fulfillment across the four sites. Nineteen out of the 26 participants referenced fulfillment or a sense of pride about working in pathology and laboratory medicine. For example, a participant from UA-18 stated that “It’s quite fulfilling coming here and I can go consult on the patients best interests in time, so it’s also a multidisciplinary one [...], so you’re literally saving lives, my friend, it’s very fulfilling to have a pathology job.”

Limitations

This study has a number of limitations. The first limitation is that there is a relatively small number of pathologists in the United Republic of Tanzania and number of laboratories (Adesina et al., 2013). This limits the study because it is not possible to

replicate the Values Survey Module in a statistically valid way, in which the samples in the three countries are matched (Hofstede & Minkov, 2013). This meant that the study had to rely on existing data on the national culture, some of which dates back to the 1980s. This limits any cultural changes on a national scale being included in this study.

Additionally, due to the scope of the study, only three countries participated in this research. This limitation makes it harder to create generalizable conclusions that cover additional national cultures in Africa and the Middle East. Along similar lines, only one laboratory participated in the United Arab Emirates and in Tanzania. This limits the study in that it is unclear if the organizational culture would be similar in other laboratories in the same country.

Furthermore, this study is a qualitative study, meaning that no proof was found and that this study can merely indicate that certain patterns exist. Because of the qualitative nature, this study had a small sample size, both in terms of countries, laboratories, and participants. This study also had limited experimental controls and data collected was largely based on participants' self-reporting capabilities and willingness. However, due to the rigor of the study, including the multiple types of data collected, the coding processes used, and the triangulation process, the results found in this study have validity.

Finally, since participation was voluntary, the participants who self-selected their participants in this study were likely to have an interest in leadership, leadership roles, and leadership education. Such an interest might have skewed the data, especially regarding the request for leadership education in the field of pathology and laboratory medicine.

Implications

Based on the results of this study, there are a number of implications to the field of leadership, pathology and laboratory medicine, organizational culture, leadership training, and scholarship. This section describes some of the most profound implications in each of these areas.

Implications for the Field of Pathology and Laboratory Medicine

There are multiple implications for the field of pathology and laboratory medicine. Firstly, this study indicated that there is a professional culture of pathology and laboratory medicine. Such a culture could impact the recruitment of professionals into the field, the appropriate teaching styles, and the engagement of employees. It could also impact the development of pathology leaders. The inference of this study is that professional culture has a dominant role over national, organizational, and leadership culture in the research sample in the field of pathology and laboratory medicine. Such dominance was especially apparent in terms of the cultural behaviors and norms, such as collaboration, accuracy, being collegial, having a development orientation, and being patient-centered. In terms of the work environment, the professional culture is supportive, fast-paced, collegial, and fulfilling. These attributes were clear across all four sites, regardless of their national, organizational, and leadership culture, indicating that the professional culture is dominant. Future research is recommended to further explore this inference and the implication of such potential dominance.

Additionally, this study indicated that the courses on listening styles, conflict resolution, and organizational awareness were the most applicable. This impacts the field of pathology and laboratory medicine by showing the need for such courses to increase

collaboration and communication within and across medical departments. Finally, this study showed that leadership skills apply to all types and levels of pathologists and laboratory professionals. All participants, whether they were new to the field or seasoned, whether they were still in training or practicing, whether they were a pathologist or laboratory professional, all stated that leadership applied to their job. This implies that there is a need for leadership education in the field of pathology and laboratory medicine and that it should be included in their training and continuing professional development curricula.

Implications for the Field of Leadership and Leadership Training

There are also multiple implications for the field of leadership and leadership training. Specifically, these implications can have an impact on the applicability of leadership training and on emerging and current leaders and their behaviors.

In terms of the field of leadership as a whole, the implication of this study is to encourage diversity of thought, philosophies, and theories in the field of leadership. Most leadership theories are based on Western models (Scandura & Dorfman, 2004). Therefore, it is important to increase diversity on both the theoretical and practical levels in the field of leadership and leadership training. In other words, it is essential to include leadership philosophies that are not based on Western models in the theoretical teaching of leadership. Additionally, it is crucial to foster a more diverse leadership cohort that includes people from different cultures and backgrounds to increase the leadership pipeline through such inclusion. The more diverse the theory of leadership and the actual leaders themselves are, the more applicable their respective style is to meet the needs of our globalizing world.

Along similar lines, it is thus also important to further diversity and inclusion in all leadership levels of an organization. This study indicates that there are significant differences in leadership culture and style. It is, therefore, important to have a plethora of different leadership cultures to increase the applicability of their style in specific situations. Furthermore, another implication of this study is for leaders to take in to account the professional culture of the entire field they are leading. As this study showed, professional culture trumps other types of culture. Professional culture is thus crucial for leaders to take into account when leading organizations and their people. Finally, it is important for leaders to learn about, understand, and appreciate other cultures, including national culture, organizational culture, and professional culture. The more versed and adaptable leaders are in terms of their behaviors, styles, and communication, the more applicable their leadership is in multiple situations.

In terms of leadership training, it is clear from this study that not all leadership courses apply equally in all organizations and in all countries. Similar to the overall field of leadership, it is also important to take professional culture into account when training people in leadership competencies, skills, and behaviors. As shown by this study, in the professional culture of pathology, collaboration and communication skills are important. When looking at the applicability of the leadership courses, all participants from all four sites indicated that the courses Listening with a Purpose, Conflict Resolution and Management, and Organizational Savvy were applicable. It is, therefore, essential for leadership trainings to take professional cultural aspects into account when designing and implementing leadership trainings. Additionally, the content of the leadership trainings should not only include leadership content based on Western philosophies but include a

wide and diverse array of leadership philosophies. Furthermore, it is important for leadership educators to learn about the national culture of a country before teaching and/or presenting leadership content. As shown in this study, national culture differs widely between countries and certain aspects can inform the applicability of the leadership content. For example, this study shows that people in the U.S.A. reference a sense of individuality more frequently than those in the U.A.E. or Tanzania (see Table 30). Such an understanding can inform the applicability of training because certain trainings can cater more towards a sense of individualism while others can utilize theories that have a more collective approach. Finally, it is important to note that the leadership culture and style does not necessarily inform the organizational culture, and vice versa. This influences leadership training because trainings can cater to the organizational culture and its strengths and weaknesses without taking in to account the leadership style and still make the courses applicable.

Implications for Scholarship

The researcher analyzed three different levels of culture, namely national culture, organizational culture, and leadership culture. Additionally, through the analysis of the data, a fourth cultural level was included: professional culture. With these four levels of culture, this study provided a lens into the intersectionality of these types of culture. The implication for scholarship is to determine which culture trumps the others. In other words, which is the strongest culture type that overpowers the others in terms of behaviors, values, and leadership style? Additionally, in terms of the professional culture and identity, how is it developed and maintained? Did the professional culture of pathology and laboratory medicine evolve over the years or has it been present ever since

the field originated? Furthermore, how does professional identity impact the recruitment of students and employees into the field of pathology and laboratory medicine?

Implications for Practitioners

There are also a number of implications for practitioners. Firstly, this study showed that there was a contrast between the espoused need for leadership education and the participation in leadership education. The implication of this finding is that there needs to be a mindset shift from a focus on only or mainly diagnostic professional development to one that incorporates behavioral and/or leadership professional development as well. Additionally, this study indicates that leadership education catered specifically towards pathologists and laboratory professionals is at the cusp of the tipping point. In other words, it appears that the current leadership courses are ahead of their time and that in a number of years the need for such education in pathology and laboratory medicine will be widely understood and met.

Recommendations

There are multiple recommendations for further research based on the results of this study. The first recommendation is to follow up this study with quantitative research. However, due to the limited number of pathologists and laboratory professionals in Tanzania specifically, such a quantitative study should be small in scale. Another recommendation is to make changes in the design of the current study to analyze the impact of national, organizational, and leadership culture more specifically to avoid inconclusively of the propositions. In order to confirm or deny the current propositions, the study needs to create more specific correlations between the types of cultures and the applicability of the leadership courses. Since culture is such a robust topic, the

recommendation would be to create separate studies to analyze how each of the cultural types impacts the applicability of leadership training.

This study indicated that there is a professional culture in pathology and laboratory medicine that crosses national, organizational, and leadership cultural boundaries. A recommendation for further research is, therefore, to explore the notion of professional culture further and to see if there is a potential for a professional culture assessment. Such a validated assessment could provide many insights for organizations and professional fields, especially if they are crossing international, organizational, and leadership boundaries. Specifically, research on this topic could potentially inform education, communication, and advancement practices. It could also guide recruitment and marketing efforts and establish a more inclusive workforce.

Additionally, all four sites have a mix of both female and male participants. Additional research could analyze if gender influences the applicability of leadership training or how they view the leadership or organizational culture. This could provide insights into how to create environments into which all genders thrive through inclusive and developmentally focused organizational practices. Further research could also look at the impact of gender on the perception of leadership education in the field of pathology and laboratory medicine. This could potentially provide insights into how to effectively empower female leaders in the United States of America, the United Arab Emirates, and in Tanzania.

The same study could also be replicated in different medical subspecialties or different professional fields, such as higher education. Culturally applicable trainings can have a tremendous impact on any educational opportunities, including other types of

trainings, schoolings, and fields. Such studies could impact how education is offered and facilitated to ensure that it provides everyone with equal opportunities. Furthermore, longitudinal studies could analyze the impact of culturally applicable trainings and education on the participants to see if the impact of the training is more significant than those who received non-culturally specific trainings. This could guide how training is offered and if further cultural studies are warranted.

Another recommendation for a future study is to see if there is a national pattern to the leadership style of Laboratory Directors or Pathology Chairs. This study could ask hundreds of participants to complete the LSI to analyze the results and see if there is a national or international pattern. A similar study can be conducted with the OCI to see if there is a universal organizational pathology culture or ideal of a culture. Such studies could provide insights into patterns of leadership and which styles thrive in specific organizational cultures, which can influence the recruitment and retention of laboratory leaders.

Furthermore, future studies can look at the results from the course self-assessments that were included in this study to see if there is a relationship between national culture, organizational culture, or leadership culture and the results from participants' self-assessments. Of the 10 courses participants completed in this study, eight have a self-assessment, namely Conflict Prevention & Resolution, Everything DiSC Workplace, Listening with a Purpose, MBTI, Organizational Savvy, Reacting to Change, Team Dynamics, and Time Mastery.

A future study can look at the cultural differences between subspecialties in pathology, such as cytopathology and hematopathology. As one participant from US-4

stated: “I think that culturally between each laboratory section we do have different cultures too.” A study that looks at the different cultures within each pathology specialty could shed insights into employee engagement and professional development practices.

Additionally, future research can look at the impact of a professional culture on the leadership and organizational culture. That type of research can answer questions such as: does professional culture trump leadership and organizational culture? How is a professional culture created and developed? How does professional culture evolve? This type of research can impact all continuing professional development offerings in the medical field. Finally, future research can also look at the impact of organizational culture on leadership culture or vice versa. This study indicated that there is no alignment between these two cultures in terms of people or task orientation, but future research could show the longer-term impact of each culture on the other.

Finally, the recommendation of this research is to incorporate the results of this study into current and future leadership trainings. The data from this study showed that certain courses were ranked as more applicable than others in the three countries included in this study. It is, therefore, recommended that current and future programs take this data into account when delivering leadership developmental opportunities.

Summary

This chapter provided a discussion about the findings and results of this study. The propositions and subpropositions in this research were inconclusive. However, there were still many findings related to national culture, organizational culture, leadership culture, and professional culture. Additionally, this research had multiple implications to the field of leadership, leadership training, pathology and laboratory medicine,

scholarship, and practitioners. Further research is recommended to follow up on these findings and implications.

Cultures are integrated and complex aspects of life. As this study showed, there are multiple types of culture that influence how we are expected to behave, communicate, and lead. Understanding the national culture of a country, the organizational culture of a specific institution, and the leadership culture of a specific Director or Chair, can alter how effectively you collaborate with people. Additionally, knowing the professional culture of a specific field can influence how leaders interact, how educators facilitate, and how employees perform. These different types of culture influence the fields of leadership, pathology, and laboratory medicine. Specifically, this study showed that all these cultures influence the applicability of leadership courses. The model of one-size-fits-all does not apply in this context and the more people become aware and understand different cultures and their impact on leadership, education, and collaboration, the more people are able to create environments in which people from all types of culture thrive. Such a culturally inclusive focus creates the space for diversity of thought, experience, and culture to develop and empower all. Catering and altering practices, trainings, and courses toward specific audiences creates a professional environment to accomplish shared objectives through collective efforts. Indeed, that is the role of leadership in our ever-changing and culturally influenced world.

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Appendix A: Additional Information about Pathology and Laboratory Medicine Need in Sub-Saharan Africa

As a result of modern effective therapeutic interventions, more people are surviving diseases such as HIV and malaria (African Strategies for Advancing Pathology Group Members, 2015; ASCP, 2017). Unfortunately, as a result of living longer they are now developing non-communicable diseases, such cardiovascular disease and cancer (African Strategies for Advancing Pathology Group Members, 2015; Benediktsson et al., 2009; Mosha et al., 2011; Rambau, 2011; Tumino et al., 2017). Cancer, specifically breast and cervical cancer, is typically diagnosed beyond the stage of effective treatment because of a lack of access to proper diagnostics (Benediktsson et al., 2009; Tumino et al., 2017).

Appendix B: ASCP Leadership Institute Certificate Program Syllabus and the Course Objectives

Conflict Prevention and Resolution

Conflict Prevention & Resolution focuses on a repertoire of conflict-handling modes used during various kinds of conflicts. The five conflict-handling modes discussed in this course are applicable in specific situations and each represents a set of useful social skills.

Every organization generates conflicts, regardless of whether people work in a laboratory, hospital, nonprofit, corporation, or small business. The challenge is to move from impasse to transformation. People can make a significant contribution to the effectiveness of organizations and impact the lives of coworkers, the satisfaction of customers, and the morale of staff by leading people through the strategies for preventing and resolving conflict.

This course will discuss the views of conflict, different approaches to conflict situations, and participant's own preferred conflict management approaches.

Upon completion of this course, participants are able to:

- Identify the precursors of conflict.
- Assess their personal conflict-handling modes and techniques through the use of the Thomas-Kilmann Conflict Mode Instrument.
- Apply the CLEAR and VOMP conflict management and resolution models and techniques for preventing conflict.

DeCoding American Generations

DeCoding American Generations focuses on increasing knowledge of the values,

attitudes, behaviors, and characteristics of the six generations that are alive in the United States today.

DeCoding American Generations is both an individual journey and an individual process to help people capitalize on generational strengths, utilize the strengths of other generations, and collaborate more effectively with others. The more people understand generational differences, the less resistant or uncomfortable people are when working with people who are different.

Upon completion of this course, participants are able to:

- Differentiate between preferred generational communication styles and work standards.
- Describe different generations' characteristics, behaviors, traits, and values.
- Construct the skills necessary to effectively work across generations.
- Increase self-awareness through completing the Generational DeCoder.
- Develop strategies and apply knowledge and skills to communicate across generational networks to expand their circle of influence.

Everything DiSC Workplace

Have you ever wondered why it's so easy to work with some people and more challenging to work with others? This course provides insights into participants' own behavioral preferences in the workplace and those of others. Participants learn how to adapt and stretch their preferred behavioral style to meet the needs of others and how to recognize behavior patterns. Everything DiSC is a personal development assessment that measures an individual's tendencies and priorities.

Upon completion of this course, participants are able to:

- Utilize assessment results to identify own DiSC behavior tendencies.
- Utilize assessment results to identify own and others' DiSC behavior tendencies.
- Accommodate other people's differing DiSC profile tendencies in the workplace.
- Apply other's DiSC behavioral strengths and tendencies in order to develop more productive teams.
- Manage employees more effectively using their DiSC workstyle tendencies.

Groupthink and the Abilene Paradox

Everyone makes decisions and everyone makes decisions in groups. It is, therefore, essential to create a sound decision-making process in which everyone is comfortable sharing opinions. This course consists of two separate sections: Groupthink and the Abilene Paradox, focusing on two different parts regarding a group's decision-making process. First, Groupthink discusses how groups can have irrational or even dysfunctional decision-making processes. The Abilene Paradox studies how certain groups have an inability to manage group agreement. Together, these two parts provide insights into good group decision making, whether groups agree or disagree.

Upon completion of this course, participants are able to:

- Recognize the symptoms and antecedent factors that contribute to Group Think.
- Recognize the symptoms and antecedent factors of The Abilene Paradox.
- Apply the groupthink model in group decision making processes on the job.
- Identify and implement techniques for the prevention of Groupthink.
- Identify and implement techniques for the prevention of mismanaging agreement.

Listening with a Purpose

Listening with a Purpose focuses on the theories and models behind listening.

Listening is an essential skill to be an effective leader. With adaptive listening skills, leaders are more effective in their communication, delegation, and motivation. In this course and through the analysis of the self-assessment, participants will learn about the different listening modes and approaches, as well as, strategies for communicating more effectively. Participants will learn the importance of adapting their behavior depending on the needs of others, gain insights into their own behaviors, and learn how and when to adapt their approach.

Upon completion of this course, participants are able to:

- Recognize the elements of personal communication and barriers to communication.
- Distinguish between the listening modes, listening approaches.
- Utilize assessment to determine own listening style.
- Identify listening styles that are different from their own.
- Develop communication strategies based upon listening styles.
- Recognize others' listening styles and utilize knowledge in their own listening styles.

MBTI

The purpose of this course is to help people better understand themselves and their behaviors, as well as, other personality types. It functions as a tool to help participants develop greater self-awareness and awareness of others. The Myers-Briggs Type Indicator (MBTI) creates a deeper understanding and constructive use of the differences between people. This increased awareness establishes and fosters improved and more effective work relationships.

Upon completion of this course, participants are able to:

- Assess their personality preferences/types using the MBTI model.
- Apply MBTI theory to develop leadership and management skills.
- Describe the basic preferences of four dichotomies of MBTI.
- Manage their employees and/or co-worker relationships more effectively.

Organizational Savvy

Organizational Savvy focuses on increasing knowledge of participants' relationship skills and understanding of the organizational culture. Organizational Savvy is a portfolio of competencies of approaches and behaviors used to navigate through a career and organization with success and integrity. This course addresses multiple aspects of organizational savvy and provides insights and explanations to analyze and understand the OCI self-assessment.

Upon completion of this course, participants are able to:

- Understand the personal and professional implications of organizational savvy.
- Identify the shared values and beliefs that guide the thinking and behaviors of their organization.
- Differentiate when to use personal or positional leadership.
- Describe their personal strengths and development areas when interacting with others.
- Apply knowledge and skills to navigate across their internal and external networks.
- Develop strategies to increase their circle of influence.

Note: This version of the OCI only measures one person's interpretation of expected

behavior in an organization and does not measure an organization's culture.

Reacting to Change

Reacting to Change provides theories, models, and a self-assessment for understanding how people react to change and how to manage change effectively.

Change management is a process to help employees to accept and embrace organizational change, whether it is an adaptation of new technology, a new compliance requirement, or downsizing. Understanding how people react to change and anticipating their reactions, allows leaders and employees to plan accordingly and to set employees and the entire organization up for success. Participants will complete a self-assessment to analyze their own thinking patterns related to change.

Upon completion of this course, participants are able to:

- Understand different emotional reactions to change.
- Utilize different change theories in both reacting to change and managing change.
- Plan for change effectively through the use of Kotter's 8-Step Process for Change and the Appreciative Inquiry Model.
- Develop new ways of reacting to change through the results from the LSI assessment.

Note: This version of the LSI is LSI-1, which only measures a person's self-interpretation of thinking and behavior patterns. The researcher used the LSI-2 to measure the leadership style of the laboratory director.

Team Dynamics

Team dynamics are the unconscious, interpersonal forces that influence the direction of a team and its performance. Team dynamics are created by people's

personalities, work ethic and experience, the task at hand, and the environment, such as deadlines, communication, and leadership. Team Dynamics focuses on the different stages of team development, how to create a high performing team, and participants' preferred team role or roles. The Team Dynamics model will help participants recognize other people's preferences for working on a team and to create an environment in which individuals and teams flourish.

Upon completion of this course, participants are able to:

- Learn about and identify the various stages of team development and their implications.
- Recognize the characteristics of high-performing teams.
- Understand the Team Dimensions Model and identify and interpret their preferred team role.
- Recognize others' team positions and their role and contribution to the team.
- Assess how teams can identify each member's talents and place people in roles that utilize their talents.

Time Mastery

Everyone faces a daily dilemma: too much to do and not enough time to do it. Time appears to be the limiting factor, not the actual activities. Time management is self-management because managing time means adapting behavior to accomplish tasks in an effective manner. This course walks participants through a process of identifying new habits in 12 time management categories. The Time Mastery assessment provides insights into current behavior and offers a five-step approach for creating and changing habits. Participants set new goals for each of the Time Mastery Categories and write an

Action Plan.

Upon completion of this course, participants are able to:

- Utilize the Time Mastery assessment to identify their time management behaviors.
- Describe the 12 Time Mastery Categories.
- Demonstrate where to focus time management efforts based on a Skills Gap Analysis.
- Understand how to improve their time management by creating action plans.

Source: ASCP Leadership Institute Certificate Program Syllabus, 2017

Appendix C: Additional Information about the Life Styles Inventory and Organizational Culture Inventory Circumplexes

The Life Styles Inventory (LSI) Circumplex

The LSI circumplex provides a clear overview of the thinking and behavior of the participant. The circumplex is divided into two dimensions, the three clusters, and the 12 styles (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Human Synergistics International, 2004, 2013, 2015; Klisz, 2005; *Organizational Culture Inventory Interpretation & Development Guide*, 2009; Rovithis et al., 2016). The distance between the styles indicates their degree of correlation and similarity (Cooke & Rousseau, 1983; Cooke & Szumal, 2000). In other words, the closer the styles are together the more they have in common with one another. All the scores of the assessment are converted into percentile scores and placed on the circumplex (Cooke & Szumal, 2000; Human Synergistics International, 2004, 2013, 2015; *Organizational Culture Inventory Interpretation & Development Guide*, 2009). The bold circle in the center indicates the 50th percentile, meaning that scores above that ring are better than the results of the sample group and scores that fall below the ring indicate that the scores are lower than the sample group (Cooke & Szumal, 2000; Human Synergistics International, 2004, 2013, 2015; *Organizational Culture Inventory Interpretation & Development Guide*, 2009).

The style that has the highest percentile score in the entire circumplex is called the *Primary style*, meaning that this is the behavioral style most widely used (*Organizational Culture Inventory Interpretation & Development Guide*, 2009; Rovithis et al., 2016). The *Secondary style* has the next highest percentile; this is the style either used in conjunction

with the primary style or used when the primary style cannot be expressed (*Organizational Culture Inventory Interpretation & Development Guide*, 2009; Rovithis et al., 2016). The *Primary and Secondary* styles can both fall in the same cluster and the primary cluster used in an organization is the one in which the combined scores of all four clusters and styles are the highest (*Organizational Culture Inventory Interpretation & Development Guide*, 2009).

Spread of Opinion

In the LSI Level 2, there are at least three raters needed to create a report with feedback from others about a person's thinking and behavior styles (Human Synergistics International, 2004). Because the LSI Level 2 report involves multiple people, it is important to look at the inter-rater agreement, or the spread of opinion (Human Synergistics International, 2015). When the spread of opinion is narrow, it indicates that there is a strong inter-rater agreement (Human Synergistics International, 2015). When the spread of opinion is wide, the raters have little agreement among themselves (Human Synergistics International, 2015). In the LSI Level 2 report, the spread of opinion is visualized in the circumplex through light and dark shading (Human Synergistics International, 2015). Light shading indicated low inter-rater agreement and dark shading indicates high inter-rater agreement (Human Synergistics International, 2015).

The Organizational Culture Inventory (OCI) Circumplex

The OCI Circumplex is similar to the LSI Circumplex, but the OCI indicates an overview of the culture of an organization. Similarly, the bold circle in the center indicates the 50th percentile, meaning that scores above the ring are better than the results of the sample group (Cooke & Szumal, 2000; *Organizational Culture Inventory*

Interpretation & Development Guide, 2009). Scores that fall below the ring indicate that the scores are lower than the sample group (Cooke & Szumal, 2000; *Organizational Culture Inventory Interpretation & Development Guide*, 2009). Furthermore, as with the LSI, the OCI indicates a *Primary* style, which is the behavioral style most widely used and/or expected in an organization, and a *Secondary* style, which is the style either used in conjunction with the *Primary* style or used when the *Primary* style cannot be expressed (*Organizational Culture Inventory Interpretation & Development Guide*, 2009; Rovithis et al., 2016).

Appendix D: Recruitment Flyer

Invitation to Participate in Leadership Study

Participants needed for research on the cultural applicability of leadership courses.

The purpose of this study is to analyze the cultural applicability of leadership courses to make recommendations for improving leadership training in the field of pathology and laboratory medicine.

Culture influences which leadership traits are most effective in a specific situation and how to properly exert influence appropriately. Cultural applicability of leadership courses refers to culturally relevant concepts and language that foster effective leadership development in a specific culture.

As a participant of this study, you will be asked to complete a leadership program consisting of 10 leadership courses. You will also be asked to complete two online assessments about the culture and leadership culture of this laboratory, which take up to 20 minutes each. You will be observed and asked to participate in a 45-60 minute focus group conducted in this laboratory, which will be audio-recorded and transcribed. This is followed by a 45-60 minute interview conducted over the phone, which will also be audio-recorded and transcribed. Finally, you will be asked to complete a 10-minute online survey.

The total time commitment is up to 20 hours over the course of six months. In exchange for participation, you can earn up to 20 CME/CMLE/SAMs credits through the leadership program that you can use for your maintenance of certification.

If you are a laboratory professional or pathologist working in this laboratory, you are over 18 years old, and you speak English then you are eligible to participate in this study.

The study has multiple data collecting methods that take place online, over the phone, and in the laboratory. No identifying information is shared or published.

If interested or if you have any questions, please contact:

Lotte Mulder, Ed.M.

PhD Candidate of Organizational Leadership.

The Chicago School of Professional Psychology

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+1.347.947.0117

Appendix E: Informed Consent Form

Investigator: Lotte Mulder

Study Title: Cultural Applicability of Leadership Training in the Field of Pathology and Laboratory Medicine

I am a student at The Chicago School of Professional Psychology. This study is being conducted as a part of my dissertation requirement for the PhD

Organizational Leadership program. I am asking you to participate in a research study. Please take your time to read the information below and feel free to ask any questions before signing this document.

Purpose: The purpose of this multiple case study is to analyze the cultural applicability of leadership courses in the field of pathology and laboratory medicine within four distinct cultures, namely in the United States of America, the United Arab Emirates, the United Republic of Tanzania, and Japan. The objective is to make recommendations for improving leadership training in the four countries in order to further the field of pathology and laboratory medicine and to improve patient care. The purpose of this research is not to stigmatize the people, cultures, or courses researched, nor to analyze the reasons behind the differences in the cultural applicability.

Culture influences which leadership traits are most effective in a specific situation and how to properly exert influence appropriately. Cultural applicability of leadership courses refers to culturally relevant concepts and language that foster effective leadership development in a specific culture.

Procedures: Every participant within the study will be offered the opportunity to participate in the ASCP Leadership Institute® free of charge in exchange for

participating in the study. The ASCP Leadership Institute® is an online leadership certificate program consisting of 10 courses designed and facilitated by the American Society for Clinical Pathology (ASCP). The entire leadership program takes between 18.5 and 20 hours to complete and you will be asked to complete the program within six months. You will receive CME/CMLE/SAMs credit for engaging in the program.

When enrolled in the study, you will first complete the Organizational Culture Inventory (OCI) assessment, which analyzes the laboratory's organizational culture. You will also complete the Life Styles Inventory assessment, which analyzes the style of the Laboratory Director. Both assessments take about 20 minutes to complete. Information from both assessments will be used to analyze the cultural applicability of the leadership courses. Information about the laboratory and leadership culture will be blinded within the research description.

I will also observe the laboratory culture between 3-8 hours, during which time I will not create any interruptions or inconveniences for the laboratory staff engaged in their practice. During this day, I will also ask you to participate in a 45-60 minute focus group. The questions of the focus group revolve around the behaviors needed to fit in with the laboratory and what behaviors are appropriate or expected in your country. This focus group will be audio-recorded and the recording will be immediately transcribed and deleted. Following the observation and focus group, I will interview you once over the phone. Each interview will be between 45-60 minutes. The interview questions revolve around the behaviors that are appropriate in the laboratory and your country. This interview will be audio-recorded and the recording will be immediately transcribed and deleted. Lastly, you will also be

v.7.24.2018 Page 1 of 3



asked to complete a survey about the cultural applicability of the leadership courses, which takes no more than 10 minutes.

Risks to Participation: There are three main risks. The first one is Opportunity Risk: you will lose time when completing the assessments, attending the focus group, being interviewed and when taking the survey. To mitigate this, you will receive 18.5-20 CME/CMLE/SAMs credit through completing the leadership program that can be used towards your maintenance of certification. You can also stop participating in the study at any time, without losing your free access to the Leadership Institute. If you choose to stop participating, the researcher will still have access to the information obtained in the certificate program, but these will not be disclosed or included in the study. The second risk is Confidentiality Breach. To mitigate this, I will assign a code name to the laboratory, to the participants, and to the Laboratory Directors and save the document that links the code name to the laboratory in a password-protected file on an external hard drive that is not linked to a network or Internet connection. The third risk is a mild discomfort when answering the assessments and the focus group, interview, and survey questions. To mitigate this, you can leave the study without penalty if discomfort arises and ASCP will offer personal leadership coaching during and after the study to mitigate any further discomfort.

Benefits to Participants: There are multiple benefits. The main benefit is that you receive free access to the ASCP Leadership Institute® Certificate program. This program

includes up to 20 Continuing Education Credits that can be used for your maintenance of certification. Additionally, you have access to personal leadership coaching from the ASCP during and after the study, up to one year after completion of the leadership courses to help guide you through any leadership or professional challenges.

Potential benefits to the field of pathology and laboratory medicine could be recognition of the field, increase in workforce, increase in diagnostics accuracy, and higher quality patient care.

Alternatives to Participation: Participation in this study is voluntary. You may withdraw from study participation at any time without any penalty. Participation in this study will not affect your job status at your organization.

Confidentiality: During this study, information will be collected about you for the purpose of this research. This includes your name, your email address, and your phone number. All data will be saved on a password-protected external hard drive that is not linked to a network or Internet connection. This hard drive will not be used for any other purpose. Aligned with the record-keeping guidelines of the American Psychological Associations, all data will be kept for five years, after which all data will be deleted manually and the hard drive will be destroyed.

Confidentiality for Assessments: The publisher and copyright holder of the Organizational Culture Inventory and Life Styles Inventory assessments is Human Synergistics International. The results are analyzed by them and provided to me. Neither Human Synergistics nor I know who has completed the surveys and who has not. To protect the information in this report, I will assign a code name to each laboratory. This code name will be on the results reports instead of the laboratory's name. Confidentiality

of Observations: The only data collected through the observation are my notes and photographs; no personal identifying information is collected. My notes will not have any identifying information and will only focus on perceived cultural patterns.

Confidentiality of Photographs: I will take photographs of outdoor and/or indoor spaces if written consent is provided. The photographs will not have any people in them or any aspects of the site that would compromise participant or patient anonymity or safety.

v.7.24.2018 Page 2 of 3

Confidentiality of Focus Groups: The focus group will be audio-recorded and the recording will be transcribed immediately after the focus group and all identifying information will be deleted. Once transcribed, the audio recording will be deleted. Confidentiality for Interviews: The interview will be audio recorded. After the interview is completed, the audio recording will be transcribed and destroyed. In case you do provide identifying information, it will be deleted from the transcription and only the code names will be used.

Confidentiality for Surveys: The surveys will be sent through Survey Monkey and it will not request any identifying information. Each survey will be sent with a code name all questions asked on this survey relate to the applicability of the leadership courses.

Your research records may be reviewed by federal agencies whose responsibility is to protect human subjects participating in research, including the Office of Human Research Protections (OHRP) and by representatives from The Chicago School of Professional Psychology Institutional Review Board, a committee that oversees research.

Questions/Concerns: If you have questions related to the procedures described in this

document please contact me at LMulder@ego.thechicagoschool.edu and/or my Dissertation Chair Dr. George Hay at GHay@ego.thechicagoschool.edu. **If you have questions concerning your rights in this research study you may contact the Institutional Review Board (IRB), which is concerned with the protection of subjects in research projects. You may reach the IRB office Monday-Friday by calling 312.467.2343 or writing: Institutional Review Board, The Chicago School of Professional Psychology, 325 N. Wells, Chicago, Illinois, 60654.**

Consent to Participate in Research Participant:

I have read the above information and have received satisfactory answers to my questions. I understand the research project and the procedures involved have been explained to me. I agree to participate in this study. My participation is voluntary and I do not have to sign this form if I do not want to be part of this research project. I will receive a copy of this consent form for my records.

Name of Participant (print)

Signature of Participant

Date: _____

Name of the Person Obtaining Consent (print)

Signature of the Person Obtaining Consent

Date: _____

v.7.24.2018 Page 3 of 3

Appendix F: Consent from Human Synergistics International

Lotte Mulder ASCP 33 W Monroe Street, Suite 1600 Chicago, IL 60603

Dear Ms. Mulder:

March 19, 2018

Letter of Agreement for Researchers *Organizational Culture Inventory® (OCI®) Life Styles Inventory® 2 (LSI 2)*

Your proposal, “Cultural Applicability of Leadership Courses in the Field of Pathology” has been reviewed by Human Synergistics and I am pleased to inform you that permission is granted for the use of the *Organizational Culture Inventory® (OCI®)* and the *Life Styles Inventory® 2* in your research.

Human Synergistics will provide you with the appropriate number of OCI and LSI 2 surveys (price to be determined). Under this agreement, Human Synergistics is not responsible for any other activities or costs associated with this project (e.g., for data analysis) or for providing technical advice on statistical analyses or the results obtained. Other reporting options will be at regular price (to be determined as needed).

You will be asked to sign a letter of agreement confirming the terms of use of the OCI and LSI 2 (as outlined in the research agreement document).

Please contact me if you have any questions. I look forward to working with you.

Sincerely,

Cheryl A. Boglarsky, Ph.D. Director of Research and Product Development

Appendix G: Checklist for Observation

This document is used to collect data on cultural, both organizational and national, behavior patterns occurring in each laboratory participating in this study. The perceived column indicates how many times a behavior was witnessed. The next four columns indicate where this behavior was witnessed, meaning that if witnessed in all three situations the behavior is likely a strong part of that particular organizational and/or national culture. For a description of the behaviors, please see the High Level Coding document. For a link of each of the behaviors to either organizational or national culture, please see the Decision Rules document.

Laboratory Code Name:

Date:

Observer: Lotte Mulder

Behavior	Perceived	During Observation	During Meeting	During Focus Group	Artifacts
Group Decision Making					
Autocratic Decision Making					
Asking for Approval /Consent/Permission					
Strict Timelines					
Teaching Others					
Team Work					
Strict Agenda and Time Keeping					
Casual Chatter					
Personal Conversations					
Asking Other's Feedback					
Critiquing					
Avoiding Decision Making					
Mentioning Title/Status/Tenure					
Putting Others Down					
Working Over Hours					

Taking Responsibility					
Blaming Others					
Meeting after Work					
Asking for Consultation					
Looking in Handbook /Procedure Guide					
Open Disagreement					
Questioning Superiors					
Checklist of Tasks					
Discussion of Future					
Expressed Enthusiasm					
Saying Hello/Goodbye					
Includes Others					
Reference to Systems and Procedures					
Other					
Other					
Other					
Other					
Other					
Other					

Appendix H: Interview Questions

The purpose of the one-on-one interviews is to collect data on an individual's indirect understanding of national and organizational culture. The interviews will take place over the phone and will last between 45-60 minutes. Each participant is asked to take part in the interview, which will take place after the Organizational Culture Inventory (OCI) and Life Styles Inventory (LSI) are completed. The interview will take place during different stages of the completion of the leadership program. The reason for this is that the main purpose of the interview is to find out about an individual's indirect understanding of both their national and organizational culture and how both might relate in their workplace and the purpose is not to collect data on the cultural applicability of leadership courses.

The interview will be a semi-structured interview with open-ended questions. The researcher will start the phone call by confirming their voluntary participation and informed consent. Next, the researcher will ask if the interviewee consents to being audio recorded. If so, the researcher will reiterate the confidentiality of the interview and ask the interviewee not to mention the laboratory's name or other people's names. The researcher will transcribe the audio recording and any identifying information will be deleted. After the interview is transcribed, the audio data will be deleted. The transcription will be coded with the participant's code name and stored on an external hard drive that is both password-protected and not connected to a network or Internet.

The areas of questions are as follows:

1. General description of participants' country
2. Description of what is valued in participants' country
3. General description of participants' workplace
4. Description of what is valued in participants' workplace
5. Advice regarding appropriate behavior for newcomers in their organization/country

Interview Questions:

1. Could you give me a brief description of your job?
 - a. What is your title?
 - b. How long have you been there?
 - c. What is a typical day for you (if there is such a thing)?
 - d. What do you consider the most important tasks of your job?
 - e. What is it like to work there?
2. How would you describe your country to someone who has never been there?
3. What are some of the values in [interviewee's country]?
 - a. How are they expressed?
 - b. What is considered important to someone who grew up there?

4. What does it mean to have a pathology job in [interviewee's country]?
5. What is valued in your laboratory?
 - a. How are they expressed?
 - b. What is considered important?
6. If there was someone new coming to work at [interviewee's laboratory], what advice would you give them?
 - a. What would your advice be if they were new to the laboratory and also new to [interviewee's country]?
7. How does leadership relate to your job?
 - a. What is a leadership skill your laboratory could benefit from?
 - b. In your experience at [interviewee's laboratory], what is an example of a great leadership skill?
8. Which leadership courses have you already completed?
 - a. On a scale from 1-10 with 1 being extremely low and 10 being extremely high, what score would you give each of those courses?
 - b. What made you choose that score?
 - c. What is missing from the course that would make you score it 10?
9. Is there anything else you would like to add?

Appendix I: Focus Group Questions

The focus groups will take place during the one-day observation and will last about 45-60 minutes. Any pathologist and laboratory professional working in one of the six laboratories can participate in the focus group. At the beginning of the focus group, an overview of the focus group will be provided orally and oral consent is requested from participants. Participation in the focus group is voluntary. The main purpose of the focus group is to assess cultural patterns as they relate to national and organizational culture of the specific country and laboratory.

The focus group will be a semi-structured interview with open-ended questions. The researcher will start the focus group by confirming their voluntary participation and informed consent. Next, the researcher will ask if everyone present consents to being audio recorded. If so, the researcher will reiterate the confidentiality of the focus group and participants not to mention the laboratory's name or other people's names. The recording will be transcribed by the researcher immediately after the focus group and any identifying information will be deleted. Once transcribed, the audio recording will be deleted. The transcription will be stored on an external hard drive that is both password-protected and not connected to a network or Internet.

The areas of questions are as follows:

1. General description of participants' country
2. Description of what is valued in participants' country
3. General description of participants' workplace
4. Description of what is valued in participants' workplace
5. Examples of a time when participants' assumption of how things were conducted in their workplace was different than reality.

Focus Group Questions:

1. How would you describe [current country] to someone who has never been here?
2. What are some of the values in [current country]?
 - a. How are they expressed?
 - b. What is considered important to people who grew up here?
3. What does it mean to have a pathology job in [current country]?
4. What are some of the values of [current laboratory]?
 - a. How are they expressed?
 - b. What is considered important?
5. If there was someone new coming to work at [current laboratory], what advice would you give them?
 - a. Of this list, what advice is communicated openly or directly?
 - b. What advice is not communicated openly or directly?

- c. What would your advice be if they were new to this laboratory and also new to [current country]?
6. What is a leadership skill your laboratory could benefit from?
 - a. In your experience at [interviewee's laboratory], what is an example of a great leadership skill?
7. Is there anything else you would like to add?

Appendix J: Survey Questions

The survey was administered after participants completed the OCI and LSI assessments, the interview, and 10 courses of the leadership program. The survey took no longer than 15 minutes to complete and was administered through the SurveyMonkey platform. The purpose of the survey was for participants to rate the applicability of each leadership course. The questions were answered on a seven-point Likert scale.

No identifying information was collected on the survey and the participants were not asked to submit their name or email address. Each survey was linked to the appropriate laboratory through code names. The areas of questions are as follows: Overall impression of the leadership courses, rating of each leadership course's applicability, and application of course to job.

Survey Questions

1. Please indicate your level of agreement with the following statements about the leadership courses:
 - a. The level of difficulty was appropriate
 - b. The content has educational value
 - c. The content had practical applications
 - d. The courses strengthened my leadership skills in the laboratory
 - i. Strongly Disagree
 - ii. Disagree
 - iii. Slightly Disagree
 - iv. Neither Disagree or Agree

- v. Slightly Agree
 - vi. Agree
 - vii. Strongly Agree
2. How likely are you to make changes in your practice as a result of taking the leadership courses?
- a. Very Unlikely
 - b. Unlikely
 - c. Slightly Unlikely
 - d. Neither Unlikely or Likely
 - e. Slightly Likely
 - f. Likely
 - g. Very Likely
3. How applicable is each leadership course to your current job:
- a. Conflict Prevention & Resolution
 - b. DeCoding American Generations
 - c. Everything DiSC Workplace
 - d. Groupthink and the Abilene Paradox
 - e. Listening with a Purpose
 - f. MBTI
 - g. Organizational Savvy
 - h. Reacting to Change
 - i. Team Dynamics
 - j. Time Mastery

- i. Strongly Inapplicable
 - ii. Inapplicable
 - iii. Slightly Inapplicable
 - iv. Neither Inapplicable or Applicable
 - v. Slightly Applicable
 - vi. Applicable
 - vii. Strongly Applicable
4. Which course have you applied to your current job? Select all that apply:
- a. Conflict Prevention & Resolution
 - b. DeCoding American Generations
 - c. Everything DiSC Workplace
 - d. Groupthink and the Abilene Paradox
 - e. Listening with a Purpose
 - f. MBTI
 - g. Organizational Savvy
 - h. Reacting to Change
 - i. Team Dynamics
 - j. Time Mastery
5. Which course do you not foresee yourself applying in your current job? Select all that apply:
- a. Conflict Prevention & Resolution
 - b. DeCoding American Generations
 - c. Everything DiSC Workplace

- d. Groupthink and the Abilene Paradox
 - e. Listening with a Purpose
 - f. MBTI
 - g. Organizational Savvy
 - h. Reacting to Change
 - i. Team Dynamics
 - j. Time Mastery
6. Would you recommend other people in your laboratory to take these courses?
- a. Very Unlikely
 - b. Unlikely
 - c. Slightly Unlikely
 - d. Neither Unlikely or Likely
 - e. Slightly Likely
 - f. Likely
 - g. Very Likely
7. Please indicate your level of agreement with the following statements about the entire leadership program: Overall, I am ___ with the leadership program
- a. Strongly Dissatisfied
 - b. Dissatisfied
 - c. Slightly Dissatisfied
 - d. Neither Dissatisfied or Satisfied
 - e. Slightly Satisfied
 - f. Satisfied

- g. Strongly Satisfied
8. Overall, I can apply the content of the leadership program to my job
- a. Strongly Disagree
 - b. Disagree
 - c. Slightly Disagree
 - d. Neither Disagree or Agree
 - e. Slightly Agree
 - f. Agree
 - g. Strongly Agree
9. Overall, the quality of the leadership program is?
- a. Very Poor
 - b. Poor
 - c. Slightly Poor
 - d. Neither Poor or Good
 - e. Slightly Good
 - f. Good
 - g. Very Good
10. Anything else you would like to add?

Appendix E: Initial Coding Tree 2.23.19

1. Accuracy + Quality of service
 - a. Accountability
 - i. Blame free
 - ii. Set example
 - b. Ask questions
 - c. Follow Policies + Policies + Process, Protocols
 - i. Self-policing
 - d. Lab orientation + Operations
 - e. Safety
 - f. Time Management + Don't rush
2. Collaboration + Delegation + Involvement
 - a. Liaison + Doctor's doctor + Multi-disciplinary
 - b. Committee
 - c. Team Work + People + Patience
 - d. Recognition
 - e. Advocate
3. Communication skills + Listening
 - a. Emotional intelligence
 - b. Conflict
 - c. Professionalism + Dress code
4. Community + Family + Nice people
 - a. Safe place + Peace

- i. Physical Description
 - ii. Logistical advice
- 5. Decisions + Problem-Solving
 - a. Inclusion
 - b. Meetings
- 6. Diversity or Diverse + Generations
 - a. Respect + Open-minded + Tolerance
 - b. Equality + Fairness + Gender in medicine
 - c. Adapting Leadership style
- 7. Education or Development
 - a. Training + Improvement + Empowering + Mentor + Motivation
 - b. Feedback + Teaching + Availability
 - c. Vision
- 8. Fast-paced + Hectic+ Busy + Multi-tasking
 - a. Challenging + Innovative + Technology
 - b. Works hard + Hard work
 - c. Understaffed + Lack of staff
 - d. Diagnosis + Clinical + Rounds
- 9. Few pathologists
 - a. Job security
 - b. Underrated +Don't understand pathology
- 10. Fulfilling + Good + Satisfying + Inspiring + Significant + Positive
- 11. Helpful

- a. Support + Supportive + Volunteering
 - b. Knowing what is happening + Checking in
12. Heterogeneity + Less diverse
- a. #2 Odd Q Not used to explaining own culture + Hard question
 - i. Same advice
13. Hierarchy
- a. Status + Tenure + Prestige
 - b. Ambition + Initiative
 - c. Promotion
 - d. Research
14. Leadership role
- a. Leadership education
 - b. Integrity + Transparency+ Trustworthiness + Honest
15. Mentions Patients = Patient-Centered + Number of patients
16. No Typical Day + Flexible
- a. Over-Hours
 - b. On-call
17. Opportunity
- a. Freedom
 - b. Individual + Independence
 - i. No social time + Not people person
18. Relationships + Quality time + Welcoming + Connection + Collegial + Love +
Friendly + Social time + Kindness

- a. Personal stories
 - b. Work-life balance
 - c. Religion
19. Resources
- a. Money= Money +Affordable + Salary + Revenue + Expensive
20. Typical day
- a. Set schedule + Start Time + End Time + Schedule + Number of Hours
21. Admin work
22. Commitment
23. Competent or Ability
24. Explanation of job
25. Jobs
26. Power
27. Humanitarian
28. Cell phones
29. Public Speaking
30. Mistake
31. Pleasant
32. Privilege
33. Monotonous
34. National Culture
35. Org Culture
36. Stand up for yourself

37. Specialty
38. Politics + Democratic + Patriotism
39. Residents
40. Title
41. Years at site
42. Working Hours
43. LI courses
 - a. Time course
 - b. DiSC
 - c. Conflict course
 - d. Generations course
 - e. Groupthink
 - f. MBTI

Appendix L: Final Coding Tree

Table 112

Final Coding Tree

Macro Code	Micro Code	Mini Code	
Accuracy	Accountability	Blame-Free	
	Ask Questions		
	Follow Rules		Policies
			Self-Policing
	Lab Orientation		
	Time Management		
Collaboration	Advocating		
	Involvement		
	Liaison		
	Recognition		
Communication Skills	Conflict Resolution		
	Emotional Intelligence		
	Professionalism		
Community	Physical Description of Country	Navigating the Country	
		Safe Country	
	Work Relationships	Collegial	
		Family	
		Work-Life Balance	
	Religion		

Country of Opportunity	Freedom	
	Individual	
Development	Mentor	
	Training	Feedback
Heterogeneity	Equality	
	Respect	
	Open-Minded	
Homogenous	Difficulty Explaining Own Culture	Same Advice to Foreigner and Natives
Hierarchy	Ambition	
	Prestige	
	Promotion	
	Research	
Lack of Pathologists and Lab Pros	Public Doesn't Understand Pathology	
	Understaffed	
Leadership Role	Adapting Leadership Styles	
	Decisions	
	Integrity	
	Leadership Education	
	Set Example	
	Vision	
Most Important Aspect	Clinical	

of Job	People	Teaching
		Patients
No Typical Day	Over-Hours	
Patient-Centered		
Typical Day	Set Schedule	
Work Environment	Challenging	
	Fast-Paced	
	Fulfilling	
	Job Security	
	Meetings	
	Lab Safety	
	Supportive	Check-Ins

Appendix M: Additional National Culture Data

Table 113

Coding Data on Navigating the Country

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Navigating the Country	4/13	3/6	1/7	<p>U.S.A.: “[I would advise them on] who’s your doctor, who’s your dentist, who’s your realtor, so it’s just offering up suggestions even where to live.”</p> <p>U.A.E.: “I’m a friendly person so definitely if anyone, I know he is new in the country and he’s new for a job, so I’ll start giving advice about that area where this person can stay, or what is the benefit of this area, how he can get himself to his work, then I’ll talk about the environment around his living area.”</p> <p>Tanzania: “If they are new to Tanzania, it depends where they come from. If they come from Africa, maybe you have to show a way to get important information, important items they need, but if they are outside Africa, I would tell them to be a little bit cautious of the security and the language maybe they can get a little language barrier, but also to take care of themselves because though we are very peaceful, we are very friendly, but that is not 100 percent, some other issues can happen.”</p>

Table 114

Coding Data on Physical Description of Country

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Physical Description of Country	0/13	2/6	4/7	<p>U.S.A.: "I guess [the U.S.] is beautiful in many parts."</p> <p>U.A.E.: "The second thing, is that we have very, very attractive, a lot of attractive places and locations to be seen, so you will not get bored at all."</p> <p>Tanzania: "Tanzania is an African country in Africa, a nice country for living, and has a lot of attention of possible living, we have a lot of national parts, we have Mount Kilimanjaro, which is the highest mountain in Africa. They have good lakes, like Lake Seneca, Lake Victoria [...] and we have valleys which is attractive for the tourists to come to the village."</p>

Table 115

Coding Data on Homogenous

Code	# of Participants			Quote
	US Sites (n = 13)	UAE Site (n = 6)	Tanzania Site (n = 7)	
Homogenous	11/13	0/6	2/7	U.S.A.: “So, you know a place like [West-coast city], is actually quite non-diverse because everybody’s thinking is essentially the same way.” U.A.E.: N/A Tanzania: “It’s almost the same [advice].”

Appendix N: Additional Macro-Data

Table 116

Coding Data on Self-Policing

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Self-Policing	1/7	0/6	1/6	0/7	US-4: "I think that the biggest one is the ability of people in the United States to self-police." US-14: N/A UA-18: "In the last five or six years we've been state reporting all our own errors and our own incidents, so if I make a mistake I should self-report." TZ-13: N/A

Table 117

Coding Data on Lab Orientation

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Lab orientation	4/7	2/6	2/6	2/7	US-4: "So, my advice is to like get the kind of feel for the work environment and how we all interact with each other." US-14: "I make a point [to show them] okay here's the food, here's coffee, here's all the various areas, so it's like if there having needs, step away, they know exactly where they can step away." UA-18: "If someone is coming to the staff we give an orientation. It is very important to have that orientation, the orientation about the safety, about how to protect yourself, how to be safe." TZ-13: "The first thing is about to, before working in the laboratory [is that] they will have to know when,

what's going on in laboratory.”

Table 118

Coding Data on Time Management

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Time Management	5/7	3/6	4/6	4/7	<p>US-4: “Quality includes the accuracy and precision of the task as well as the timeliness of the results.”</p> <p>US-14: “Just take it one case at a time, don't feel like you have to rush everything because that's when you're going to make mistakes.”</p> <p>UA-18: “So, all the results I mean in the lab they have to go out in 30 minutes so we have a turnaround time, like once we receive it in the unit it has to be reported in 40 minutes.”</p> <p>TZ-13: “So, what is important is to make sure the patient gets results in time, and that they are on-time above all. We have to make sure we read the target of the turnaround time. So, everyone at work is very busy, we work very quickly to make sure we're doing a specific time.”</p>

Table 119

Coding Data on Involvement

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Involvement	2/7	3/6	2/6	1/7	<p>US-4: “I think a lot of [being a team player] has to do with participation of the faculty in the department because that's part of the professionalism it tries to encourage.”</p> <p>US-14: “When given, when asked to</p>

be involved in like committees, or given opportunities to work on research projects, or contribute to papers or books, or things like that, to say yes.”

UA-18: “[We have] quality and patient safety committees, some permission committees, fire and safety committees and all of these you know like working hospital committees, and that is the central committees.”

TZ-13: “We have been attending a number of meetings regionally and sometimes internationally but because we are doing some research and we can disseminate but also goes to my personal involvement in this international and regional organization and especially in being a leader.”

Table 120

Coding Data on Conflict Resolution

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Conflict Resolution	2/7	1/6	4/6	1/7	<p>US-4: “I think culture and medicine that is very inherent, so in healthcare, I would say that surgeons, internal medicine doctors, internists, pathologists, all see things differently and it’s a little difficult sometimes to meet in the same place.”</p> <p>US-14: “A recent thing that I witnessed that I think is impressive is during a meeting where something was brought up that was controversial and people were discussing it and sort of arguing about it and one person stepped in and said that we would gather data on the issue being discussed and circle back and present that data at a later time. So, didn’t side-step the issue but managed to</p>

calm everyone down with the promise of concrete information.”

UA-18: “Some people weigh things in their own way and they weigh things in their own standards. And they get upset because why is the other person not doing it this way? Yes, it is your way though, you know you have to see his way too.”

TZ-13: “I think we also needed the, when you, for example, conflict and resolving issues, I think in that area I would really need to get skills how to solve when there is a conflict. And for different people, different colors, it depends culturally different.

Sometimes will be major or minor but I would really like to have the conflict solving skills if that is the chance.”

Table 121

Coding Data on Emotional Intelligence

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Emotional intelligence	2/7	3/6	2/6	1/7	<p>US-4: “What I define as a good leader, to be a good leader, is just kind of encompassing a couple of the skill sets of listening, kind of empathizing with the employees.”</p> <p>US-14: “[I focus on] monitoring like tones and body language in the sense that like okay she’s not having a good day, let me step away, like give her a moment instead of like pressing, and pressing the issue or something like that.”</p> <p>UA-18: “One of the things that I really like about him, like he is very calm, you know so it doesn’t matter like how bad the situation is, he is always very calm.”</p> <p>TZ-13: “I would say because of our</p>

values of relationship and peace, it has some impact because probably people will tell you the real truth if they are disappointed because they, living in peace, living in good relationship comes first before people can express their real feelings inside.”

Table 122

Coding Data on Professionalism

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Professionalism	3/7	1/6	2/6	3/7	<p>US-4: “I think we value professionalism.”</p> <p>US-14: “Professionalism [is valued].”</p> <p>UA-18: “I would inform them that this is the part of [U.A.E.] territory, we are expected to dress in this professional manner.”</p> <p>TZ-13: “Also, your appearance defines you here, so and also it shows how much you respect yourself so we care for, as a professional because they come and they work in the lab they’re new to the lab and they’re new to the country, so professionalism, is the first thing that I’ll advise them.”</p>

Table 123

Coding Data on Family

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Family	2/7	1/6	1/6	2/7	<p>US-4: “Interactions amongst each other are pretty valued, it’s like we’re one big family.”</p> <p>US-14: “Definitely family values, you know being a good person [is valued</p>

in the U.S.].

UA-18: “At the end of the day what is important is family. Your parents are important, your children are important, so I feel a connectivity out here.”

TZ-13: “In African culture, family is everything. So, if you’re at work and anything happen at home or at the family level they have to be there. So, family comes first, and then job.”

Table 124

Coding Data on Religion

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Religion	1/7	1/6	2/6	0/7	<p>US-4: “I think personally you know, my wife and I are non-religious and atheist and you know I think it’s definitely frowned upon publicly for that.”</p> <p>US-14: “I feel like, and I’m not someone who’s particularly religious but people are, there’s a large segment of the population that’s you know identifies as you know Christians, some Evangelical, and so you know going to church and all that sort of thing is fine.”</p> <p>UA-18: “Religion wise I am also very comfortable because there are so many places we can pray, we have water for evolution, so it is our praying also easy, even if I go to a mall, I have a place to pray.”</p> <p>TZ-13: N/A</p>

Table 125

Coding Data on Feedback

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Feedback	3/7	1/6	3/6	2/7	<p>US-4: “Feedback is very important for me as a matter of fact during all of my manager meetings with my direct manager, I always ask him, what could I be doing better, do you have anything you’d like for me to adjust, fine-tune because at the end of the day I don’t want to wait an entire year to get my evaluation to say hey by the way during meetings you do this and you shouldn’t be doing that because for a year I was doing that and I was not aware of it.”</p> <p>US-14: “I guess it’s always a challenge to give feedback, especially like to the younger trainees, like how do you do it so that you’re effective but not sort of hurting their feelings if that makes sense.”</p> <p>UA-18: “I have to be responsible for evaluations and you know like, I see this aspect of my job as very fulfilling.”</p> <p>TZ-13: “So, people keep on tracking to see which you have completed and you are all ready to work on your own. And that’s when you are given a certificate from there, now the other competencies can be like lab managers, or whoever with entitled to take your day, the norms and the rules that in the lab.”</p>

Table 126

Coding Data on Hierarchy

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Hierarchy	5/7	4/6	5/6	3/7	US-4: “She had an extremely unique

skill of being able to decide who would be correct people to take on the key positions, management positions, so the key management positions throughout the clinical lab.”

US-14: “Productivity, people who publish a lot in highly regarded peer review journals, people who write chapters, people who are invited to speak in national and international conferences, I think those are all things that are very much valued.”

UA-18: “If he or she has a good relation with the lower level because seeking their benefit and this will not satisfy the higher level and everything that this is leadership, but I’m demanding, requesting, and there is nothing achieved [without involvement of] the lower level.”

TZ-13: “We have been attending a number of meetings regionally and sometimes internationally but because we are doing some research and we can disseminate but also goes to my personal involvement in this international and regional organization and especially in being a leader.”

Table 127

Coding Data on Ambition

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Ambition	2/7	2/6	1/6	1/7	US-4: “If you have a specific interest, to pursue that very strongly and that will help you further go in the direction that you personally want to go.” US-14: “So a lot of them have sought leadership positions early in their career, and then after obtaining them, there’s a lot of focus on making

updates and improvements to various parts of the lab in the department.”
 UA-18: “She’s friendly and with the work she’s serious and she want to, for example, give a bigger drive.”
 TZ-13: “If you’re new, first off, be focused. What did you come here for? Work as who?”

Table 128

Coding Data on Prestige

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Prestige	1/7	0/6	1/6	0/7	US-4: “They have different ranks and so I’m at the assistant rank which is the lowest.” US-14: N/A UA-18: “As a pathologist, there is very limited space to get a reputation or to increase your finance in comparison with the other specialties in physicians that’s what I mean.” TZ-13: N/A

Table 129

Coding Data on Promotion

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Promotion	1/7	2/6	4/6	0/7	US-4: “So every two or three years, we as faculty have to run through this process where the Dean’s office reviews the work that we’ve done, the papers that we’ve published, the grants that we’ve brought in, the teaching that we’ve done to make a decision as to whether or not we get to advance to the next rank.”

US-14: "I mentor all the faculty, well not for professors so the assistant and associate professors, preparing them for their promotion."
 UA-18: "The promotion and maybe some staff from 10 years back, 10 years or the 15 years before, and they cannot give to them any promotion."
 TZ-13: N/A

Table 130

Coding Data on Research

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Research	4/7	0/6	2/6	2/7	US-4: "Research is a big one, anything that bring identity and/or focus to the US-4 as a research facility is very, very highly valued." US-14: N/A UA-18: "[Research] is lacking in our hospitals. We are not able to do certain research things. We have so much data, but it is of no use." TZ-13: "I also supervise research, some research I'm doing my stuff but I provide them too research especially for the residents, the year two and year three."

Table 131

Coding Data on Public Doesn't Understand Pathology

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Don't understand pathology	4/7	2/6	2/6	4/7	US-4: "I think pathology is one of the I mean typically as it's always been, kind of a field that people don't know too much about and may not get the

respect it maybe deserves.”
 US-14: “It’s a job that most people don’t understand.”
 UA-18: “We are working in the labs, closed doors, no one sees us, only if we are signing the results of the test, and it’s usually the physicians they are seeing, there’s no reputation to the patient that who does these tests and they don’t care ever.”
 TZ-13: “Pathologists are not very popular to the normal population so a patient would not know the real role of a pathologist is because they don’t come into contact, they just see their clinicians and they’ll get the results from the clinicians.”

Table 132

Coding Data on Understaffed

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Understaffed	3/7	3/6	2/6	5/7	<p>US-4: “Our department, the surgical pathology side is always understaffed and is very I think some people are unhappy.”</p> <p>US-14: “We’re extremely short-staffed.”</p> <p>UA-18: “So, it can be quite busy and I see myself working very hard. Working hard and innovating. And then with this limited amount of staff.”</p> <p>TZ-13: “I enjoy working, but it’s too demanding because we have very few staff comparative with what we are supposed to.”</p>

Table 133

Coding Data on Adaptability

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Adapting Leadership Styles	1/7	1/6	2/6	2/7	<p>US-4: “So, what might be crystal clear vision to me, may be blurred to them so it’s the art of speaking their language, it’s the art of portraying in the way that they understand, and so that’s been very humbling. So, I would say the humble leadership, the servant leadership is very, very important to my work.”</p> <p>US-14: “I would say probably the ability to relate to a diverse group of people including staff and you know faculty, trainees, able to easily relate.”</p> <p>UA-18: “I believe that there are different leadership styles for every situation you know you have to kind of change gears in the way you have those situations because it depends how it goes.”</p> <p>TZ-13: “I think also maybe if a person comes from, who does not know, someone new from some other part of the world, maybe they will need also to adjust themselves for to work in a [Tanzanian] environment.”</p>

Table 134

Coding Data on Decisions

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Decisions	4/7	3/6	2/6	2/7	<p>US-4: “There’s a lot of decisions that I make here in the lab that are final decisions as far as center operating procedures, protocols that you know we change, new test implementation, you know things like that.”</p> <p>US-14: “I’m responsible for making a lot of major decisions in all three of</p>

those venues.”

UA-18: “Yes, we can take everybody’s opinion, but in the end, if we disagree, we just vote, and if we disagree in the voting, then I have to make that decision.”

TZ-13: “Being a leader also means making decisions, and sometimes the decision might not be very easy. But here you have to reach at a stage where you have to decide are there pros and cons but you try to calculate what are the cons and then decide a way which you think is best.”

Table 135

Coding Data on Integrity

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Integrity	2/7	1/6	2/6	0/7	<p>US-4: “I believe integrity to make sure that we’re doing everything the way that we should be following policy and procedures [is a value at US-4].”</p> <p>US-14: “Being someone who sort of gives everyone around them sort of a feeling of trustworthiness, you know like if you come to me or you go to a person in a leadership role with maybe something difficult that you’re going through, you feel confident that it will remain confidential, or if it does need to be escalated that you will be anonymized or will be protected, or it will be handled in such a way that you don’t have to worry about any repercussions or like things of that nature.”</p> <p>UA-18: “Transparency [is a value at US-18].”</p> <p>TZ-13: N/A</p>

Table 136

Coding Data on Set Example

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Set example	3/7	0/6	3/6	0/7	<p>US-4: "I think lead by example is always the best. You know, it may not always be practical, because you know as a leader you may not be involved in certain you know aspects of the department but whenever you can I think leading by example is always the best quality for a leader."</p> <p>US-14: N/A</p> <p>UA-18: "I'm a leader, I have to be setting an example for my staff."</p> <p>TZ-13: N/A</p>

Table 137

Coding Data on Vision

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Vision	4/7	1/6	3/6	2/7	<p>US-4: "I think the biggest [leadership skill needed] is the development of a vision and the communication of a vision."</p> <p>US-14: "And oftentimes [my leadership] sort of translates into being involved in leadership discussions, leadership level discussions as far as laboratory operations go to, and it affects the training program as well."</p> <p>UA-18: "So, the way I am looking at the leadership, it is that we have to be, you have to have a very clear vision of what we want and we have to have an identity to make a vision."</p> <p>TZ-13: "The leaders need to, the manager or whoever on top of you,</p>

like a supervisor, is the one who is like giving the direction of like division or the plan of the institution or the department, so, the leader is very much important and he or she will, the one who is leading the way.”

Table 138

Coding Data on Most Important Aspect of Job

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Most Important Aspect of Job	6/7	6/6	5/6	6/7	<p>US-4: “The most important is probably dealing with the day-to-day issues of the clinical laboratory and also providing consultation to our clinicians as far as the laboratory test results that we provide, how could they be interpreted and used for you know patient care.”</p> <p>US-14: “[The most important thing] is probably the clinical service because we’re here for the patients.”</p> <p>UA-18: “most important task for me is the time that I will be involved with, I cannot say my technicians, they are not working for me, but they are my unit technicians.”</p> <p>TZ-13: “The most important part of my job is to make sure that I work properly to make sure that I direct my results to clients, patients, on time and making sure that my results are accurate.”</p>

Table 139

Coding Data on Most Important: Clinical

Code	# of Participants				Quote
	US-4	US-14	UA-18	TZ-13	

	(n = 7)	(n = 6)	(n = 6)	(n = 7)	
Most Important Aspect of Job: Clinical	6/7	2/6	3/6	4/7	<p>US-4: “[The most important part] is probably the clinical service because we’re here for the patients.”</p> <p>US-14: “I think the most important task is rendering diagnoses for my clinical work.”</p> <p>UA-18: “Well the most important task of my job is my clinical work because there are very, very few medical pathologists here in the UAE, and for me, this is the part of my job.”</p> <p>TZ-13: “The most important task for our jobs is the reading of the slides, the microscope of the slides, the microscopy, study of the slides and reporting to pathologists.”</p>

Table 140

Coding Data on Most Important: People

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Most Important Aspect of Job: People	4/7	5/6	4/6	5/7	<p>US-4: “I guess providing a rapid, accurate diagnoses for the nephrologist and the transplant nephrologist so they can treat their patients.”</p> <p>US-14: “I feel like my main role is to train the next sort of graduates and to be fully realized and successful clinical pathologists.”</p> <p>UA-18: “This is the most enjoyable time for me and the most precious time between me and the staff.”</p> <p>TZ-13: “The most important thing in our lab is the care for patients, the customer care for the patients.”</p>

Table 141

Coding Data on Most Important: Patients

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Most Important Aspect of Job: People-Patients	4/7	2/6	2/6	4/7	<p>US-4: "I would say, that the two most important is one, to be available, readily available to help see critical patients."</p> <p>US-14: "I would say patient care is number one always. Patient care that I provide and the best of my division and staff because I oversee the integrity of the quality of service that comes from pathology, so that's number one is patient care."</p> <p>UA-18: "The main thing is the patient care. The patient come into the hospital if he is giving me a sample, if he is giving me urine, I should be able to isolate to give him the best treatment. That's it."</p> <p>TZ-13: "The first thing that you prioritize is the patient care so that is the most important thing that is based on how you work with everything, you have to keep the patient care first in your mind, and then you work along that."</p>

Table 142

Coding Data on Most Important: Teaching

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Most Important Aspect of Job: People-Teaching	0/7	2/6	0/6	2/7	<p>US-4: N/A</p> <p>US-14: "Definitely I think teaching at the scope, resident and fellow didactics [is the most important]."</p> <p>UA-18: N/A</p> <p>TZ-13: "For me, the most important is the teaching."</p>

Table 143

Coding Data on Over-Hours

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Over-Hours	4/7	3/6	3/6	5/7	<p>US-4: “[Our staff] have no problem, our techs, working you know over and above and beyond and past their shifts to get testing done.”</p> <p>US-14: “A lot of us, if you still want to be productive you have to come in on the weekends, you have to stay you know late in the evenings.”</p> <p>UA-18: “These are the official hours of work, but my work there are some days that I will stay up planning well after 2[PM].”</p> <p>TZ-13: “Most of the time it’s a very busy day, because we normally arrive at work at 8am and we leave at 6, some of the times we leave at 8, so it’s normally busy day because the number of patients is very high.”</p>

Table 144

Coding Data on Set Schedule

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Set schedule	5/7	2/6	4/6	4/7	<p>US-4: “I do my morning huddle, which is like the executive leadership, I do that every day, Monday through Friday.”</p> <p>US-14: “In general I come in around 8:30, 9:00 and ideally I’m usually a little bit more of a late starter [...] then I usually leave, again if it’s a regular average day around 5:00, 5:30 once I’ve finished everything that I can.”</p> <p>UA-18: “Well, a typical day, work</p>

here starts from 7:30 to 2:30 so, and we have flexible hours so we can leave from, you work seven hours you know, if you are a morning with a lunch and stuff you work seven hours and we, like I basically have my days.”

TZ-13: “[My work day] is from 5am until when I leave 5pm.”

Table 145

Coding Data on Challenging

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Challenging	4/7	3/6	4/6	3/7	<p>US-4: “At the same time, I’m one of those people who always wants to sign myself up for more and more challenges so definitely got a taste of my own medicine here.”</p> <p>US-14: “[US-14] for me it’s exciting, it’s challenging.”</p> <p>UA-18: “Every day there is a different problem, there is a different requirement, there is a different working team.”</p> <p>TZ-13: “There’s lots of ups and downs, lots of times where we do not have enough staff available to work with others, but on top of all that though as well without not having enough stuff as well, the work still continues, and the patients still get results and good quality results.”</p>

Table 146

Coding Data on Job Security

Code	# of Participants				Quote
	US-4	US-14	UA-18	TZ-13	

	(n = 7)	(n = 6)	(n = 6)	(n = 7)	
Job security	3/7	2/6	2/6	0/7	US-4: "Having this job it's very high need and very critical, critical background." US-14: "[What it means to have a job in pathology is] in a snippet, it would be job security." UA-18: "If you are working good, you are secure in the work environment." TZ-13: N/A

Table 147

Coding Data on Meetings

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Meetings	6/7	6/6	5/6	2/7	US-4: "At US-4 there are a lot of meetings and there are committees for everything so I feel like some of my days can be filled with a lot of meetings at times." US-14: "I usually have about three hours of meetings every day." UA-18: "So, we always, we meet weekly now because of the categorization, in the past we used to meet bi-weekly, and it doesn't have to be a long meeting, but it's a meeting about, this is what is happening in each unit, this is our next plan, this is what we have to set u." TZ-13: "We have a number of meetings where we discuss our cases, we review our cases, and that makes pathologists to be much more closer and friendly because you talk for cases but to also informally and that may think to be more likely."

Table 147

Coding Data on Check-Ins

Code	# of Participants				Quote
	US-4 (n = 7)	US-14 (n = 6)	UA-18 (n = 6)	TZ-13 (n = 7)	
Check-Ins	4/7	4/6	3/6	1/7	<p>US-4: “Around 9 to 10am I would then head over to the clinical labs to then check in on both the clinical staff in terms of what they need as well as any of the research staff.”</p> <p>US-14: “Just going around the department, good morning, how are you, good afternoon, or whatever like how’s it going today? What do you guys have? That kind of thing.”</p> <p>UA-18: “Me as a head of the unit also communicate are you liking it, how are you finding this place, are you having some difficulties?”</p> <p>TZ-13: “I also have to commute and delegate them but I have to follow up. I’ll see if everything is done in the right way.”</p>

Appendix O: Life Styles Inventory Results

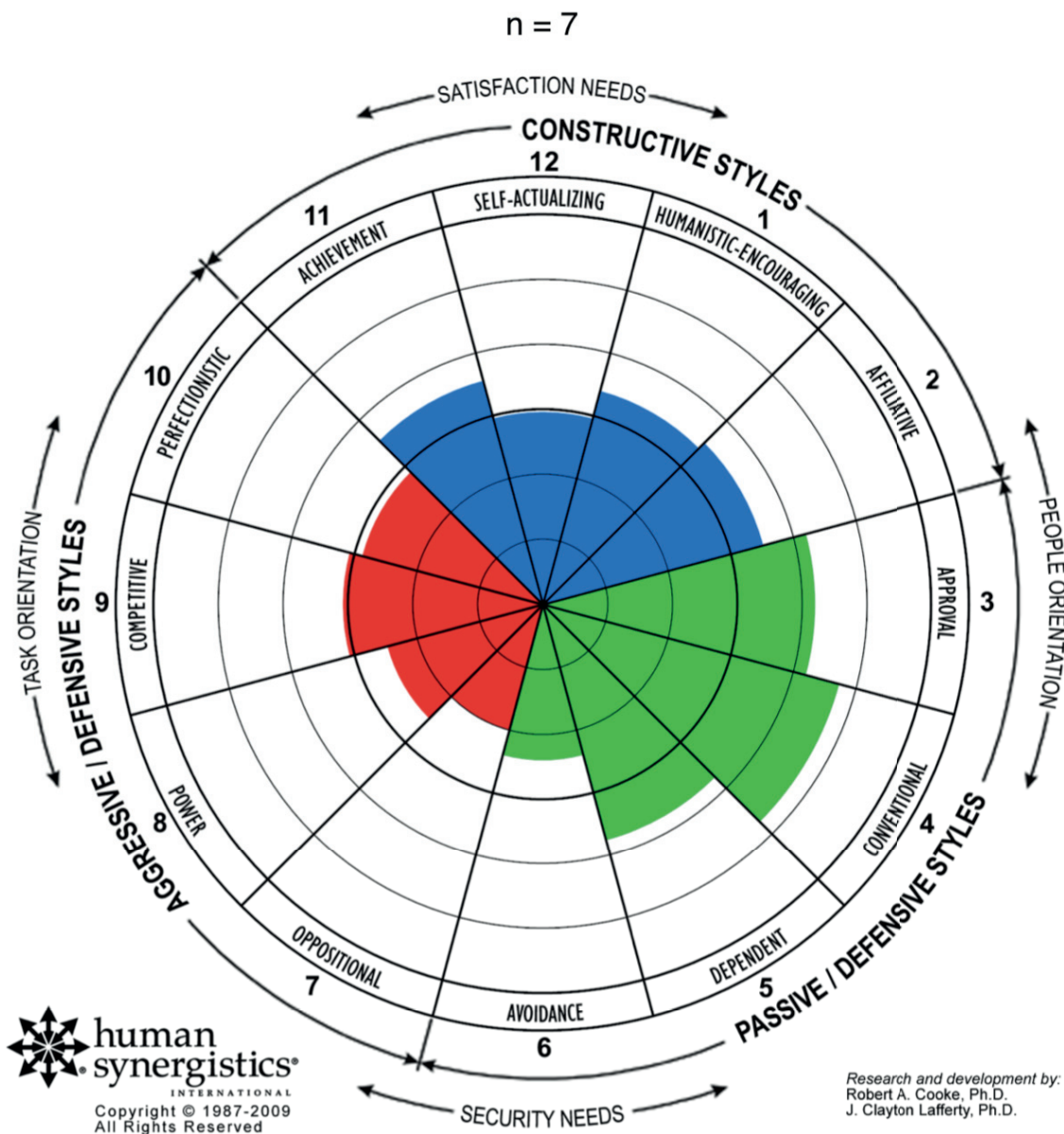


Figure 18. Life Styles Inventory (LSI) results: US-4.

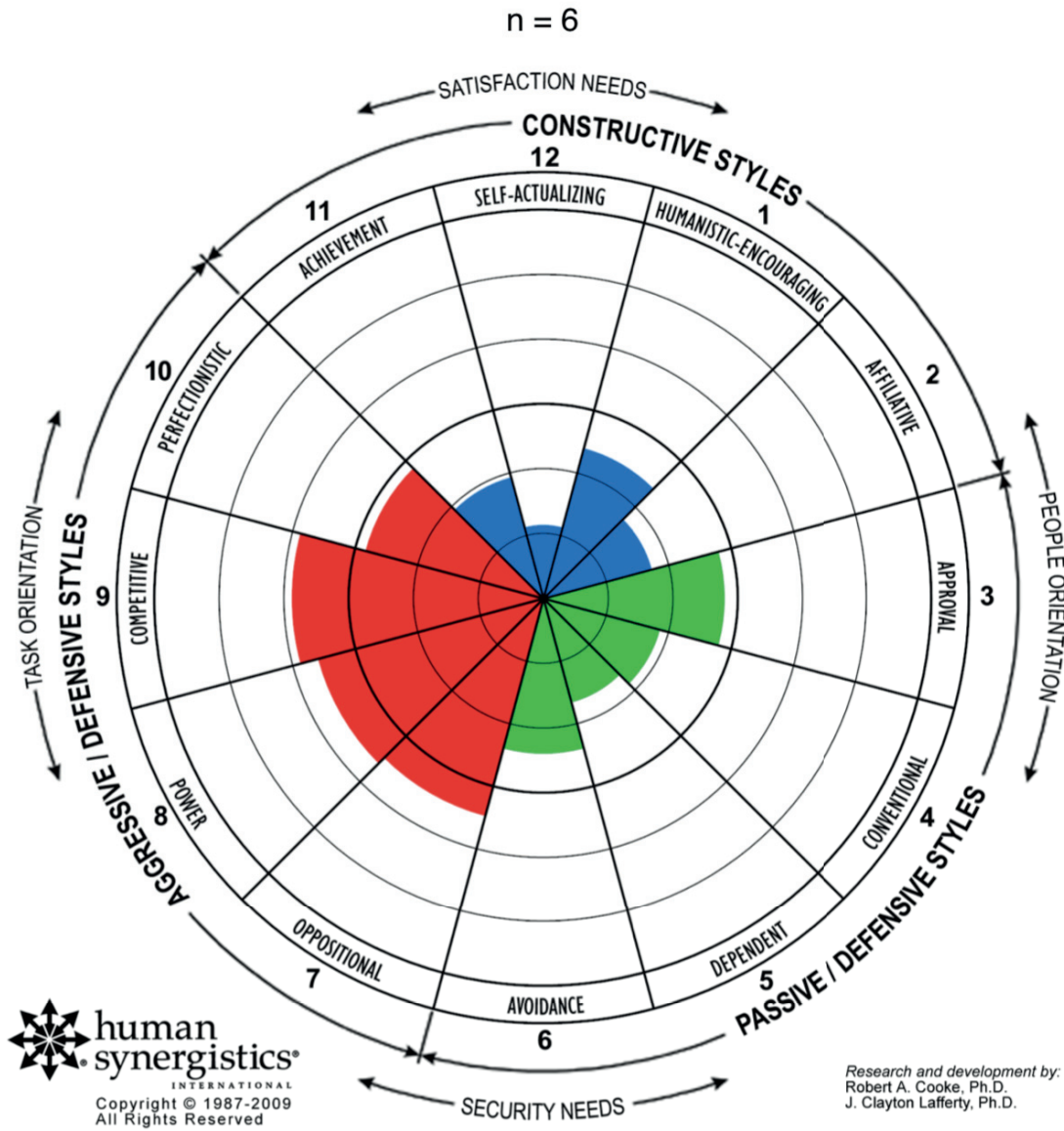


Figure 19. Life Styles Inventory (LSI) results: US-14.

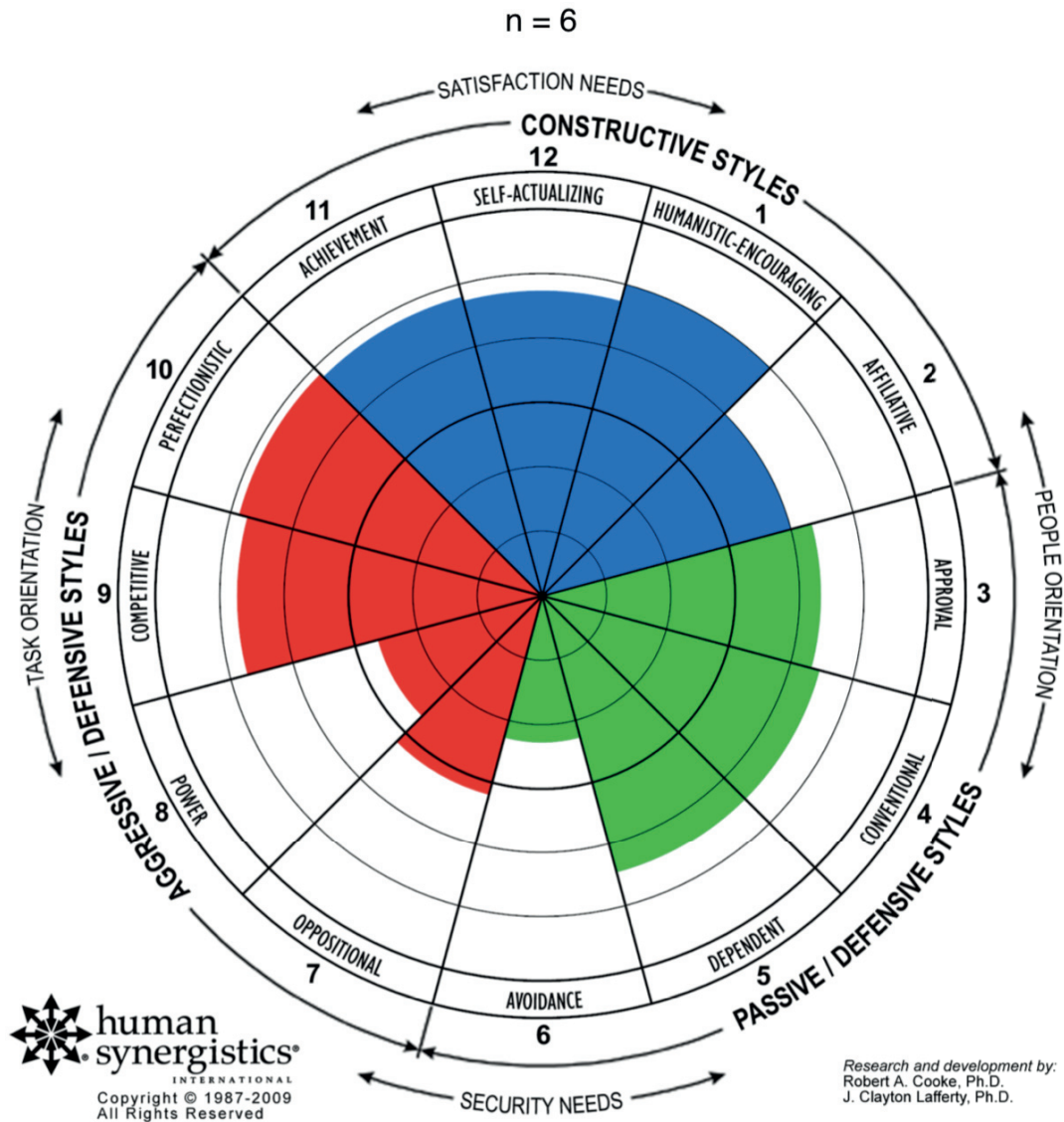


Figure 20. Life Styles Inventory (LSI) results: UA-18.

Appendix P: Organizational Culture Inventory Results

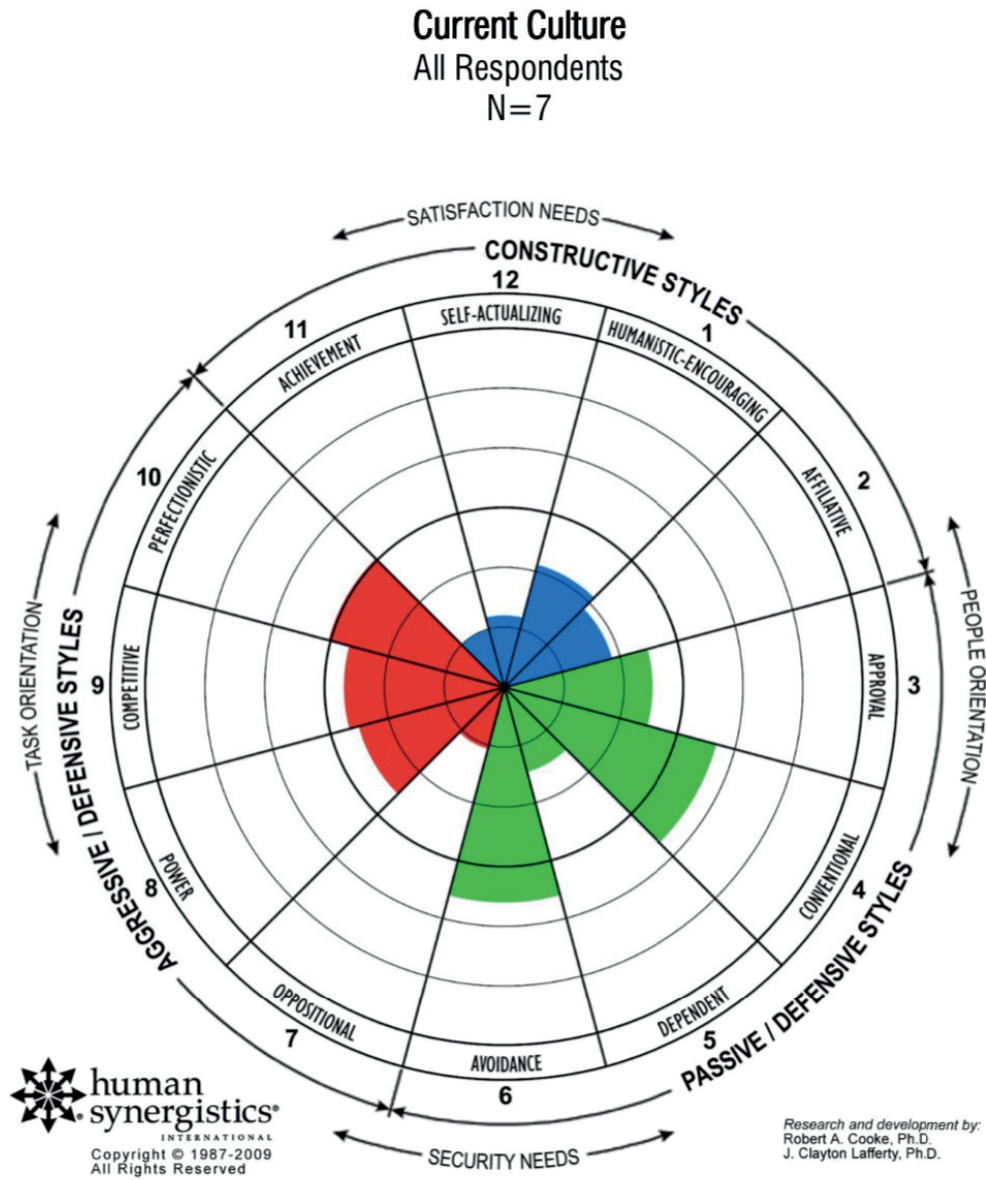


Figure 22. Organizational Culture Inventory (OCI) results: US-4.

Current Culture
 All Respondents
 N=6

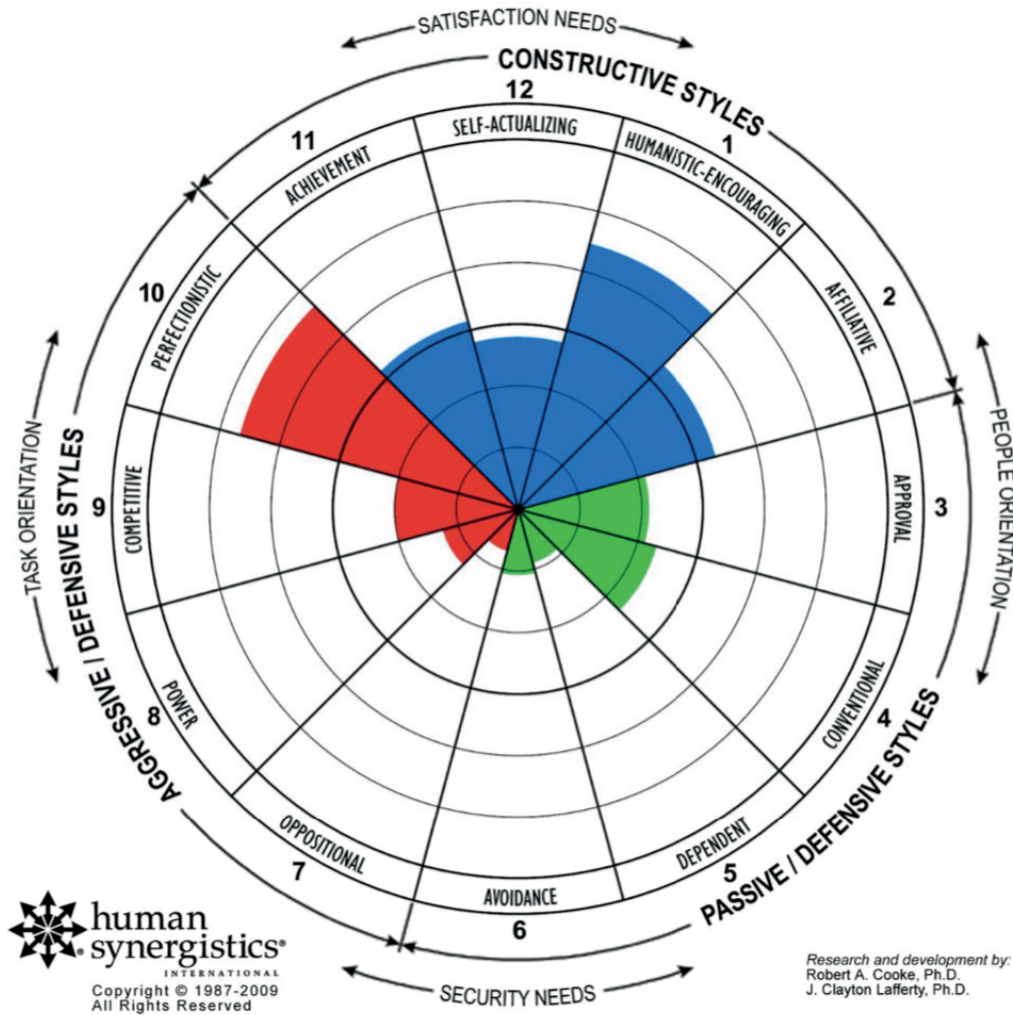


Figure 23. Organizational Culture Inventory (OCI) results: U S-14.

Current Culture
All Respondents
N=6

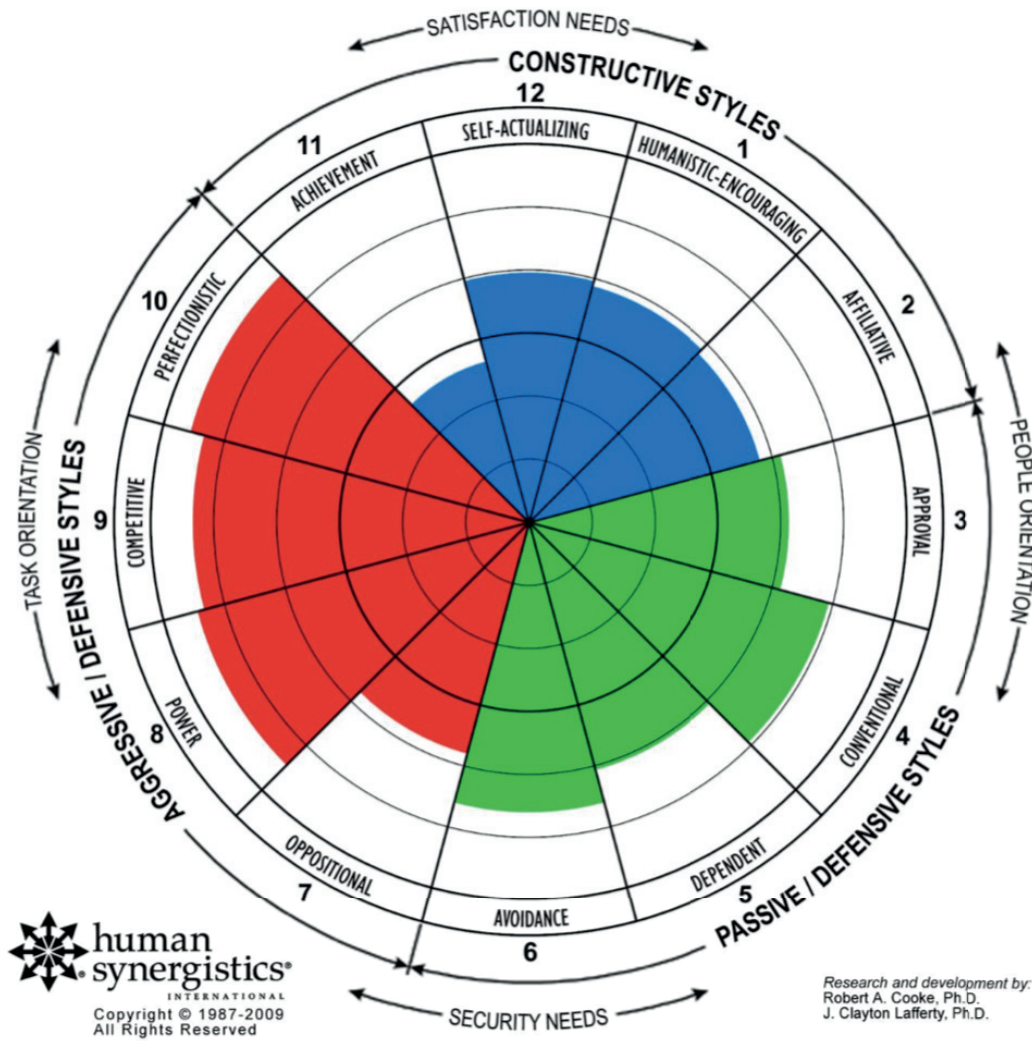


Figure 24. Organizational Culture Inventory (OCI) results: UA-18.

Current Culture
All Respondents
N=7

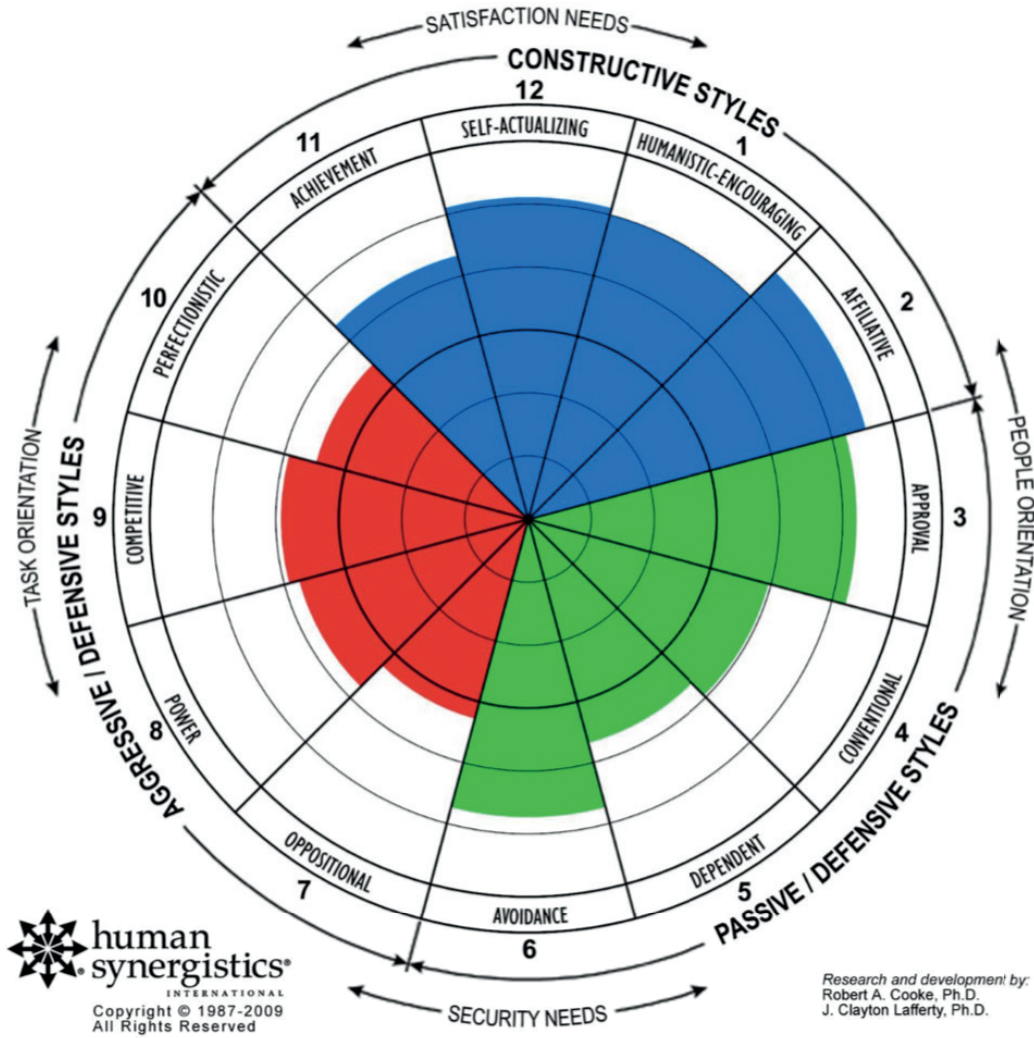


Figure 25. Organizational Culture Inventory (OCI) results: TZ-13.